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INNER MONGOLIA WULIJI WIND FARM PROJECT



Document Prepared by Climate Bridge (Shanghai) Ltd.

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CONTENTS

1	PROJECT DETAILS.....	3
1.1	Summary Description of the Implementation Status of the Project	3
1.2	Sectoral Scope and Project Type	3
1.3	Project Proponent	3
1.4	Other Entities Involved in the Project	4
1.5	Project Start Date	4
1.6	Project Crediting Period	4
1.7	Project Location	4
1.8	Title and Reference of Methodology	6
1.9	Participation under other GHG Programs.....	6
1.10	Other Forms of Credit.....	6
1.11	Sustainable Development.....	7
2	SAFEGUARDS	7
2.1	No Net Harm	7
2.2	Local Stakeholder Consultation	7
2.3	AFOLU-Specific Safeguards	8
3	IMPLEMENTATION STATUS	9
3.1	Implementation Status of the Project Activity	9
3.2	Deviations	10
3.3	Grouped Projects	10
4	DATA AND PARAMETERS.....	10
4.1	Data and Parameters Available at Validation	10
4.2	Data and Parameters Monitored.....	11
4.3	Monitoring Plan.....	17
5	QUANTIFICATION OF GHG EMISSION REDUCTIONS AND REMOVALS	21
5.1	Baseline Emissions	21
5.2	Project Emissions	23
5.3	Leakage.....	23
5.4	Net GHG Emission Reductions and Removals.....	23

1 PROJECT DETAILS

1.1 Summary Description of the Implementation Status of the Project

The Inner Mongolia Wuliji Wind Farm Project (hereinafter referred as to “the project”) is located in the Wulate Hou Qi, Bayannao’er City, Inner Mongolia Autonomous Region, China. The project is developed by CGN Wind Power Co.,Ltd. (hereafter referred to as the “Project Developer”). The objective of the project is to generate renewable electricity from wind and the generated power will be accessed to the North China Power Grid (NCPG). It involves the installation of 40 wind turbines, each of which has a rated output of 1,250 kW, providing a total installed capacity of 50 MW, with a predicted power supplied to the grid of 117,630 MWh per annum.

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. The electricity generated from the project is supplied to the North China Power Grid, by replacing the electricity generated from fossil fuel-fired power plants dominated North China Power Grid (NCPG), the project activity achieves obvious greenhouse gas (GHG) emission reductions by avoiding CO₂ emissions.

During this VCS monitoring period from 15/03/2017 to 12/09/2019 (both days included), the total emission reduction achieved is 265,256 tCO₂e.

1.2 Sectoral Scope and Project Type

Sectoral scope: 1. Energy industries (renewable/non-renewable sources);

Project type: Wind-power generation project;

The project is not a grouped project.

1.3 Project Proponent

Organization name	CGN Wind Power Co., Ltd.
Contact person	Lei Shi
Title	Vice General Manager
Address	No.2 Building, Area 12 of Advanced Business Park, No.188 West of South 4th Ring Road, Beijing, P.R.China
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1.4 Other Entities Involved in the Project

Organization name	Climate Bridge (Shanghai) Ltd.
Role in the Project	Consultancy
Contact person	Zhiwen Gao
Title	General Manager
Address	Block B, Level 24, Jiangong Mansion, 33 Fushan Road, Pudong New Area, Shanghai, China
Telephone	+86-21 6246 2036
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1.5 Project Start Date

The starting date of the project is 13/09/2009 (the start date of electricity generation).

1.6 Project Crediting Period

There is a deviation for the crediting period. As per VCS version 4, registered projects and projects that complete validation on or before 19/03/2020 remain eligible to apply the crediting period requirements under VCS Version 3. Thus, it remains eligible to apply the crediting period requirements under VCS Version 3, which shall be a maximum of ten years and may be renewed at most twice, so the first renewable crediting period of the project should be updated from 13/09/2009-14/03/2010 to 13/09/2009-12/09/2019.

1.7 Project Location

The project activity lies in the Wulate Hou Qi, Bayannao'er City, Inner Mongolia Autonomous Region, China. The center of the project is defined using geographic coordinates obtained with a Global Positioning System (GPS) receiver: E 106°38' 30" Longitude, N 41°30' 20" Latitude.



Figure 1. Location of Inner Mongolia Autonomous Region in China

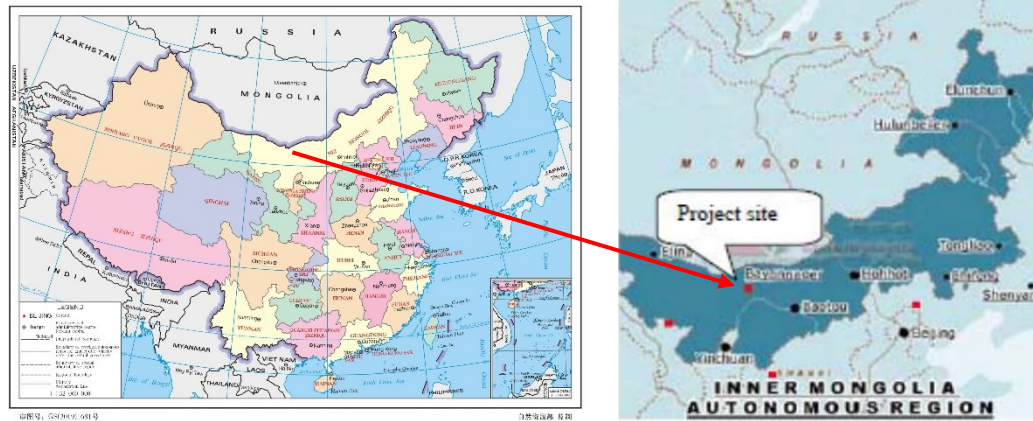


Figure 2. Location of the project

1.8 Title and Reference of Methodology

The selected methodology

The approved methodology applied in the proposed project activity is ACM0002 “Consolidated baseline methodology for grid-connected electricity generation from renewable sources” (Version 09.0)

Reference:

https://cdm.unfccc.int/filestorage/C/D/M/CDMWF_AM_71ZC14NVE4V5DHA3TUT3896PFLPVG/EB45_repan10_ACM0002_ver09.pdf?t=bzh8cXNva3VtDCIKVqIM_LYM2HZoKQzTo5C.

Tools applied

“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>.

1.9 Participation under other GHG Programs

The project has been registered as a Clean Development Mechanism (CDM) project in UNFCCC on 15/03/2010 (UNFCCC Ref. 2483), with the 7 years crediting period started from 15/03/2010. Total GHG emission reductions of 349,274 tCO₂ generated from 15/03/2010 to 14/03/2017 (both days included) by the project has been issued as CER under CDM program. Please refer to the following link for details:

<https://cdm.unfccc.int/Projects/DB/BVQI1239166632.16/view?cp=1>

Except for CDM, the project did not register under any other GHG program.

1.10 Other Forms of Credit

Total GHG emission reductions of 349,274 tCO₂ generated from 15/03/2010 to 14/03/2017 (both days included) by the project has been issued as CERs under CDM program.

The GHG emission reductions generated by the project from 15/03/2017 to 12/09/2019 will not be used for compliance with emission trading programs or to meet binding limits on GHG emissions.

All credits from 15/03/2017 to 12/09/2019 will be claimed under VCS program as VCU for the project to avoid double counting.

The project hasn't sought or received another form of environmental credits.

1.11 Sustainable Development

The project activity promotes the local and national sustainable development powerfully in the following aspects:

- Reduce greenhouse gas emissions in China compared to a business-as-usual scenario;
- Help to stimulate the growth of the wind power industry in China;
- Create local employment opportunity during the assembly and installation of wind turbines, and for operation of the wind farm;
- Reduce other pollutants resulting from the power generation industry, compared to a business as-usual approach, such as SO₂, NO_x and soot.

2 SAFEGUARDS

2.1 No Net Harm

There are no negative environmental and/or socio-economic impacts due to the project. In fact, the project as a clean renewable energy project can reduce greenhouse gas emissions and the environmental pollution caused by fossil fuels consumption. Meanwhile, the implementation of the project will improve local socio-economic development through creating career opportunities and paying taxes.

2.2 Local Stakeholder Consultation

Local stakeholder comments were invited and compiled on the basis of a questionnaire send out to stakeholders in February 2008. In total 40 questionnaires were distributed to stakeholders, and all the copies were returned.

The questions asked were as follows:

- Do you think the project will influence the natural scenery?
- Do you think the project will influence the ecosystem?
- Do you think the project will influence the surrounding area?
- Do you think the project will be helpful to the local economy?
- Do you agree the construction of the project?
- What about your opinion about the proposed project?

The survey showed that the project has strong local support among the local people. They all believe the project would promote the local economic development and improve the life level of

the local people. All the respondents agreed the project construction. The villagers are all supportive of the project and to date there has been no need to modify the project design according to the comments received.

The project owner has an overall environment-friendly plan to guarantee that the project has the minimum negative impact on the environment during the project construction and operation.

Local Stakeholder Consultation during the project implementation stage:

Communications with Local stakeholders were carried out at periodic intervals. Key implementation schedules or changes of the project will be communicated to the local authority, who will inform the neighbourhood committee and the local residents, the comments and suggestions from residents will be collected by the local authority meanwhile. And the local government agencies and competent authorities will conduct spot checks on the implementation of the project from time to time, and give suggestions on the involved rectification problems. There are no negative comments received for the project. In line with VCS requirements all the processes have been implemented to receive comments from local stakeholders as well as communicate with them at periodic intervals.

In this monitoring period, the project owner carried out questionnaire survey for the local stakeholder to collect the relevant comments and suggestions in April 2018 and March 2019. And there are no negative comments received for the project.

2.3 AFOLU-Specific Safeguards

There is not applicable due to the project is non-AFOLU project.

3 IMPLEMENTATION STATUS

3.1 Implementation Status of the Project Activity

The purpose of the Project is to use well established wind power generation technology for electricity generation and transmission to generate low emissions electricity for the Grid thereby displacing CO₂ emissions from electricity generation from the Grid. The baseline scenario is the same as the scenario existing prior to the start of the implementation of the project activity: electricity delivered to the Grid by the project would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources. The Grid includes the Shandong, Beijing, Tianjin, Hebei, Shanxi and Inner Mongolia Provincial Power Grids.

The project involves the installation of 40 wind turbines each of which has a rated capacity of 1,250 kW, providing a total capacity of 50MW. The expected annual electricity supply to the grid is 117,630 MWh and the forecast load factor is 26.86%¹. The project is expected to be in operation for 20 years.

There was no significant malfunction or any emergency reported for the Project during this VCS monitoring period from 15/03/2017 to 12/09/2019.

The wind turbine is produced by Shanghai Electric Windpower Equipment Co., Ltd. The main technical specifications of the wind turbine are provided in the following table.

Table 1 The main technical specification

Item	Unit	Index
Type	-	SEC-1250
Quantity	Set	40
Rated power	kW	1,250
Hub height	m	65
Rotor diameter	m	64
Sweep-wind area	m ²	3,217
Cut-in speed	m/s	2.8
Cut-out speed	m/s	23

¹ 117630MWh /50MW/(24hours*365 days)=26.86%

Rated wind speed	m/s	12.3
Rated voltage of generator	V	690
Load factor	-	26.86%
Lifetime	years	20

3.2 Deviations

3.2.1 Methodology Deviations

N.A.

3.2.2 Project Description Deviations

N.A.

3.3 Grouped Projects

The Project is not a grouped project.

4 DATA AND PARAMETERS

4.1 Data and Parameters Available at Validation

In this monitoring report, there is only one parameter $EF_{grid,CM,y}$ available at validation, which is different from the revised PDD (version 03 dated 15/04/2013). The reason is that the parameter $EF_{grid,CM,y}$ is calculated by the data and parameters available at validation in the revised PDD (NCV_i , $F_{i,j,y}$, $GEN_{j,y}$, Internal power use rate of power plant, $EF_{CO2,i}$, $CAP_{i,j,y}$, Efficiency of the best technology commercially, $Import_{NEPG,y}$, $Import_{CCPG,y}$, $EF_{average_NEPG,y}$, $EF_{average_CCPG,y}$). Thus, the only one parameter $EF_{grid,CM,y}$ is simplified in this monitoring report.

Data / Parameter	$EF_{grid,CM,y}$
Data unit	tCO ₂ e/MWh
Description	The combined margin emission factor
Source of data	Revised PDD (version 03 dated 15/04/2013)
Value applied	1.0548
Justification of choice of data or description of	-

measurement methods and procedures applied	
Purpose of Data	Calculation of baseline emissions
Comments	The baselines emission factor was determined ex-ante and fixed during the first crediting period.

4.2 Data and Parameters Monitored

Data / Parameter	EG _y	
Data unit	MWh	
Description	The quantity of net electricity supplied to the grid by the project in period y	
Source of data	Calculated	
Description of measurement methods and procedures to be applied	The net electricity delivered from the project to the grid is calculated with the formula showed in section 4.3 The accuracy of the electricity meters involved will be described below in the monitored parameter EG_{export,total}, EG_{import,total}, E_{project} and E_{others}	
Frequency of monitoring/recording	-	
Value applied	Year	Value
	15/03/2017-31/12/2017	76,294.843
	01/01/2018-31/12/2018	103,115.755
	01/01/2019-12/09/2019	72,066.337
	Total	251,476.934
Monitoring equipment	-	
QA/QC procedures to be applied	-	
Purpose of data	Calculation of baseline emissions	
Calculation method	The net electricity supplied by the project to the grid is calculated through EG _{export,total} , EG _{import,total} , E _{project} and E _{others} according to the equation (1) in section 4.3	
Comments	-	

12

		25/10/2018	24/10/2019
QA/QC procedures to be applied	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 backup meter will be adopted. 4. The data will be kept during the crediting period and until two years after the end of the crediting period.		
Purpose of data	Calculation of baseline emissions		
Calculation method	-		
Comments	The Project shares the same transformer, substation and transmission line with other wind farm, the share of this wind farm of the electricity supply to the grid is accounted for proportionally to generation of the project and other wind farm.		

Data / Parameter	EG _{import,total}	
Data unit	MWh	
Description	Quantity of annual electricity imported from the grid by the project and other wind farm project	
Source of data	Electricity meter: Main meter (or Backup meter)	
Description of measurement methods and procedures to be applied	The quantity of annual electricity imported from the grid are monitored continuously through the main meter (or Backup meter) installed at onsite substation. The accuracy of the meters are 0.2S, meeting the national standard. A designated person from the grid company and the project company jointly record the readings of the meters at the onsite substation, and the date is 24:00 on the 20th of each month.	
Frequency of monitoring/recording	Continuously measured and monthly recorded	
Value applied	Year	Value

	15/03/2017-31/12/2017	552.063																									
	01/01/2018-31/12/2018	877.747																									
	01/01/2019-12/09/2019	786.530																									
	Total	2,216.340																									
Monitoring equipment	The quantity of annual electricity imported from the grid is monitored continuously through the main meter (or Backup meter) installed at onsite substation. The accuracy of the meters is 0.2S, meeting the national standard <table border="1"> <tr> <td></td><td>Main meter</td><td>Backup meter</td></tr> <tr> <td>Meter Type</td><td>ZMQ202C</td><td>ZMQ202C</td></tr> <tr> <td>Accuracy class</td><td>0.2S</td><td>0.2S</td></tr> <tr> <td>Serial No.</td><td>95691047</td><td>95691048</td></tr> <tr> <td>Calibration frequency</td><td>annually</td><td>annually</td></tr> </table> <table border="1"> <tr> <th>Serial No.</th><th>Calibration Date</th><th>Validity</th></tr> <tr> <td rowspan="3">95691047 95691048</td><td>01/12/2016</td><td>30/11/2017</td></tr> <tr> <td>22/11/2017</td><td>21/11/2018</td></tr> <tr> <td>25/10/2018</td><td>24/10/2019</td></tr> </table>			Main meter	Backup meter	Meter Type	ZMQ202C	ZMQ202C	Accuracy class	0.2S	0.2S	Serial No.	95691047	95691048	Calibration frequency	annually	annually	Serial No.	Calibration Date	Validity	95691047 95691048	01/12/2016	30/11/2017	22/11/2017	21/11/2018	25/10/2018	24/10/2019
	Main meter	Backup meter																									
Meter Type	ZMQ202C	ZMQ202C																									
Accuracy class	0.2S	0.2S																									
Serial No.	95691047	95691048																									
Calibration frequency	annually	annually																									
Serial No.	Calibration Date	Validity																									
95691047 95691048	01/12/2016	30/11/2017																									
	22/11/2017	21/11/2018																									
	25/10/2018	24/10/2019																									
QA/QC procedures to be applied	1. The electricity imported from the grid is cross-checked against records of purchase electricity. 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. The data will be kept during the crediting period and until two years after the end of the crediting period																										
Purpose of data	Calculation of baseline emissions																										
Calculation method	-																										
Comments	The Project shares the same transformer, substation and transmission line with other wind farm, the share of this wind farm of the electricity supply to the grid is accounted for proportionally to generation of the project and other wind farm																										

Data / Parameter	E _{project}				
Data unit	MWh				
Description	Quantity of electricity generation from the project activity metered by the separate meters				
Source of data	Separate meters (M1, M2, M3, M4) installed at the project site				
Description of measurement methods and procedures to be applied	The quantity of electricity generation from the project activity is monitored continuously through the separate meters (M1, M2, M3, M4) installed at project site. The accuracy of the meters are 0.5S, meeting the national standard. A designated person from the project company records the readings of the meters at 24:00 on the 20th of each month.				
Frequency of monitoring/recording	Continuously measured and monthly recorded				
Value applied	Year		Value		
	15/03/2017-31/12/2017		78,253.075		
	01/01/2018-31/12/2018		105,108.392		
	01/01/2019-12/09/2019		73,286.093		
	Total		256,647.560		
Monitoring equipment	Electricity meter				
		M1	M2	M3	M4
	Meter Type	DTSD341	DTSD341	DTSD341	DTSD341
	Accuracy class	0.5S	0.5S	0.5S	0.5S
	Serial No.	20071119020046	20071119020043	20071119020042	20071119020047
	Calibration frequency	annually	annually	annually	annually
	Serial No.		Calibration Date	Validity	
	20071119020046		01/12/2016	30/11/2017	
	20071119020043		22/11/2017	21/11/2018	
	20071119020042		25/10/2018	24/10/2019	
	20071119020047				

QA/QC procedures to be applied	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	Calculation of baseline emissions
Calculation method	-
Comments	-

Data / Parameter	E _{others}				
Data unit	MWh				
Description	Quantity of electricity generation from other projects metered by the other separate meters				
Source of data	Other separate meters (M5, M6, M7, M8) installed at project site				
Description of measurement methods and procedures to be applied	The quantity of electricity generation from other projects is monitored continuously through the other separate meters (M5, M6, M7, M8) installed at project site. The accuracy of the meters are 0.5S, meeting the national standard. A designated person from the project company records the readings of the meters at 24:00 on the 20th of each month.				
Frequency of monitoring/recording	Continuously measured and monthly recorded				
Value applied	Year		Value		
	15/03/2017-31/12/2017		70,448.979		
	01/01/2018-31/12/2018		99,262.186		
	01/01/2019-12/09/2019		72,480.045		
	Total		242,191.210		
Monitoring equipment	Electricity meter				
		M5	M6	M7	M8
	Meter Type	DTSD341	DTSD341	DTSD341	DTSD341
	Accuracy class	0.5S	0.5S	0.5S	0.5S
	Serial No.	2007111 9020056	0903002 7190095	0903002 7190096	0903002 7190087

	Calibration frequency	annually	annually	annually	annually
	Serial No.	Calibration Date		Validity	
	20071119020056	01/12/2016		30/11/2017	
	09030027190095	22/11/2017		21/11/2018	
	09030027190096	25/10/2018		24/10/2019	
QA/QC procedures to be applied	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	Calculation of baseline emissions				
Calculation method	-				
Comments	-				

4.3 Monitoring Plan

The aim of the monitoring plan is to make sure that the net electricity generation delivered to the grid is monitored completely, consistently, reliably and precisely. The details are summarized as follows:

1. Monitoring subject

The main data monitored is 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 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:

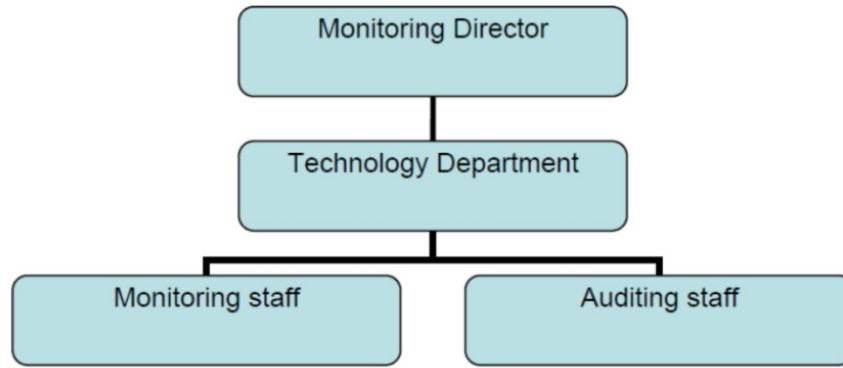


Figure 3 Structure of the monitoring management

3. Monitoring apparatus and installation

The project shares the same transformer, substation or transmission line with some other wind farms in future, 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 is calculated as follows:

$$EG_y = (EG_{\text{export, total}} - EG_{\text{import, total}}) * E_{\text{project}} / (E_{\text{project}} + E_{\text{others}}) \quad (1)$$

Where:

EG_y	=	The quantity of net electricity supplied to the grid by the project in period y
$EG_{\text{export, total}}$	=	The quantity of annual electricity exported to the grid by the project and other wind farm project
$EG_{\text{import, total}}$	=	The quantity of annual electricity imported from the grid by the project and other wind farm project.
E_{project}	=	The electricity generation from the project activity metered by the separate meters
E_{others}	=	The electricity generation from other projects metered by the other separate meters

The separate meters M1~M8 are installed at the respective 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.

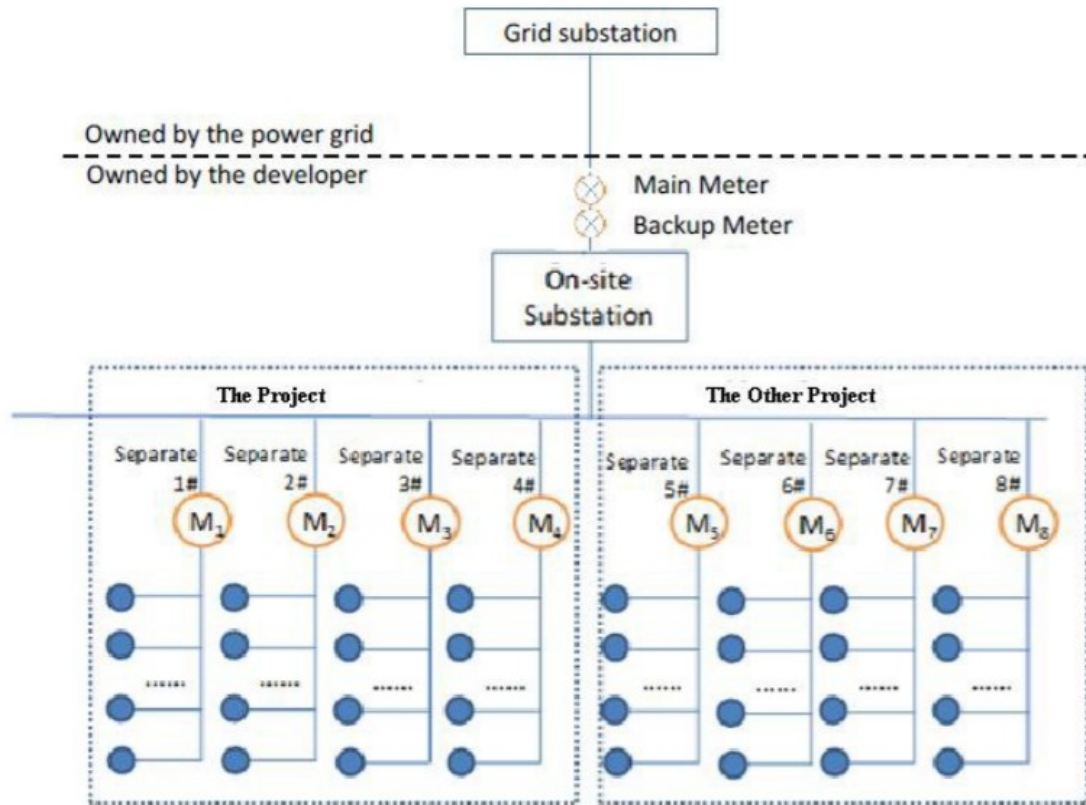


Figure 4 The location of meters

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.

And all data including calibration records is kept until 2 years after the end of the total crediting period of the VCS project.

7. Training program

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

5 QUANTIFICATION OF GHG EMISSION REDUCTIONS AND REMOVALS

5.1 Baseline Emissions

According to the revised PDD, the baseline emissions are calculated as the quantity of net electricity supplied to the grid by the project (EG_y in MWh) times the combined margin emission factor ($EF_{grid,CM,y}$ in tCO_2/MWh) as follows:

$$BE_y = EG_y \times EF_{grid,CM,y} \quad (2)$$

Where:

BE_y	=	Baseline emissions in year y (tCO_2e)
EG_y	=	The quantity of net electricity supplied to the grid by the project in period y (MWh)
$EF_{grid,CM,y}$	=	Combined margin CO_2 emission factor (tCO_2e/MWh)

The quantity of net electricity supplied to the grid by the project in year y (EG_y) in this monitoring period (15/03/2017-12/09/2019) as in the table below:

Table 5-1 Quantity of net electricity generation supplied to the grid by the project during the monitoring period

Period ²	EG _{export,total} (MWh)			EG _{import,total} (MWh)			E _{project} (MWh)	E _{others} (MWh)	EG _y (MWh)
	Sales receipt	Reading records from the monthly report	Conservative value	Sales receipt	Reading records from the monthly report	Conservative value	Reading records from the monthly report	Reading records from the monthly report	
15/03/2017-31/12/2017	145,532.945	145,532.945	145,532.945	552.063	552.063	552.063	78,253.075	70,448.979	76,294.843
01/01/2018-31/12/2018	201,373.882	201,373.882	201,373.882	877.747	877.747	877.747	105,108.392	99,262.186	103,115.755
01/01/2019-12/09/2019	144,126.572	144,126.572	144,126.572	786.530	786.530	786.530	73,286.093	72,480.045	72,066.337
Total	491,033.399	491,033.399	491,033.399	2,216.340	2,216.340	2,216.340	256,647.560	242,191.210	251,476.934

² The electricity transaction cut-off date is 24:00 on the 20th of each month, the data from 15/03/2017 to 20/03/2017, 21/12/2017 to 31/12/2017, 21/12/2018 to 31/12/2018, 21/08/2019 to 12/09/2019 is provided by the grid company.

Among which, $EF_{grid,CM,y}$ is 1.0548 tCO₂/MWh in the first crediting period, therefore,

15/03/2017-31/12/2017:

$$BE_{y1} = EG_y * EF_{grid,CM,y} = 76,294.843 \text{ MWh} \times 1.0548 \text{ tCO}_2/\text{MWh} = 80,475 \text{ tCO}_2$$

01/01/2018-31/12/2018:

$$BE_{y2} = EG_y * EF_{grid,CM,y} = 103,115.755 \text{ MWh} \times 1.0548 \text{ tCO}_2/\text{MWh} = 108,766 \text{ tCO}_2$$

01/01/2019-12/09/2019:

$$BE_{y3} = EG_y * EF_{grid,CM,y} = 72,066.337 \text{ MWh} \times 1.0548 \text{ tCO}_2/\text{MWh} = 76,015 \text{ tCO}_2$$

The baseline emission is:

$$BE_y = BE_{y1} + BE_{y2} + BE_{y3} = 265,256 \text{ tCO}_2$$

5.2 Project Emissions

According to ACM0002, no project emissions were to be counted by the Project.

Hence, $PE_y = 0$.

5.3 Leakage

According to the ACM0002, no leakage emissions are considered.

5.4 Net GHG Emission Reductions and Removals

According to the Section 5.1, 5.2 and 5.3 above,

$$BE_y = 265,256 \text{ tCO}_2\text{e};$$

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

$$LE_y = 0 \text{ tCO}_2\text{e};$$

$$\text{Therefore, } ER_y = BE_y - PE_y - LE_y = 265,256 \text{ tCO}_2\text{e}$$

This monitoring period started from 15/03/2017 to 12/09/2019, with totally 912 days. Based on the annual estimated emission reductions from the registered and renewed PDD, the amount of emission reductions for this monitoring period would be 310,020 tCO₂e (calculated as 124,076 tCO₂e/365d×912d). The actual emission reductions in this monitoring period (912 days) are 265,256 tCO₂e, the emission reductions in this monitoring period are 14.44% less than the estimation in the registered PDD, which is considered to be in the reasonable variation range.

Year	Baseline emissions or removals (tCO ₂ e)	Project emissions or removals (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Net GHG emission reductions or removals (tCO ₂ e)
15/03/2017-31/12/2017	80,475	0	0	80,475
01/01/2018-31/12/2018	108,766	0	0	108,766
01/01/2019-12/09/2019	76,015	0	0	76,015
Total	265,256	0	0	265,256