



GANSU GUAZHOU DALIANGXI WIND POWER PROJECT

Document Prepared by

CGN Carbon Asset Management (Beijing) Co., Ltd

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1 PROJECT DETAILS

1.1 Summary Description of the Implementation Status of the Project

Gansu Guazhou Daliangxi Wind Power Project (the project) is located at Guazhou County, Jiuquan City, Gansu Province, People's Republic of China. The project involves the installation of 33 wind turbines with each capacity of 1,500 kW, and totals up an installation capacity of 49.5MW. The Project is to utilize a wind power facility to generate zero greenhouse gas (GHG) emissions electricity for the Northwest China Power Grid. The Northwest China Power Grid is a coal-dominated power grid. The project is expected to generate approximately 115,144MWh per year and reduce emissions of GHG by an estimated 114,781 tCO₂e per year during the first crediting period by displacing electricity from the Grid.

The project started construction on 31/05/2008. The first wind turbine of the project has been put into operation on 04/12/2008. And the project was put into full delivery on 14/01/2009. The expected operation period of the project is 20 years as stated in the registered PDD. The first renewable crediting period of the Project under VCS is updated from 01/01/2009-03/05/2010 to 01/01/2009-31/12/2018.

The project activity was registered as a CDM project activity on 04/05/2010 and renewed on 21/03/2019 (Ref. 2916). After the registration of CDM, the project has been registered as a VCS project (Ref. 544). Total GHG emission reduction of 101,809 tCO₂e generated from 04/05/2010 to 29/03/2011 (both days included) by the project has been issued as CER under CDM program. Total GHG emission reduction of 92,556 tCO₂e generated from 30/03/2011 to 29/03/2012 (both days included) by the project has been issued as CER under CDM program. Total GHG emission reduction of 55,291

tCO₂e generated from 30/03/2012 to 28/09/2012 (both days included) by the project has been issued as CER under CDM program.

During this monitoring period from 29/09/2012-28/09/2018, the total emission reduction achieved is 429,582 tCO₂e.

1.2 Sectoral Scope and Project Type

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

Project type: Wind farm project

The project is not a grouped project.

1.3 Project Proponent

Organization name	Gansu CGN Wind Power Co., Ltd.
Contact person	Lei Shi
Title	Vice General Manager
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1.4 Other Entities Involved in the Project

Organization name	CGN Carbon Asset Management (Beijing) Co., Ltd
Role in the Project	Consultancy
Contact person	Lei Shi
Title	Vice General Manager

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1.5 Project Start Date

The project started on 04/12/2008 (operation start date)

1.6 Project Crediting Period

In the registered VCS PD, the crediting period is described as from 01/01/2009 to 03/05/2010. A deviation is requested for the crediting period in the registered VCS PD. The project is registered before 19/03/2020, 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 "01/01/2009-03/05/2010" to "01/01/2009-31/12/2018". Moreover, as the project is also registered as a CDM project with a seven year twice renewable project crediting period and furthermore, the project has the lifetime of 20 years, it is not eligible for VCU issuance beyond 31/12/2028.

1.7 Project Location

The project is located at Guazhou County, Jiuquan City, Gansu Province, and People's Republic of China. The exact location of the project is defined using geographic coordinates obtained with a Global Positioning System (GPS) receiver: E 95 ° 36'37"Longitude, N 40° 42'55"Latitude. These geographic coordinates are for the centre of the wind farm.

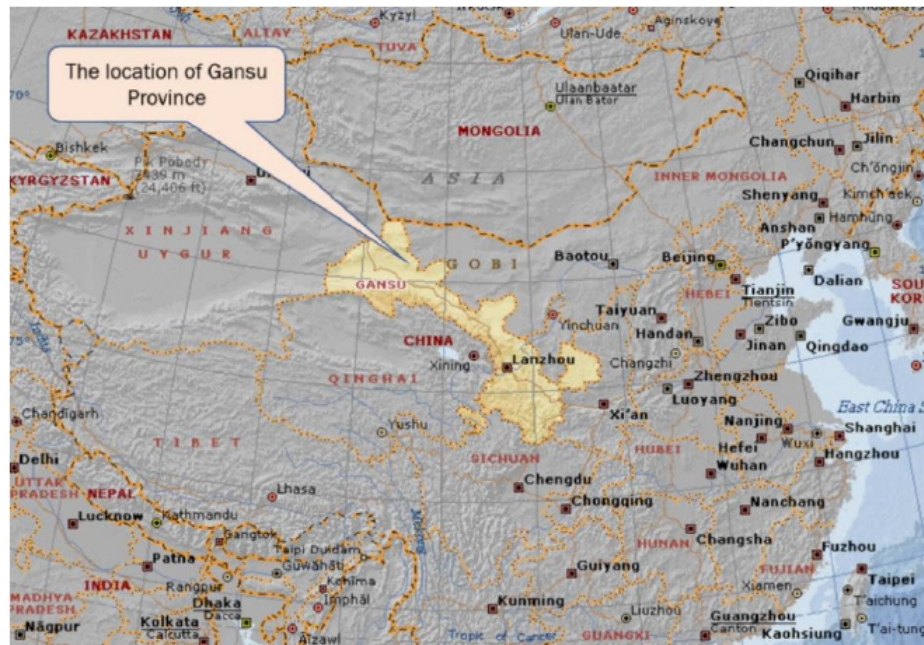


Figure 1. The location of Gansu Province in P. R. China

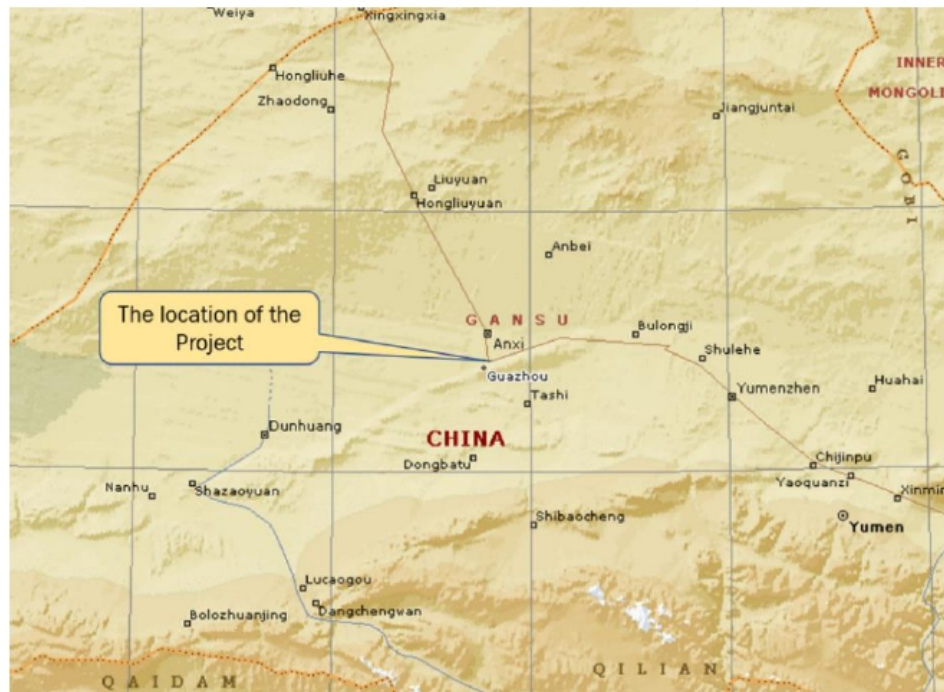


Figure 2. The location of the project

1.8 Title and Reference of Methodology

The methodology applied to the project is as follows:

Approved consolidated baseline and monitoring methodology ACM0002: "Consolidated baseline methodology for grid-connected electricity generation from renewable sources" (Version 09).

The approved "Tool for demonstration and assessment of additionality", Version 05.2; and

The approved "Tool to calculate the emission factor for an electricity system", Version 02;

Reference:

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

1.9 Participation under other GHG Programs

The project has been registered as CDM project and the registration number is 2916, the first CDM crediting period is from 04/05/2010 to 03/05/2017 (renewable), and the crediting period has been successfully renewed on 21/03/2019 with the 2nd CDM crediting period from 04/05/2017 to 03/05/2024. Total GHG emission reductions of 249,656 tCO₂ generated from 04/05/2010 to 28/09/2012 (both days included) by the project has been issued as CER under CDM program (As shown in the following table).

Period	emission reductions(tCO ₂ e)
04/05/2010 to 29/03/2011	101,809
30/03/2011 to 29/03/2012	92,556
30/03/2012 to 28/09/2012	55,291
Total	249,656

Please refer to the following link for details:

<https://cdm.unfccc.int/Projects/DB/BVQI1250066972.19/view?cp=1>

1.10 Other Forms of Credit

Emission Trading Programs and Other Binding Limits

Total GHG emission reductions of 249,656 tCO₂e generated from 04/05/2010 to 28/09/2012 (both days included) by the project has been issued as CER under CDM program. 114,633 tCO₂e of VCU's have been issued for the monitoring period from 01/01/2009- 03/05/2010.

All credits from 29/09/2012-28/09/2018 will be claimed under VCS program as VCU's for the project to avoid double counting, which will not be used for compliance with emission trading programs or to meet binding limits on GHG emissions.

Other Forms of Environmental Credit

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

1.11 Sustainable Development

The project makes contribution to the local sustainable development as follows:

1. GHG emission reduction

The proposed project activity will achieve obvious GHG emission reductions by avoiding CO₂ emissions, as grid-connected fossil fuel-fired power dominates in the NWCPG, and contribute to the China's commitment to peak carbon dioxide emissions before 2030.

2. Pollutants emission reduction through replacing fossil fuel combustion

The proposed project utilizes wind energy for generating electricity which would have been generated through alternate fuels (fossil fuel) based power plants, contributing to

reduction in specific emissions including GHG emissions. Thus reduce fossil fuel consumption and avoid pollutants emission, such as sulfur dioxide and dust, brought by fossil fuel combustion. Therefore, the proposed project has obvious environmental benefits.

3. Employment opportunities

The implementation of the proposed project will offer job opportunities for local people during both the construction and operational period. The proposed project leads to alleviation of poverty by establishing direct and indirect employment benefits. Such benefits will, for example, be accrued out during maintenance operations of the project activity or as generation of permanent labor in the form of security services, cleaning services. The infrastructure in and around the project area will also improve due to project activities. This includes development of road network and improvements of electricity quality, frequency and availability.

4. Economic development

The proposed project leads to an investment of about 474.3 million to a developing region which otherwise would not have happened in the absence of project activity. The generated electricity is fed into the NWCPG, thereby improving the grid frequency and availability of electricity to the local stakeholders. This attracts new opportunities for industries and economic activities to be setup in the area thereby resulting in greater local employment, ultimately leading to overall development. Otherwise the region can achieve economic growth and booming of local tourism through the construction and operation of the project. Furthermore, the project will contribute to local government with more tax revenues.

5. Diversifies the sources of electricity generation, important for meeting growing energy demands and the transition away from diesel and coal-supplied electricity generation
6. Makes greater use of renewable wind resources, which further helps to achieve the national action to promote renewable energy development.

2 SAFEGUARDS

2.1 No Net Harm

The project doesn't cause significant impact on the environment and socio-economic as to the conclusion of the EIA. The conclusions of EIA are documented below:

Noise

The noise pollution mainly comes from the manual drills, cement mixers during construction period, and aerodynamic interaction between the wind and turbine blades during operation. The noise levels will be naturally attenuated by ambient conditions, and will remain within the 'Standards of Environmental noise of urban areas'. It is stated in the EIA that the project location is far away from the nearest resident area. Therefore, the noise of the turbines will not affect the local residents.

Solid Waste

Most of the waste produced during the construction shall be landfilled or disposed of in an appropriate solid waste disposal site. The household waste will be collected and

transported to municipal landfill plant or collected and sent to the local waste treatment station or refuse dump.

Electromagnetic impact

The operation of the wind farm will generate electromagnetic energy; however, the amount produced will be very small. Furthermore, the site of the Project is far from the residential area. Therefore, there is no significant electromagnetic impact to be expected.

Wastewater and sewage

The total amount of waste water and sewage from the operation of the project will be very small. Before wastewater and sewage from the construction and operational periods are discharged, they will be processed by using a sedimentation pond and septic tank in order to reach class one of the Chinese environmental standards, which indicates no impact on the surrounding environment.

Dust and Air Quality

The air impact during the construction period mainly comes from airborne dust produced by excavating, by land transportation vehicles, and some exhaust discharge from using and moving construction machinery. Regarding this problem, the project owner will use enclosed or semi-enclosed transportation vehicles to reduce dust, with strictly managed schedules and routes. Dust will also be mitigated by strengthening construction controls, advocating 'civilized construction', and regularly spraying and cleaning the branch roads, material dump sites and other construction work surfaces.

Ecological impact

The proposed wind farm is located in an area of natural grassland. During the construction period, some vegetation will be affected, but this will be restored within a

short period. The installation height of the turbines is lower than 100m, so there is not expected to be any significant effect on birds' migration. The space between the turbines is 200m-300m, which will therefore not significantly affect bird flight. Meanwhile, the arrangement of rotors and transmission lines, and the design of the blades' shape, colour, quantity and size has also been considered to match as far as possible the surrounding natural landscape and the local construction style. In conclusion, the construction work of this proposed project is not expected to affect the local ecological environment.

Given the environment of the project location, there is very little wildlife at the site, and no protected species has been detected. Therefore, there is no significant impact by the Project on the local ecology.

2.2 Local Stakeholder Consultation

Local stakeholders Consultation during the project preparation stage:

The stakeholder consultation for the Project activity took place in May 2008. The local stakeholders (i.e. government officers, local residents) were invited to submit comments on the Project activity by filling in a questionnaire sent out by the Project Developer. A notice about the same and also the questionnaires were put at the project management office around the project site.

The questionnaires included a technical description of the Project as well as a brief explanation of how the project activity mitigates climate change taking support of Kyoto Protocol's Clean Development Mechanism (CDM) Incentives, and brings other sustainable development benefits. The questions asked were as follows:

- What impacts do you think the CDM Project activity will have on the local ecological environment?

- What impacts do you think the CDM Project activity will have on employment in the local area?
- What impacts do you think the CDM project activity will have on your livelihood?
- What impacts do you think the CDM project activity will have on local economic development?
- What would be the overall effects of the construction and operation of the CDM Project?
- What is your attitude towards the construction of the CDM Project?

Twenty nine such questionnaires were sent to the stakeholders by the Project Developer. The stakeholders were all local residents. A full list of stakeholders consulted is available with the Project Developer.

Questionnaires result summary is as follow:

Item	Content	%
What impacts do you think the CDM project activity will have on the local ecological environment?	Positive impact	52%
	Negative impact	0%
	No impact	48%
	Both positive and negative impacts	0%
What impacts do you think the CDM project activity will have on employment in the local area?	Positive impact	83%
	Negative impact	0%
	No impact	17%
	Both positive and negative impacts	0%

What impacts do you think the CDM project activity will have on your livelihood?	Positive impact	76%	The survey received 97%
	Negative impact	0%	
	No impact	24%	
	Both positive and negative impacts	0%	
What impacts do you think the CDM project activity will have on local economic development?	Positive impact	90%	
	Negative impact	0%	
	No impact	10%	
	Both positive and negative impacts	0%	
What would be the overall effects of the construction and operation of the CDM project activity?	Positive effect	90%	
	Negative effect	0%	
	No effect	10%	
What is your attitude towards the construction of the CDM project activity?	Agree	100%	
	Do not agree	0%	

participation (28 questionnaires returned out of 29). The survey shows the stakeholders believe that the proposed CDM project activity will have positive impacts on the local ecological, environmental, employment and social life. All stakeholders expressed their support for the proposed project. A full list of the filled-in questionnaires is available from the project developer.

Local stakeholder Consultation during the project implementation stage:

The project owner has set out the mechanism for on-going communication with local stakeholders and the communications with local stakeholders are being carried out at periodic intervals.

Firstly, stakeholders were informed of the status and progress of the project through the bulletin board on the village committee, and their comments can be recorded in the village committee's complaint book. This information is fed back to the project proponent by the contact person for a timely response.

Secondly, stakeholders can communicate and give feedback directly to the project proponent at any time through the published phone number of contact person.

Finally, the contract person of project owner also meets local villagers to collect their comments and suggestions yearly.

During this monitoring period, the project carried out the communication with local stakeholders in line with the mechanism. Village committee's complaint book were quarterly checked by the contact person, and the contact person visited the villages in Sep 2012, Aug 2013, May 2014, May 2015, Jun 2016, Jun 2017 and Jun 2018 to communicate with stakeholders. Meanwhile, the local authority has also conducted spot checks on the implementation of the project yearly. There are no negative comments received for the project during this monitoring period. In line with VCS requirements all the processed have been implemented to receive comments from local stakeholders as well as communicate with them.

2.3 AFOLU-Specific Safeguards

NA

3 IMPLEMENTATION STATUS

3.1 Implementation Status of the Project Activity

The project involves the installation of 33 turbines, each of which has a capacity of 1500kW and total installed capacity of 49.5MW. During the monitoring period, all turbines have come into operation and supplied electricity to Northwest China Power Grid. Please refer to Figure 3 for the technology process of the project and Table 1 for key technical characteristics of the generating equipments of the project.

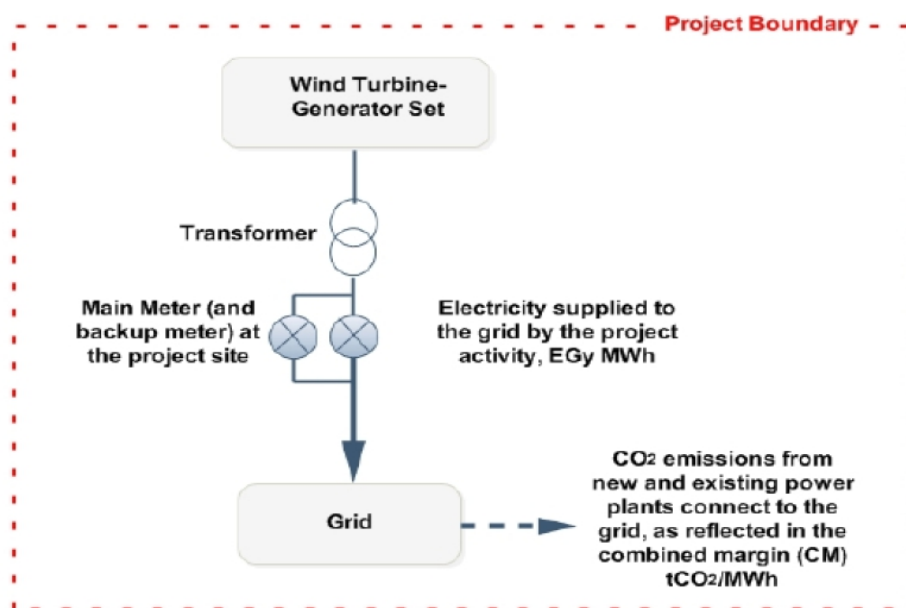


Figure 3 Technology process of the project

Wind Turbines	
Type	FD77A
No. of vane	3
Rated Power (kW)	1500
Rotor diameter (m)	77
Manufacturer	Dongfang Steam Turbine Works

Table 1 Technical Characteristics of the generating equipments

The electricity generated from the Project is delivered to Northwest China Power Grid. During this monitoring period, there was no significant malfunction or any emergency

occurred for the Project during this monitoring period. No events occurred during this monitoring period which may impact the applicability of the methodology.

3.2 Deviations

3.2.1 Methodology Deviations

There are no deviations applied to this monitoring period.

3.2.2 Project Description Deviations

In the registered VCS PD, the crediting period is described as from 01/01/2009 to 03/05/2010. A deviation is requested for the crediting period in the registered VCS PD. The project is registered before 19/03/2020, 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 "01/01/2009-03/05/2010" to "01/01/2009-31/12/2018", and it has no impacts on the applicability, additionality or baseline of the project. There are no other project description deviations during this monitoring period.

3.3 Grouped Projects

The Project is not a grouped project.

4 DATA AND PARAMETERS

4.1 Data and Parameters Available at Validation

The baseline grid emission factor $EF_{grid,CM,y}$ is obtained directly from the official source Notification on Determining Baseline Emission Factor of China's Grid by China's DNA. Thus, the relevant basis parameters for calculation of $EF_{grid,CM,y}$ are not described in detail here. With consideration of the fact of the Project, data and parameters that are available at validation are summarized in below tables.

Data / Parameter	$EF_{grid,CM,y}$
Data unit	tCO ₂ e/MWh
Description	The Baseline emission factor of Northwest China Power Grid
Source of data	Registered CDM PDD
Value applied	0.99685
Justification of choice of data or description of measurement methods and procedures applied	The data source is from public data of China DNA.
Purpose of Data	Baseline emission calculations
Comments	The baseline emission factor was determined ex ante and will be used throughout the first crediting period.

4.2 Data and Parameters Monitored

Data / Parameter	EG_y
Data unit	MWh
Description	Net electricity supplied to the grid by the project.
Source of data	Measured by the main meter installed at the output of the project site
Description of measurement methods and procedures to be applied	Measured
Frequency of	Continuously measured, and monthly recorded

19

		16/03/2013-15/03/2014
		01/03/2014-28/02/2015
		21/02/2015-20/02/2016
		15/02/2016-14/02/2017
		16/01/2017-15/01/2018
		08/01/2018-07/01/2019
		The calibrations of two meters are carried out annually by Power Measurement Center of Gansu Province Power Company. The Power Measurement Center is the qualified authority for the meters calibration accredited by Gansu Province Quality and Technology Supervision Bureau.
QA/QC procedures to be applied	Meters will be calibrated according to the relevant national standard. Data measured by the meters will be cross checked using electricity sales receipts. The accuracy of the measurement is ensured through calibration by a qualified party. Data will be archived at least for two years after the end of the crediting period, or the last issuance of CERs, whichever is later.	
Purpose of the data	Baseline emission calculations	
Calculation method	EG_y is calculated by the electricity exported to the grid (EG_{export}) minus the electricity imported from the grid (EG_{import}). EG_y = EG_{export}-EG_{import}	
Comments		

4.3 Monitoring Plan

1. Monitoring system and data collection

The electricity exported to the grid and imported from the grid by the project is continuously measured by the two bidirectional meters (one as main meter and one as backup meter) located at the output of the project site. The accuracy of the meters is 0.2S. The monthly cut-off time for electricity exported to the grid and imported from the grid by the project is at 00:00 on the penultimate day in every month. The manual records of the main meter are based on continuously measurement and monthly recorded by the Project Developer.

Monthly electricity exported to the grid and imported from the grid by the project is approved and signed off by the Manager before it is accepted and stored. The meter readings are also monitored and recorded on hourly basis and aggregated on monthly basis by the grid company. Electricity sales receipts of electricity exported to the grid and imported from the grid by the project are issued after the confirmation from the Grid Company and Project Developer. The net electricity supplied to grid by the project is calculated by the electricity exported to the grid minus the electricity imported 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:

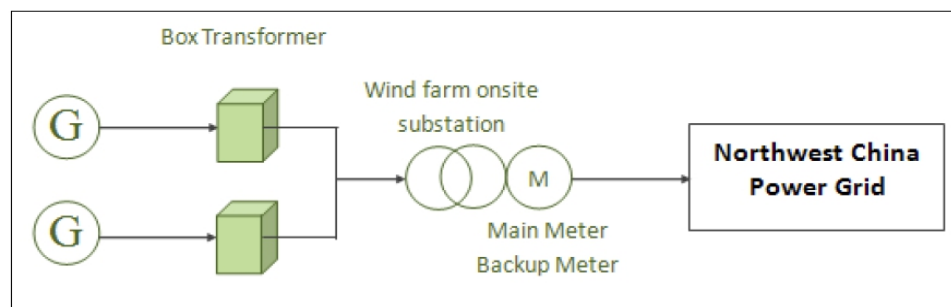


Figure 4 Indicative electric connection diagram of the project activity

2. Organizational structure and responsibility

The Project owner, Gansu 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 5:

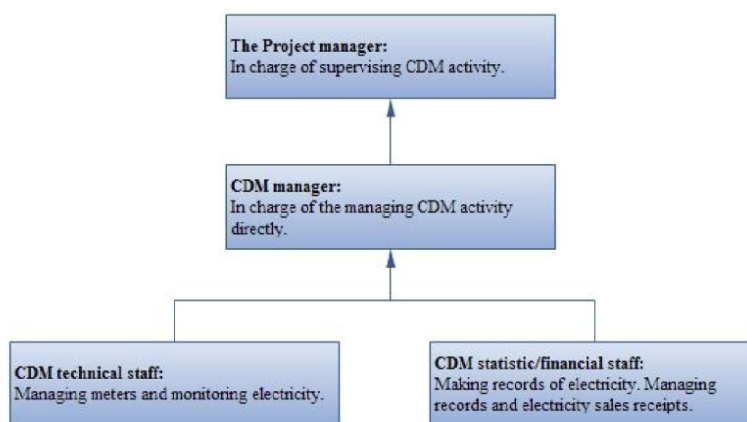


Figure 5 Organizing structure of the team

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.

The electricity exported to the grid and imported from the grid is monitored and recorded by the main meter that is bidirectional. The Project Developer and the Grid Company collect the meter readings on the account date and confirm the electricity

sales receipts. Data measured by the meters had been cross checked using electricity sales receipts. The accuracy of the measurement is ensured through calibration by a qualified party. The accuracy of the meters reaches 0.2S.

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

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

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

- (1) When both meters are fine, the main meter will be used;
- (2) When one of the two meters has a breakdown, the readings of the other meter will be adopted;
- (3) If both the main meter and back-up meter have breakdowns, the project owner and Northwest China Power Grid shall jointly prepare a reasonable and conservative estimate of the correct reading, and provide sufficient evidence that this estimation is reasonable and conservative.

5 QUANTIFICATION OF GHG EMISSION REDUCTIONS AND REMOVALS

5.1 Baseline Emissions

The baseline emission BE_y (tCO₂) during the monitoring period results from:

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

Where:

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

EG_y = Net electricity supplied to the grid by the Project (MWh).

EF_{grid,CM,y} = Emission factor of the grid (tCO₂e /MWh) (0.99685tCO₂e /MWh, as calculated ex-ante in the registered PDD and will not be updated during the crediting period).

The net electricity exported by the project is calculated as below:

Monitoring Period		Electricity exported to the grid by calculation meter readings	Electricity exported to the grid by sales receipts	Electricity exported to the grid used for ER calculation
		A	B	C=MIN(A, B)
29/09/2012	29/10/2012	5,722.794	5,722.794	5,722.794
30/10/2012	28/11/2012	4,716.360	4,716.360	4,716.360
29/11/2012	29/12/2012	4,560.204	4,560.204	4,560.204
Subtotal		14,999.358	14,999.358	14,999.358
30/12/2012	29/01/2013	4,969.338	4,969.338	4,969.338
30/01/2013	26/02/2013	5,990.886	5,990.886	5,990.886
27/02/2013	29/03/2013	7,920.726	7,920.726	7,920.726
30/03/2013	28/04/2013	4,163.016	4,163.016	4,163.016
29/04/2013	29/05/2013	10,487.070	10,487.070	10,487.070
30/05/2013	28/06/2013	6,122.160	6,122.160	6,122.160
29/06/2013	29/07/2013	6,273.564	6,273.564	6,273.564
30/07/2013	29/08/2013	11,152.746	11,152.746	11,152.746
30/08/2013	28/09/2013	10,215.282	10,215.282	10,215.282
29/09/2013	29/10/2013	9,389.952	9,389.952	9,389.952
30/10/2013	28/11/2013	4,121.040	4,121.040	4,121.040
29/11/2013	29/12/2013	3,866.544	3,866.544	3,866.544

Subtotal		84,672.324	84,672.324	84,672.324
30/12/2013	29/01/2014	2,072.928	2,072.928	2,072.928
30/01/2014	26/02/2014	6,353.556	6,353.556	6,353.556
27/02/2014	29/03/2014	7,027.284	7,027.284	7,027.284
30/03/2014	28/04/2014	8,826.114	8,826.114	8,826.114
29/04/2014	29/05/2014	7,047.678	7,047.678	7,047.678
30/05/2014	28/06/2014	8,528.256	8,528.256	8,528.256
29/06/2014	29/07/2014	7,603.266	7,603.266	7,603.266
30/07/2014	29/08/2014	15,053.874	15,053.874	15,053.874
30/08/2014	28/09/2014	2,218.194	2,218.194	2,218.194
29/09/2014	29/10/2014	7,047.084	7,047.084	7,047.084
30/10/2014	28/11/2014	3,654.420	3,654.420	3,654.420
29/11/2014	29/12/2014	4,121.436	4,121.436	4,121.436
Subtotal		79,554.090	79,554.090	79,554.090
30/12/2014	29/01/2015	5,467.638	5,467.638	5,467.638
30/01/2015	26/02/2015	5,011.512	5,011.512	5,011.512
27/02/2015	29/03/2015	5,133.414	5,133.414	5,133.414
30/03/2015	28/04/2015	6,587.856	6,587.856	6,587.856
29/04/2015	29/05/2015	5,720.616	5,720.616	5,720.616
30/05/2015	28/06/2015	6,809.814	6,809.814	6,809.814
29/06/2015	29/07/2015	5,316.102	5,316.102	5,316.102
30/07/2015	29/08/2015	8,971.380	8,971.380	8,971.380
30/08/2015	28/09/2015	3,877.104	3,877.104	3,877.104
29/09/2015	29/10/2015	4,989.666	4,989.666	4,989.666
30/10/2015	28/11/2015	3,121.866	3,121.866	3,121.866
29/11/2015	29/12/2015	2,140.710	2,140.710	2,140.710
Subtotal		63,147.678	63,147.678	63,147.678
30/12/2015	29/01/2016	5,287.920	5,287.920	5,287.920
30/01/2016	27/02/2016	3,380.190	3,380.190	3,380.190
28/02/2016	29/03/2016	3,315.048	3,315.048	3,315.048
30/03/2016	28/04/2016	5,478.000	5,478.000	5,478.000
29/04/2016	29/05/2016	5,647.818	5,647.818	5,647.818
30/05/2016	28/06/2016	4,844.268	4,844.268	4,844.268
29/06/2016	29/07/2016	5,244.030	5,244.030	5,244.030
30/07/2016	29/08/2016	7,754.736	7,754.736	7,754.736
30/08/2016	28/09/2016	3,889.050	3,889.050	3,889.050
29/09/2016	29/10/2016	4,474.866	4,474.866	4,474.866
30/10/2016	28/11/2016	1,634.358	1,634.358	1,634.358

29/11/2016	29/12/2016	1,560.834	1,560.834	1,560.834
Subtotal		52,511.118	52,511.118	52,511.118
30/12/2016	29/01/2017	2,077.218	2,077.218	2,077.218
30/01/2017	26/02/2017	5,061.408	5,061.408	5,061.408
27/02/2017	29/03/2017	10,050.018	10,050.018	10,050.018
30/03/2017	28/04/2017	7,871.622	7,871.622	7,871.622
29/04/2017	29/05/2017	10,860.696	10,860.696	10,860.696
30/05/2017	28/06/2017	8,909.208	8,909.208	8,909.208
29/06/2017	29/07/2017	6,158.790	6,158.790	6,158.790
30/07/2017	29/08/2017	9,727.872	9,727.872	9,727.872
30/08/2017	28/09/2017	5,790.708	5,790.708	5,790.708
29/09/2017	29/10/2017	7,195.188	7,195.188	7,195.188
30/10/2017	28/11/2017	2,686.398	2,686.398	2,686.398
29/11/2017	29/12/2017	5,605.182	5,605.182	5,605.182
Subtotal		81,994.308	81,994.308	81,994.308
30/12/2017	29/01/2018	6,580.332	6,580.332	6,580.332
30/01/2018	26/02/2018	3,546.312	3,546.312	3,546.312
27/02/2018	29/03/2018	5,728.470	5,728.470	5,728.470
30/03/2018	28/04/2018	6,893.568	6,893.568	6,893.568
29/04/2018	29/05/2018	5,126.286	5,126.286	5,126.286
30/05/2018	28/06/2018	6,908.286	6,908.286	6,908.286
29/06/2018	29/07/2018	6,411.042	6,411.042	6,411.042
30/07/2018	29/08/2018	8,793.972	8,793.972	8,793.972
30/08/2018	28/09/2018	6,357.741	6,357.741	6,357.741
Subtotal		56,346.009	56,346.009	56,346.009
Total		433,224.885	433,224.885	433,224.885

Monitoring Period		Electricity imported from the grid by calculation meter readings (MWh)	Electricity imported from the grid by sales receipts (MWh)	Electricity imported from the grid used for ER calculation (MWh)
		D	E	F=MAX(D,E)
29/09/2012	29/10/2012	33.924	33.924	33.924
30/10/2012	28/11/2012	40.590	40.590	40.590
29/11/2012	29/12/2012	34.518	34.518	34.518
Subtotal		109.032	109.032	109.032
30/12/2012	29/01/2013	55.176	55.176	55.176

30/01/2013	26/02/2013	26.532	26.532	26.532
27/02/2013	29/03/2013	31.086	31.086	31.086
30/03/2013	28/04/2013	36.300	36.300	36.300
29/04/2013	29/05/2013	40.392	40.392	40.392
30/05/2013	28/06/2013	50.292	50.292	50.292
29/06/2013	29/07/2013	47.652	47.652	47.652
30/07/2013	29/08/2013	38.478	38.478	38.478
30/08/2013	28/09/2013	32.406	32.406	32.406
29/09/2013	29/10/2013	39.138	39.138	39.138
30/10/2013	28/11/2013	40.062	40.062	40.062
29/11/2013	29/12/2013	32.868	32.868	32.868
Subtotal		470.382	470.382	470.382
30/12/2013	29/01/2014	27.588	27.588	27.588
30/01/2014	26/02/2014	33.264	33.264	33.264
27/02/2014	29/03/2014	26.334	26.334	26.334
30/03/2014	28/04/2014	30.822	30.822	30.822
29/04/2014	29/05/2014	23.034	23.034	23.034
30/05/2014	28/06/2014	37.356	37.356	37.356
29/06/2014	29/07/2014	28.314	28.314	28.314
30/07/2014	29/08/2014	27.060	27.060	27.060
30/08/2014	28/09/2014	30.426	30.426	30.426
29/09/2014	29/10/2014	21.450	21.450	21.450
30/10/2014	28/11/2014	27.258	27.258	27.258
29/11/2014	29/12/2014	29.370	29.370	29.370
Subtotal		342.276	342.276	342.276
30/12/2014	29/01/2015	24.156	24.156	24.156
30/01/2015	26/02/2015	37.092	37.092	37.092
27/02/2015	29/03/2015	21.516	21.516	21.516
30/03/2015	28/04/2015	28.248	28.248	28.248
29/04/2015	29/05/2015	24.090	24.090	24.090
30/05/2015	28/06/2015	32.604	32.604	32.604
29/06/2015	29/07/2015	27.324	27.324	27.324
30/07/2015	29/08/2015	29.964	29.964	29.964
30/08/2015	28/09/2015	29.634	29.634	29.634
29/09/2015	29/10/2015	27.324	27.324	27.324
30/10/2015	28/11/2015	33.528	33.528	33.528
29/11/2015	29/12/2015	24.882	24.882	24.882
Subtotal		340.362	340.362	340.362
30/12/2015	29/01/2016	33.990	33.990	33.990

30/01/2016	27/02/2016	37.158	37.158	37.158
28/02/2016	29/03/2016	28.578	28.578	28.578
30/03/2016	28/04/2016	34.716	34.716	34.716
29/04/2016	29/05/2016	38.808	38.808	38.808
30/05/2016	28/06/2016	43.560	43.560	43.560
29/06/2016	29/07/2016	24.684	24.684	24.684
30/07/2016	29/08/2016	25.278	25.278	25.278
30/08/2016	28/09/2016	29.172	29.172	29.172
29/09/2016	29/10/2016	27.192	27.192	27.192
30/10/2016	28/11/2016	31.548	31.548	31.548
29/11/2016	29/12/2016	28.182	28.182	28.182
Subtotal		382.866	382.866	382.866
30/12/2016	29/01/2017	30.558	30.558	30.558
30/01/2017	26/02/2017	28.050	28.050	28.050
27/02/2017	29/03/2017	33.924	33.924	33.924
30/03/2017	28/04/2017	33.330	33.330	33.330
29/04/2017	29/05/2017	25.938	25.938	25.938
30/05/2017	28/06/2017	29.964	29.964	29.964
29/06/2017	29/07/2017	27.060	27.060	27.060
30/07/2017	29/08/2017	31.218	31.218	31.218
30/08/2017	28/09/2017	28.842	28.842	28.842
29/09/2017	29/10/2017	27.984	27.984	27.984
30/10/2017	28/11/2017	33.792	33.792	33.792
29/11/2017	29/12/2017	29.172	29.172	29.172
Subtotal		359.832	359.832	359.832
30/12/2017	29/01/2018	34.716	34.716	34.716
30/01/2018	26/02/2018	30.492	30.492	30.492
27/02/2018	29/03/2018	35.244	35.244	35.244
30/03/2018	28/04/2018	27.324	27.324	27.324
29/04/2018	29/05/2018	31.350	31.350	31.350
30/05/2018	28/06/2018	23.364	23.364	23.364
29/06/2018	29/07/2018	37.356	37.356	37.356
30/07/2018	29/08/2018	28.116	28.116	28.116
30/08/2018	28/09/2018	32.406	32.406	32.406
Subtotal		280.368	280.368	280.368
Total		2,285.118	2,285.118	2,285.118

Net Electricity supplied to the NWCPG by the project:

Period	Electricity exported to the grid EG _{export} (MWh)	Electricity imported from the grid EG _{import} (MWh)	Net electricity supplied to the grid by the Project EG _y (MWh)
29/09/2012-29/12/2012	14999.358	109.032	14890.326
30/12/2012-29/12/2013	84672.324	470.382	84201.942
30/12/2013-29/12/2014	79554.090	342.276	79211.814
30/12/2014-29/12/2015	63147.678	340.362	62807.316
30/12/2015-29/12/2016	52511.118	382.866	52128.252
30/12/2016-29/12/2017	81994.308	359.832	81634.476
30/12/2017-28/09/2018	56346.009	280.368	56065.641
Total	433,224.885	2,285.118	430,939.767

Baseline emission of the project:

Period	Baseline emissions (tCO ₂ e/MWh) (BE _y)
29/09/2012-29/12/2012	14,843
30/12/2012-29/12/2013	83,936
30/12/2013-29/12/2014	78,962
30/12/2014-29/12/2015	62,609
30/12/2015-29/12/2016	51,964
30/12/2016-29/12/2017	81,377
30/12/2017-28/09/2018	55,889
Total	429,582

Therefore, the baseline emissions BE_y= 429,582 tCO₂e

5.2 Project Emissions

According to registered CDM PDD, the project is a GHG zero-emission electricity generating activity; therefore, no project emissions from the project activity were identified $PE_y = 0$.

5.3 Leakage

According to registered CDM PDD, the project needn't consider leakages, i.e., $LE_y=0$.

5.4 Net GHG Emission Reductions and Removals

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)
29/09/2012-29/12/2012	14,843	0	0	14,843
30/12/2012-29/12/2013	83,936	0	0	83,936
30/12/2013-29/12/2014	78,962	0	0	78,962
30/12/2014-29/12/2015	62,609	0	0	62,609
30/12/2015-29/12/2016	51,964	0	0	51,964
30/12/2016-29/12/2017	81,377	0	0	81,377
30/12/2017-28/09/2018	55,889	0	0	55,889
Total	429,582	0	0	429,582

This monitoring period started from 29/09/2012 to 28/09/2018, with totally 2,191 days. The annual average emission reductions estimated in the registered CDM PDD is 114,781 tCO₂, so the amount of emission reductions for this monitoring period would be $114,781 \text{ tCO}_2\text{e}/365\text{d} \times 2,191\text{d} = 689,000\text{tCO}_2\text{e}$. Because of wind curtailment by the local grid dispatching to ration the power supply, electricity exported to the grid during this monitoring period is far below estimation. Hence, the actual emission reductions in this monitoring period (2,191 days) are 429,582 tCO₂e, which is 37.65% less than the estimation in the registered CDM PDD.