

MONITORING REPORT

Inner Mongolia Sunjiaying 50.25MW Wind Power Project

Monitoring period: Jan.1st, 2007 to Apr. 23rd, 2008

Date: Jul 14th, 2009

Version: 2

1. Introduction

This document reports the emission reductions generated by Inner Mongolia Sunjiaying 50.25MW Wind Power Project (hereinafter referred as the project) which has been registered successfully as a CDM project on Apr. 24th, 2008 with the CDM registration reference number of 1488 before which on Dec 27th, 2006, however, the project had partially commenced with real, quantifiable, additional and permanent emissions reductions which can be considered as Voluntary Carbon Units (VCUs) under the Voluntary Carbon Standard 2007.1 (VCS 2007.1). The monitoring period is from Jan. 1st, 2007 to Apr. 23rd, 2008.

In addition, this monitoring report also refers to the registered CDM PDD (Version 3.0).

2. General description of the project

2.1 Project activity

Inner Mongolia Sunjiaying 50.25MW Wind Power Project involves the installation of 67 sets of 750KW wind turbines, for a total installed capacity of 50.25MW. The proposed project is estimated that the annual generation of the project will be 120.94GWh. As a result, annual 138,585 tones of CO₂ emission reduction will be achieved by replacing equivalent electricity generated by Northeast China Power Grid, which is dominated by thermal power plants.

The project can reduce GHG emissions by replacing the generation from fuel-fired power plants by which the Northeast China Power Grid is dominated. And also, it contributes to sustainable development in the region by reducing pollutants discharge (e.g. SO₂, NO_x and dust), creating employment opportunities, promoting the local economic development.

2.2 Technical description of the project

Location of the project activity

The project is located in Wengniute county, East Inner Mongolia, its geographical coordinates are north latitude 42°41'21" and east longitude 118°02'56.7", and its altitude is 1540~1650m. It is 95km away from Wudan town, where Wengniute county government is located.

Technology employed by the project activity

Totally 67 wind turbines with nominal capacity of 750 kW have been installed with 50m as the turbine installation height, providing a total capacity of 50.25 MW. Xinjiang Gold Wind 750kW (S48/750) wind turbines were adopted in the project. Each turbine has a 690V-to-35kV transformer, from which a 35kV line links into the on-site 220kV switchgear at the substations established in the project site. By the 220 kV line, the electricity generated by the project are delivered to the power grid.

The first wind turbine was put into operation on 27th Dec. 2006 and the last wind turbine was put into operation on 31st Dec. 2007.

3. Monitoring methodology and plan

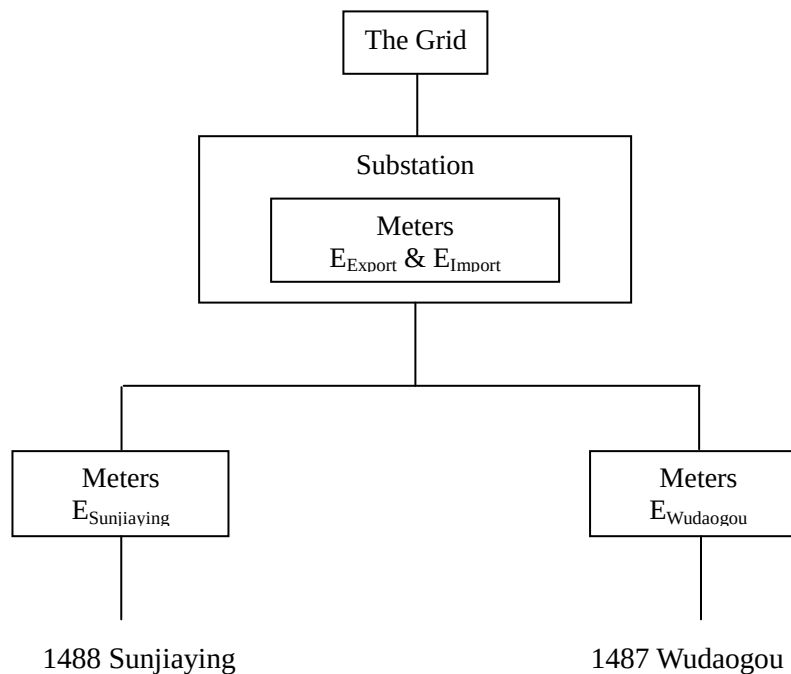
The monitoring methodology in this report refers to the CDM monitoring methodology

ACM0002 (ver.06) – “Consolidated monitoring methodology for grid-connected electricity generation from renewable sources”.

Inner Mongolia Sunjiaying 50.25MW Wind Power Project and Inner Mongolia Wudaogou 50.25MW Wind Power Project are owned by the same project entity. The two wind farms are sharing the power line. Total net electricity delivered to the grid by the two wind farms can be measured by one shared meter. This shared meter has bidirectional metering, recording both export to the grid (E_{export}) and import from the grid (E_{import}).

Separate meters are installed at each of the project sites, which can also record bidirectional metering, and can be used as back-up for the main meter. The project-wise metering equipment at the project site are owned, operated and maintained by Chifeng Xinsheng Wind Power Co. Ltd.

A metering diagram is presented below, giving an overview of these meters.



The net electricity delivered to the grid from each of wind farms can be calculated by the readings of the shared meter and the project-wise meters at the substation. The measurement of electricity from Sunjiaying and Wudaogou are used to calculate the share of each project in the net supply to the grid. The project activity's share in imports from the grid is not separately calculated, in order to ensure the conservativeness.

The grid company provides the result to the project owner monthly and the project owner checks the results against the readings from the meters directly measuring the two projects.

According to the method determining the electricity imported and exported by the two projects between the project owner and the grid company, readings of the shared meter and the project-wise meters are used to calculate the share of net electricity delivered to the grid by each project. The calculation formula shows as follows:

$$EG_y = E_{Export} / (E_{Sunjiaying} + E_{Wudaogou}) * E_{Sunjiaying} - E_{import} - E_{10kv}$$

Where:

EG_y is the calculated net electricity supplied from the project activity;

E_{Export} is the total electricity supplied to the grid, this data is provided by the grid company and used in the Electricity Transaction Note, and it is checked by the meter reading from the onsite substation (which is for the two wind farms combined);

$E_{Sunjiaying}$ is the electricity generation metered by the onsite meters of 1488 Inner Mongolia Sunjiaying 50.25MW Wind Power Project;

$E_{Wudaogou}$ is the electricity generation metered by the onsite meters of 1487 Inner Mongolia Wudaogou 50.25MW Wind Power Project;

E_{Import} is the total electricity imported from the grid by the two projects; this data is measured by the grid company and confirmed by electricity purchase invoice

E_{10kv} is the electricity consumption through the 10kV back-up power line by the project activity, which is also confirmed by the grid company.

Table 1 Monitored data and determination of EG_y

Period	E_{Export} (kWh)	E_{Import} (kWh)	E_{10kv} (kWh)	$E_{Sunjiaying}$ (kWh)	$E_{Wudaogou}$ (kWh)	EG_y (kWh)
	A	B	C	D	E	F=A/(D+E)*E-B-C
01/01/07-31/01/07	23700000	94380	4860	11398800	12094250	11399972
01/02/07-28/02/07	28640000	26180	0	14074550	15089900	13795274
01/03/07-31/03/07	19040000	125840	0	9941750	10912300	8951098
01/04/07-30/04/07	22820000	43340	0	11558750	10221750	12067065
01/05/07-31/05/07	24346740	31900	60	10818150	9370200	13014509
01/06/07-30/06/07	6420000	91960	0	4807950	4927300	3078687
01/07/07-31/07/07	4490000	124960	600	2065700	2354450	1972783
01/08/07-31/08/07	9301600	109340	60	3761450	2727200	5282708
01/09/07-30/09/07	6040000	105380	16440	3138450	3177650	2879437
01/10/07-31/10/07	26640000	96800	14040	14788200	12820500	14158490
01/11/07-30/11/07	41250000	65340	6960	26036150	16751000	25028488
01/12/07-31/12/07	46161940	32340	9540	28031150	18452350	27795358
<i>Subtotal 2007</i>						139423870
01/01/08-31/01/08	22750000	36740	2760	14818475	9652125	13737040
01/02/08-29/02/08	24230000	22220	1920	15352925	9766575	14785126
01/03/08-31/03/08	18755000	31020	2300	14017500	8025850	11893098
01/04/08-23/04/08	14413520	33550	15770	8962800	4979450	9216436
<i>Subtotal 2008</i>						49631700
Total						238687282

Total electricity supplied by the project in 2007 was 139423870 kWh and in 2008 was 49631700 kWh.

4. Quality Control (QC) and Quality Assurance (QA)

4.1 QA/QC procedures

ID	Uncertainty level of data (High/Medi)	Explain QA/QC procedures planned for these data, or why such procedures are not necessary.
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	um/Low)	
EG _y	Low	The net electricity used for the calculation of the emission reduction is obtained through the corresponding share of total exported generation subtracts the imported electricity. The electricity is monitored accurately by the main meter (bidirectional function) installed at the exit side of the 220kV transformer station near the wind farm. Electricity generated by the project and that by Sunjiaying project are measured continuously and recorded every day by the project owner. In the meanwhile, electricity consumed by the two projects are measured and recorded by the project owner. The total electricity export is measured and recorded by both the project owner and the grid company. Furthermore, electricity sales invoices and electricity transaction notes have been provided for double check. Electricity imported from the 10kv backup line is measured by the grid company and recorded monthly. Electricity sales invoices have been made available to the verifier. Meters are calibrated at least once a year. Calibration certificates of meters have been made available to the verifier.

Meters involved for monitoring

Data measured	Manufacturer	Type	Serial number	Accuracy	Calibration date
E _{Export} E _{import}	Landisgyr	ZD402	86693424	0.2S	2007.10.25 2006.11.09
E _{wudaogou}	Changsha Weisheng	DTSD341	200504230U0190	0.5S	2008.05.19 2007.05.19 2006.11.16
E _{wudaogou}	Changsha Weisheng	DTSD341	200504230U0242	0.5S	2008.05.19 2007.05.19 2006.11.16
E _{sunjiaying}	Changsha Weisheng	DTSD341	200504230U0186	0.5S	2008.05.19 2007.05.19 2006.11.16
E _{sunjiaying}	Changsha Weisheng	DTSD341	200504230U0245	0.5S	2008.05.19 2007.05.19 2006.11.16
E _{10kv}	Zhejiang Zhengtai	DTS634	2006-04-46355251	1.0S	2008.05.19 2007.05.28 2006.05.28

All meters have been calibrated once a year according to the registered PDD.

4.2 Roles and responsibilities

The Monitoring Plan clearly states the persons and the responsibilities of the QC team of the project; they are responsible for monitoring the electricity generation of the project.

5. GHG Calculations

According to the registered PDD: $ER_y = BE_y - PE_y - L_y$

5.1 Project activity emissions

According to the registered PDD, the project activity does not have any GHG emissions.
 $PE_y = 0$

5.2 Leakages

According to the registered PDD, the leakage from the proposed project is zero.

$$L_y = 0$$

5.3 Baseline emissions

The baseline emission BE_y during the monitoring period results from:

$$BE_y = EG_y \times EF_y$$

Where:

EG_y – the net power transmitted to the grid during the monitoring period year y (kWh);

EF_y – the emission factor of the grid in the year y (calculated ex-ante).

The net power transmitted to the grid (EG_y) was 139423.8MWh in 2007 and 49631.7MWh in 2008.

The emission factor of the proposed project (EF_y) is 1.1459tCO₂e/MWh¹ (the weights of OM and BM are 0.75 and 0.25, respectively).

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

In year 2007

$$BE_y = EG_y \times EF_y = 139423.8\text{MWh} \times 1.1459\text{tCO}_2\text{e/MWh} = 159765\text{tCO}_2\text{e}$$

In year 2008

$$BE_y = EG_y \times EF_y = 49631.7\text{MWh} \times 1.1459\text{tCO}_2\text{e/MWh} = 56872\text{tCO}_2\text{e}$$

5.4 Emission reductions

As the emissions and leakage from the project activity are zero, emission reduction is equal to baseline emission.

Emission reductions were 159765tCO₂e in year 2007 and 56872tCO₂e in 2008.

¹ Source: the final PDD for registration of the proposed project.

6. Name of responsible persons

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Annex 1**Clauses 1.12, 1.13, 1.14, 8.1 and 8.2 of the VCS Project Description Template**

Clause 1.12: Demonstration to confirm that the project was not implemented to create GHG emissions primarily for the purpose of its subsequent removal or destruction

The project is a renewable resource based power project, which discharges no emission when operating at all. The project was implemented primarily to create electricity from wind energy and its main revenue is from the sale of electricity. Therefore, it can be confirmed that the project was not implemented to create GHG emissions for its subsequent removal or destruction.

Clause 1.13: Demonstration that the project has not created another form of environmental credit (for example renewable energy certificates).

The project owner declares that the project has not created any other form of environmental credit, which will be verified by DOE.

Clause 1.14: Project rejected under other GHG programs (if applicable).

The project has been registered as a CDM project on Apr. 24th, 2008, for which a renewable crediting period of 3*7 years will be used under the CDM GHG Program. Therefore, CO2 emission reductions generated by the project during the CDM crediting period which start from 24th Apr. 2008 will be verified as unique CERs but not VCUs to avoid double counting.

Clause 8.1: Proof of Title.

The project including the plant, equipment and its emissions reductions is owned by Chifeng Xinsheng Wind Power Co., Ltd. Relevant evidences for the ownership have been provide to the DOE, which involves business license of the project company issued by Wengniute County Industrial and Commercial Administrative Bureau, and Letter of Approval for the project as a CDM project by Chinese NDRC

Clause 8.2: Projects that reduce GHG emissions from activities that participate in an emissions trading program (if applicable).

The ERs generated by the project in the monitoring period will only to be sold once and

reported to VCS registry, therefore impossible to sell again.