MONITORING REPORT

Gansu Yumen Sanshilijingzi Wind Power Project

Monitoring period: Jun. 01st , 2008 to Jan. 7th, 2009

Date: May. 15th, 2009

Version: 2.0

1. Introduction

This document reports the emission reductions generated by Gansu Yumen Sanshilijingzi Wind Power Project (hereinafter referred as the project) which has been registered successfully as a CDM project on Jan. 08th, 2009 with the CDM registration reference number of 2193 before which on Jun 01st, 2008, however, the project had commenced with real, quantifiable, additional and permanent emissions reductions which can be considered as Verified Emission Reductions (VERs) under the Voluntary Carbon Standard 2007 (VCS 2007) after being verified. The monitoring period is from Jun 01st, 2008 (start date of the operation) to Jan. 07th, 2009.

2. General description of the project

2.1 Project activity

Gansu Yumen Sanshilijingzi Wind Power Project involves the installation of 58 sets of 850KW wind turbines, for a total installed capacity of 49.3MW. The project is estimated that the annual generation of the project will be 107,872MWh. As a result, annual 106,556 tones of CO_2 emission reduction will be achieved by replacing equivalent electricity generated by Gansu Power Grid, an integral part of the Northwest 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 Northwest China Power Grid is dominated. And also, it contributes to sustainable development in the region by reducing pollutants discharge (e.g. SO_2, NO_x and dust), creating employment opportunities, promoting the local economic development, and serving as a demonstration for wider deployment of wind power technology in local and national level.

2.2 Technical description of the project

Location of the project activity

The Project is located in Yumen Town,Yumen City, Gansu Province, Northwest China. The site of the project is trapezium. Its five geographical vertex coordinates are (E:96°54′45″, N:40°08′13″), (E:96°58′54″, N:40°10′03″), (E:96°58′54″, N:40°13′44″), (E:96°58′41″, N:40°13′44″), and (E:96°54′45″, N:40°09′00″).

Technology employed by the project activity

Totally 58 Gamesa58-850KW wind turbines with a nominal capacity of 850 kW was installed, providing a total capacity of 49.3MW. All wind turbines are produced in Tianjin factory which is invested by Gamesa EóLICA of Spain.

The auxiliary electric system of wind farm includes onsite control, protection, measure, signalling and surveillance in central control room of wind farm. The targets to be surveilled include 58 wind turbines and transformers. The wind turbines and transmission facility could be monitored and controlled either by onsite central control room or remotely through Internet.

The wind turbine finally adopted by the project is Gamesa58－850kW imported from Spain. Due to its advantage on fully utilizing wind resources and improving efficiency, Gamesa58－850kW has been adopted worldwide. The development of the project contributes to promoting application of such type of wind turbine, accelerating the accumulation of experiences and

absorption of this kind of technology and advancement of domestic wind power technology.

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". In keeping with the monitoring methodology, the following parameter needs to be monitored for the project:

ID	Data type	Data variable	Data unit	Recording frequency	Proportion of data to be monitored	How will the data be archived? (electronic/ paper)	For how long is archived data kept?
EG_{ex}	Electricity	total electricity delivered to the grid by the project	MWh	Continuously measuring and monthly recording	100 %	Electronic	During the crediting period and two years later
$E_{im\_main\ line}$	Electricity	Electricity imported from the grid by the project through main line	MWh	Continuously measuring and monthly recording	100 %	Electronic	During the crediting period and two years later
$E_{im\_backup\ line}$	Electricity	Electricity imported from the grid by the project through backup line	MWh	Continuously measuring and monthly recording	100 %	Electronic	During the crediting period and two years later

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

ID	Uncertainty level of data (High/Medium/Low)	Explain QA/QC procedures planned for these data, or why such procedures are not necessary.
EG_{ex}	Low	The total electricity delivered to the grid is monitored accurately by the metering equipment (1+1 configuration, one for metering, and the other for backup usage) installed at the transformer station of the grid. There is another metering equipment (1+1 configuration, one for metering, and the other for backup usage) installed at ht project site which can cross check the electricity. The meters are bidirectional function with the accuracy of 0.2s. Total electricity deliver to the grid by the project is measured

		continuously and recorded monthly. The project owner and the grid company are responsible for reading and calibration of the metering ammeter, recording of the readings, and reporting of readings. The designated personnel recorded the reading of the meters at 0:00 daily, and then the electricity will be aggregated monthly (from 0:00 o'clock on the 1st of every month to 0:00 o'clock on the 1st of the subsequent month). After reading the main meter and confirming the reading with the project owner, the grid issues the Electricity Sales Receipts based on the checked electricity amount. Furthermore, electricity sales receipts will be provided for double check.
$E_{im\_main\ line}$	Low	The electricity imported from the grid through main line is monitored accurately by the metering equipment (1+1 configuration, one for metering, and the other for backup usage) installed at the transformer station of the grid. There is another metering equipment (1+1 configuration, one for metering, and the other for backup usage) installed at the project site which can cross check the electricity. The meters are bidirectional function with the accuracy of 0.2s. Furthermore, electricity sales receipts will be provided for double check.
$E_{im\_main\ line}$	Low	There is a backup meter (0.5s) installed in a 10kv backup line which can be used to meet emergency. The electricity imported from the backup line can be monitored by the backup meter which is owned, operated and controlled by the local electric power bureau. Furthermore, electricity sales receipts will be provided for double check.

Meters have been calibrated according to the national power industry regulations, standards. The detail information of calibration is listed in the following table:

Meter	Serial No.	Calibration date	Valid until
Key meters	206659690	25/04/2008	24/04/2013
	207651734	25/04/2008	24/04/2013
Check meters	36088335	11/01/2008	10/01/2013
	36088336	11/01/2008	10/01/2013
Meter in backup line	04485178	25/03/2008	24/03/2012

5. GHG Calculations

According to the methodology ACM0002: $ERy=BEy-PEy-Ly$

5.1 Project activity emissions

According to the methodology ACM0002 (ver.06), the project activity does not have any GHG emissions.

$PEy=0$

5.2 Leakages

According to the methodology ACM0002 (ver.06), the leakage from the project is zero.

$Ly=0$

5.3 Baseline emissions

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

$BEy = EGy \times EFy$

$EG_y = EG_{ex} - E_{im\_main\ line} - E_{im\_backup\ line}$

Where:

EGy –Net electricity delivered to the grid by the project in the year y (MWh);
EGex – the total electricity delivered to the grid by the project (MWh);
$E_{im\_main\ line}$ – the electricity imported from the grid by the project through main line (MWh);
$E_{im\_backup\ line}$ – the electricity imported from the grid by the project through backup line (MWh);
EFy – the emission factor of the grid in the year y (calculated ex-ante, fixed for the first crediting period).

Period	Total electricity delivered to the grid by the project*(EGex)* (MWh)	Electricity imported from the grid by the project ($E_{im\_main\ line}$) (MWh)	Electricity imported from the grid by the project ($E_{im\_backup\ line}$) (MWh)	Net electricity delivered to the grid by the project (EGy) (MWh)
01/06/2008-30/06/2008	5,726.820	15.5760	2.4600	5,708.784
01/07/2008-31/07/2008	9,763.100	11.4840	2.8800	9,748.736
01/08/2008-31/08/2008	7,382.364	12.0120	4.0800	7,366.272
01/09/2008-30/09/2008	6,004.484	12.8040	6.3600	5,985.32
01/10/2008-31/10/2008	5,310.756	26.7960	3.1800	5,280.78
01/11/2008-30/11/2008	6,874.164	16.5000	4.2600	6,853.404
01/12/2008-31/12/2008	9,037.512	20.9880	3.1800	9,013.344
subtotal of year 2008	50,099.200	**116.1600**	**26.4000**	**49,956.64**
01/01/2009-07/01/2009	1,767.744[1]	23.6280[2]	1.6200[3]	1,742.496
subtotal of year 2009	1,767.744	**23.6280**	**1.6200**	**1,742.496**
Total	51,866.944	**139.7880**	**28.0200**	**51,699.1360**

The net electricity delivered to the grid by the project (EGy) is 51,699.136MWh, including 49,956.64 MWh in 2008 and 1,742.496 MWh in 2009.

The baseline emission factor of the project (EFy) is 0.9369tCO_2e/MWh[4] (the weights of OM and BM of the East China Power Grid are 0.75 and 0.25, respectively).

[1] The electricity delivered to the grid between 01/01/2009 and 07/01/2009 is calculated by the reading difference of main meter at 0:00 on 01/01/2007 and at 24:00 on 07/01/2009 multiple Magnification of the meter. It can be double checked by sales receipt.
[2] The electricity imported from the grid during the whole month is used to calculation the $E_{im\_main\ line}$ between 01/01/2009 and 07/01/2009 which is conservative.
[3] The electricity imported from the grid during the whole month is used to calculation the $E_{im\_backup\ line}$ between 01/01/2009 and 07/01/2009 which is conservative.
[4] The baseline emission factor used in the registered PDD is 0.9878 tCO2/MWh. The baseline emission factor used in the PDD for the GSC is 0.9369 tCO2/MWh. The baseline emission factor of the project used in the MR is 0.9369 tCO2/MWh for conservativeness.

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

$BEy=EGy \times EFy$=51699.136MWh×0.9369tCO_2e/MWh=48,436tCO_2e.
Year 2008: $BEy=EG_y \times EF_y$= 49956.64MWh×0.9369tCO_2e/MWh=46,804tCO_2e.
Year 2009: $BEy=EG_y \times EF_y$=1742.496MWh×0.9369tCO_2e/MWh=1,632 tCO_2e.

5.4 Emission reductions

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

Emission reduction during the monitoring period is:

$ERy=BEy=EGy \times EFy$=51699.136MWh×0.9369tCO_2e/MWh=48,436tCO_2e.

Emission reduction during year 2008 is:
$ERy=BEy=EG_y \times EF_y$= 49956.64MWh×0.9369tCO_2e/MWh=46,804tCO_2e.
Emission reduction during year 2009 is:
$ERy=BEy=EG_y \times EF_y$=1742.496MWh×0.9369tCO_2e/MWh=1,632 tCO_2e.

Annex 1

The Project Description according to VCS 2007 criteria is provided below.
1.1 For item 1.12 of VCS PD template:
The project is a renewable energy generation project, which discharges no emission during operation period. Thus, the project doesn't fall into categories that creating GHG emissions primarily for the purpose of its subsequent removal or destruction.

1.2 For item 1.13 of VCS PD template
The project has not created another form of environmental credit, which will be verified by DOE.

1.3 For item 1.14 of VCS PD template
The project has been registered as a CDM project, which doesn't fall into rejected projects under other GHG programs.

1.4 For item 8.1 of VCS PD template
The project including the plant, equipment and its emissions reductions is owned by Gansu Jieyuan Wind Power Co., Ltd. Relevant evidences for the ownership will be provide to the DOE, which involves business license of the project company, Approval of the project from Gansu Development and Reform Commission (Gansu DRC) and Letter of Approval for the project as a CDM project by Chinese NDRC.

1.5 For item 8.2 of VCS PD template
The project was registered as a CDM project on 08 Jan. 2009, for which a renewable crediting period of 3×7 years will be used under the CDM GHG Program. Therefore, CO_2 emission reductions generated by the project during the CDM crediting period will be verified as unique CERs but not VEUs to avoid double counting. As to the project under VCS2007, only emission reductions achieved from 1 Jun. 2007 to 07 Jan. 2009 will be considered as VERs.

In addition, this monitoring report also refers to the registered CDM PDD.