

GUOHUA WULATE ZHONGQI PHASE I 49.5 MW WIND FARM PROJECT



Document Prepared By

LGAI Technological Center S.A. (Applus+ Certification)

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Work Carried Out By	Lead Auditor / Technical Expert: Denny Xue Technical Reviewer: Simon Shen

Summary:

LGAI Technological Center, S.A. (hereafter referred to as “Applus+ Certification”) has been commissioned by Beijing Ruifang Information Technology Co., Ltd to perform the verification of greenhouse gas emission reductions of the project activity “Guohua Wulate Zhongqi Phase I 49.5 MW Wind farm Project” (UNFCCC Ref. No. 2597, VCS Ref. No. 1204, hereafter referred to as “the project activity”) reported in the monitoring report /1/ during monitoring period 21/01/2014 to 31/07/2019.

The project activity was registered as a CDM project activity on 01/03/2010 which is available at <https://cdm.unfccc.int/Projects/DB/BVQI1242974549.19/view>. Later the project has been registered as a VCS project which is available at https://www.vcsprojectdatabase.org/#/project_details/1204.

The project activity is a wind farm project located at Urad Zhongqi, the north of Bayan Nur League and the west of Inner Mongolia Autonomous Region, People’s Republic of China which is to use wind resource for electricity generation. The installed capacity of the project activity is 49.5 MW, consisting of 33 sets of wind turbines with unit capacity of 1,500 kW. The average annual power delivered to the grid by the project is expected to be 124,300 MWh. The Project can reduce GHG emissions by replacing the electricity generated by fossil fuel fired power plants North China Power Grid (NCPG). It’s estimated that the proposed project could achieve GHG emission reductions of 133,685 tCO₂e annually.

The purpose and scope of this verification is to ensure that reported emission reductions are complete and accurate in accordance with applicable VCS standards and relevant UNFCCC requirements in order to be certified. A desk review and a site visit have been conducted to verify the data submitted in the monitoring report /1/. Applus+ Certification confirms the following has been reviewed:

- Monitoring plan included in the registered PD /3/ version 04 dated 23/12/2012;
- Verification report No. CCP.VOL0897A /04/, version 3, completed on 04/01/2013 (Gap Validation Part);
- Approved methodology, ACM0002 /7/, version 9.0, dated 27/02/2009;
- VCS standards and guidance version 3.7, as well as relevant UNFCCC requirements;
- All information and references relevant to the project activity’s resulting in emission reductions.

During this verification, no finding was identified related to the monitoring, implementation or operations of the project activity in relation to relevant VCS standards, guidance and UNFCCC requirements and relevant host party criteria and the applied baseline and monitoring methodology etc.

- Applus+ Certification confirms that the project is implemented in accordance with the registered PD /3/. The monitoring plan complies with the applied methodology ACM0002 /7/ version 9.0 and the monitoring has been carried out in accordance with the monitoring plan in the registered PD /3/. The monitoring system is in place and the emission reductions are calculated without material misstatements. The level of assurance of the verification is reasonable. Our opinion relates to the projects GHG emissions and the resulting GHG emission reductions reported and related to the valid and registered project baseline and monitoring and its associated documents. Based on the information reviewed and evaluated Applus+ Certification confirms that the implementation of the project has resulted in 811,737 tCO₂e emission reductions during period 21/01/2014 to 31/07/2019.

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1 INTRODUCTION

1.1 Objective

LGAI Technological Center, S.A. has been commissioned by Beijing Ruifang Information Technology Co., Ltd to perform the verification of greenhouse gas emission reductions of the project activity “Guohua Wulate Zhongqi Phase I 49.5 MW Wind farm Project” (UNFCCC Ref. No. 2597, VCS Ref. No. 1204) reported in the Monitoring Report /1/ during monitoring period 21/01/2014 to 31/07/2019.

LGAI Technological Center, S.A. as the verification body of the project activity has been accredited as a DOE by UNFCCC and also meets the competence requirements as set out in ISO 14065:2007.

The objective of verification is to have an independent review and ex post determination by a Designated Operational Entity (DOE) of the monitored reductions in GHG emissions that have occurred as a result of the registration of VCS project. Certification is the written assurance by the DOE that, during a specific time period, a proposed VCS project activity achieved the reductions in anthropogenic emissions by sources of GHGs as verified.

The objective of this verification/certification is to verify and certify emission reductions, reported for the “Guohua Wulate Zhongqi Phase I 49.5 MW Wind farm Project” in China for the period 21/01/2014 to 31/07/2019.

1.2 Scope and Criteria

The verification scope is defined as an independent and objective review of the registered PD, the Project’s baseline study and Monitoring Report (MR) and other relevant documents. The information in these documents is reviewed against VCS Version 3 requirements, UNFCCC rules and associated interpretations.

The verification is not meant to provide any consulting towards the client. However, stated requests for forward actions and/or corrective actions may provide input for improvement of the Project monitoring towards reductions in the GHG emissions.

1.3 Level of Assurance

The verification report is based on the PD, the VCS Monitoring Report (MR), supporting evidences made available to the verifier and information collected through performing interviews and during the on-site assessment.

The verification conclusion is assured a reasonable level of assurance.

1.4 Summary Description of the Project

Project title	Guohua Wulate Zhongqi Phase I 49.5 MW Wind farm Project
UNFCCC reference number	2597
VCS reference number	1204
Project Participants	Guohua CWP (Bayannaoer) Wind Power Co., Ltd. (Project Owner, host country, P. R. China)
Location of the project	Urad Zhongqi, the north of Bayan Nur League and the west of Inner Mongolia Autonomous Region, People's Republic of China Geographic coordinates: East longitude: 108°19'15" - 108°23'40" North latitude: 41°54'48" - 41°56'35"
Project start date	Construction start date: 10/06/2008 Operation start date: 30/07/2009 Fully operation date: 14/08/2009
Date of registration as CDM project	01/03/2010
Version of registered CDM PDD and VCS PD	Version 05, dated 24/02/2010 (CDM PDD) Version 04, dated 23/12/2012 (VCS PD and basis for verification)
Monitoring period	21/01/2014 to 31/07/2019
First monitoring report	Version 1.0, dated 19/12/2019
Final monitoring report	Version 2.0, dated 23/12/2019
Applied Methodology/Version	ACM0002, version 9.0, dated 27/02/2009
Scope/Technical Area	1/1.2

The project activity is a wind farm project located at Urad Zhongqi, the north of Bayan Nur League and the west of Inner Mongolia Autonomous Region, People's Republic of China which is to use wind resource for electricity generation. The installed capacity of the project activity is 49.5 MW, consisting of 33 sets of wind turbines with unit capacity of 1,500 kW. The average annual power delivered to the grid by the project is expected to be 124,300 MWh. The Project can reduce GHG emissions by replacing the electricity generated by fossil fuel fired power plants North China Power Grid (NCPG). It's estimated that the proposed project could achieve GHG emission reductions of 133,685 tCO₂e annually.

The project activity was registered as a CDM project activity on 01/03/2010 which is available at <https://cdm.unfccc.int/Projects/DB/BVQI1242974549.19/view>. Later the project has been registered as a VCS project which is available at https://www.vcsprojectdatabase.org/#/project_details/1204.

2 VERIFICATION PROCESS

2.1 Method and Criteria

Verification was conducted using Applus+ Certification's procedures in line with the requirements specified in the VCS Standard version 3, CDM M&P, the latest version of the CDM Validation and Verification Standard, and relevant UNFCCC requirements and applying standard auditing techniques.

Applus+ Certification completed a strategic review and risk assessment of the projects activities and processes in order to gain a full understanding of:

- Activities associated with all the sources contributing to the project emissions and emission reductions, including leakage if relevant;
- Protocols used to estimate or measure GHG emissions from these sources;
- Collection and handling of data;
- Controls on the collection and handling of data;
- Means of verifying reported data; and
- Compilation of the monitoring report.

Applus+ Certification verified the implementation of the monitoring plan and the data presented in the Monitoring Report /1/ for the period in question. This involved a site visit and a desk review of the Monitoring Report. This Verification Report describes the findings of this assessment.

The information of the assessment team is included in below:

Assessment team

According to the sectoral scopes / technical area and experiences in the sectoral or national business environment, Applus+ Certification has composed a project assessment team in accordance with the appointment rules in Applus+ Certification. The composition of assessment team has to be approved by the Applus+ Certification ensuring that the required skills are covered by the team. The four qualification levels for team members that are assigned by formal appointment rules as below:

- Leader Auditor (LA)
- Auditor (A)/ Auditor Trainee (AiT)
- Technical Reviewer (TR)
- Technical Experts (TE)

Name	Qualification	Coverage of scope	Coverage of Technical Area	Host country experience
<i>Denny Xue</i>	<i>LA/TE</i>	<i>Y (1.2)</i>	<i>Y</i>	<i>Y</i>
<i>Simon Shen</i>	<i>TR</i>	<i>Y (1.2)</i>	<i>Y</i>	<i>Y</i>

Denny Xue (Master Degree in Environmental Engineering, Bachelor Degree in Thermal Engineering) is a lead auditor appointed by Applus+ Certification for the GHG project assessment. He is based on Shanghai. He has 1.5 years of work experiences in CDM project development. Before he joined Applus+ Certification, he has been worked for Shanghai Chuanji Investment and Management which is a CDM consultancy company as a project manager for CDM project development.

Simon Shen (Master Degree in Thermal Energy Engineering, Bachelor Degree in Environmental Engineering) is a Lead Auditor appointed by Applus+ Certification for the GHG project assessment. He is based in Shanghai. He has several years of work experience in environmental protection field. Before he joined Applus+ Certification, he had been worked for TÜV SÜD as a GHG Validator/Assessment team and ISO 9001/14001 Lead Auditor for 3.5 years.

2.2 Document Review

The VCS monitoring report /1/ version 1.0 dated 19/12/2019, version 2.0 dated 23/12/2019 and the emission reduction calculations spreadsheet /2/, were assessed as part of the verification. In addition, the registered PD /3/ version 04 dated 23/12/2012 in particular the baseline estimations and the monitoring plan, and the VCS Verification report /04/ version 3 dated 04/01/2013 (Gap Validation Part), as well as relevant documents, were reviewed. A detailed documents reviewed are listed in Annex 1 of the report.

2.3 Interviews

The key personnel interviewed are summarized in the table below:

Interviewed personnel	Role	Organization	Subject
Ms. Li Jia	Manager	Guohua CWP (Bayannaoer) Wind Power Co., Ltd.	Operation of the project activity; Implementation of the monitor plan of the project activity;
Ms. Cao Xuan	Chief	Guohua CWP (Bayannaoer) Wind Power Co., Ltd.	Data collection and data achievement; Calibration of meters and equipment maintenance;
Mr. Wang Fei	Operator	Guohua CWP (Bayannaoer) Wind Power Co., Ltd.	Data collection and ER calculation.

2.4 Site Inspections

The assessment team performed the on-site verification (Urad Zhongqi, the north of Bayan Nur League and the west of Inner Mongolia Autonomous Region, People's Republic of China) on 20/12/2019. The interviewed personnel and objective are listed in above table.

2.5 Resolution of Findings

As an outcome of the verification process, the team can raise different types of findings.

Where a non-conformance arises the assessment team shall raise a Corrective Action Request (CAR). A CAR is issued, where:

- Non-compliance with the monitoring plan or methodology are found in monitoring and reporting and has not been sufficiently documented by the project participants, or if the evidence provided to prove conformity is insufficient;
- Modifications to the implementation, operation and monitoring of the project activity has not been sufficiently documented by the project participants;
- Mistakes have been made in applying assumptions, data or calculations of emission reductions that will impact the quantity of emission reductions;

- d) Issues identified in a FAR during validation to be verified during verification or previous verification(s) have not been resolved by the project participants.

The assessment team shall raise a Clarification Request (CL) if information is insufficient or not clear enough to determine whether the applicable CDM requirements have been met.

All CARs and CLs raised during verification shall be resolved prior to submitting a request for issuance.

There is no CARs and CLs raised for this monitoring period for the project.

2.5.1 Forward Action Requests

None FAR was raised during the verification process. Also there are no remaining from former verification and validation.

2.6 Eligibility for Validation Activities

Not applicable as LGAI Technological Center, S.A. holds the accreditation for the validation and verification for projects under scope 1.

3 VALIDATION FINDINGS

3.1 Participation under Other GHG Programs

Through reviewing the registered PD /3/ and verification report (Gap Validation Part) /4/ at UNFCCC website <https://cdm.unfccc.int/Projects/DB/BVQI1242974549.19/view>, it was validated that the project has been registered as a CDM project on 01/03/2010 with reference No. 2597. Also, after checking http://www.vcsprojectdatabase.org/#/project_details/1204, it is confirmed that the project also registered as a VCS project. The project does not participate in the other emissions trading program by checking public information on Internet and interviewing with project owner.

During the period from 01/08/2009 to 31/07/2019 as the crediting period, the project would claim for other CERs or VCUs, however CERs and VCUs would not been claimed together in the same period confirmed by checking statement issued by project owner.

Therefore, Applus+ Certification consider the project is eligible to participate under the VCS Program as there is no double counting for the emission reduction during any period.

3.2 Methodology Deviations

Not applicable as not deviation for methodology.

3.3 Project Description Deviations

The project was registered under CDM scheme on 01/03/2010 with reference number of 2597. According to CDM standard, the crediting period is 01/03/2010-28/02/2017, which could be renewed twice.

Then the project was registered under VCS scheme in 2013. In the registered PD, the project commission date is 30/07/2009 and start date of crediting period is chosen as 01/08/2009. The first issuance under is from 01/08/2009 to 28/02/2010. While according to VCS standard Version 3.7, the project crediting period is allowable for 10 years and could be renewed twice. Therefore, the first crediting period of project has been determined as 01/08/2009 to 31/07/2019.

The deviation has no impact for the applicability of the methodology, additionality or the appropriateness of the baseline scenario and meet all appropriate rules and requirements of VCS standard.

3.4 Grouped Project

Not applicable as not a grouped project.

4 VERIFICATION FINDINGS

4.1 Project Implementation Status

By means of on-site visit, the assessment team confirms that all physical features of the proposed CDM project activity proposed in the registered PD /3/ are in place and the PP has operated the project as per registered PD /3/. The installed capacity of the project is 49.5 MW, consisting of 33 sets of wind turbines with unit capacity of 1,500 kW. The electricity generated is transmitted to the Inner Mongolia Power Grid via a newly built transformer station, which was then exported to the NCPG. The project activity was expected to supply 124,300 MWh of electricity to the grid. The construction of the project started on 10/06/2008 and the commissioning time was 30/07/2009 verified by site visit interview and checking registered PD. There are no changes on the key equipment and technology since the validation of the project. No special event which would affect the monitoring of the project has been observed during the monitoring period. The implementation of project is in line with the description of registered PD.

The emission reduction resulted from the project during this monitoring period would apply for VCU. The project only applies CERs and VCUs under CDM and VCS (no other form of environmental credit) and no rejection from CDM and VCS occurs verified by checking CDM and VCS website and statement from project owner during validation stage. The project has been issued during CDM scheme from 01/03/2010 to 20/01/2014, but there are no CDM issuance up to the completion time of verification report during this monitoring period and there are surely no other forms of environmental credits applied or issued for the project activity. The project would contribute to sustainable development in Job creation, Reduction in GHG emissions, Reduction of fossil fuel use and Increase of power supply aspects confirmed during site visit.

The technical parameters have been verified with the nameplates /9/ as below:

No	Item	Unit	Value
1	Type	kW	1,500
2	Diameter	m	77
3	Covering Area	m ²	4,657
4	Rotation speed of wind wheel	r/min	11.2~22.2
5	Cut in wind speed	m/s	3.0
6	Nominal wind speed	m/s	12
7	Cut out wind speed	m/s	22
8	Hub height	m	65
9	Nominal voltage	V	690

By comparing the actual ER claimed in this monitoring period with the estimate in the registered PD, the actual emission reductions (811,737 tCO₂e) are 9.8% higher than what is stated in the registered PD (i.e. 739,113 tCO₂e, equals to annual emission reductions, 133,685 tCO₂e multiplied by the actual operational days (2,018 days) then divided by 365 days) which will not lead to the overestimation of VERs due to the reason as above:

- (1) During this monitoring period, the wind volume is larger than the estimation in project design and the wind turbine generators were operated at good status and the allowed electricity volume is increasing;
- (2) Even consider this variation for financial analysis, the IRR is still under benchmark.

The assessment team confirmed that there is no proposed or actual change to the project design during this monitoring period.

All required equipments and procedures are available and implemented in an appropriate manner.

All necessary monitoring instruments are installed. All required instruments including standby and operating procedures for the same have been implemented in an appropriate manner.

The project is completely operational and the same has been confirmed on-site. Neither mistakes nor malfunction on main meters have been observed during this monitoring period.

4.2 Accuracy of GHG Emission Reduction and Removal Calculations

The monitoring has been carried out in accordance with the monitoring plan contained in the registered PD /3/. All parameters were monitored and determined as per the monitoring plan which is listed in below table:

Data / Parameter:	EG _y
Data unit:	MWh
Description:	Net electricity supplied to the NCPG by the project in period y
Purpose of the data:	Calculation of baseline emissions
Parameter value:	754,755.349
Source of data used:	Net electricity supplied to the NCPG by the project in period y (EG_y) are calculated by The electricity exported to NCPG by the project in year y (EG_{export,y}) and The electricity imported by the project from the NCPG in year y (EG_{import,y}). $EG_y = EG_{export,y} - EG_{import,y}$ For both The electricity exported to NCPG by the project in year y (EG_{export,y}) and The electricity imported by the project from the NCPG in year y (EG_{import,y}), please refer to the table below.
Information flow:	Net electricity supplied to the NCPG by the project in period y (EG _y) are calculated by The electricity exported to NCPG by the project in year y

	($EG_{\text{export},y}$) and The electricity imported by the project from the NCPG in year y ($EG_{\text{import},y}$). $EG_y = EG_{\text{export},y} - EG_{\text{import},y}$ For both The electricity exported to NCPG by the project in year y ($EG_{\text{export},y}$) and The electricity imported by the project from the NCPG in year y ($EG_{\text{import},y}$), please refer to the table below.																				
Monitoring method, frequency and equipments:	Net electricity supplied to the NCPG by the project in period y (EG_y) are calculated by The electricity exported to NCPG by the project in year y ($EG_{\text{export},y}$) and The electricity imported by the project from the NCPG in year y ($EG_{\text{import},y}$). $EG_y = EG_{\text{export},y} - EG_{\text{import},y}$ For both The electricity exported to NCPG by the project in year y ($EG_{\text{export},y}$) and The electricity imported by the project from the NCPG in year y ($EG_{\text{import},y}$), please refer to the table below.																				
Calibration:	Net electricity supplied to the NCPG by the project in period y (EG_y) are calculated by The electricity exported to NCPG by the project in year y ($EG_{\text{export},y}$) and The electricity imported by the project from the NCPG in year y ($EG_{\text{import},y}$). $EG_y = EG_{\text{export},y} - EG_{\text{import},y}$ Both parameters are measured continuously and recorded monthly by 3 bi-direction electricity meters (Main Meter) installed in parallel connection on project activity site and 1 bi-direction electricity meter (Backup Meter) installed at the Delingshan substation during the monitoring period verified by site visit. See below for the information of 4 bi-direction electricity meters and verified by site visit and checking calibration certificates /12/: <table><tr><th>Meter</th><th>Type</th><th>Serial Number</th><th>Accuracy</th></tr><tr><td>M1.1</td><td>LANDIS</td><td>LY806380</td><td>0.5s</td></tr><tr><td>M1.2</td><td>LANDIS</td><td>LY807098</td><td>0.5s</td></tr><tr><td>M1.3</td><td>LANDIS</td><td>LY807108</td><td>0.5s</td></tr><tr><td>M2</td><td>LANDIS</td><td>94743524</td><td>0.2s</td></tr></table> The type, serial number and accuracy have been confirmed by site visit.	Meter	Type	Serial Number	Accuracy	M1.1	LANDIS	LY806380	0.5s	M1.2	LANDIS	LY807098	0.5s	M1.3	LANDIS	LY807108	0.5s	M2	LANDIS	94743524	0.2s
Meter	Type	Serial Number	Accuracy																		
M1.1	LANDIS	LY806380	0.5s																		
M1.2	LANDIS	LY807098	0.5s																		
M1.3	LANDIS	LY807108	0.5s																		
M2	LANDIS	94743524	0.2s																		
QA/QC procedure:	Data record will be archived for a period of 2 years after the crediting period to which the records pertain.																				
Means of verification:	Data of the parameter was verified by checking MRRs and ETNs. All data is in line with MRRs and ETNs; Information flow was verified by checking MRRs and ETNs, and all information are consistent; Monitoring method was verified by site visit, checking calibration certificates, all monitoring method meets the description in the PD;																				

	Calibration was verified by checking calibration certificate and Accreditation certificate, all calibration of monitoring equipment meets the requirement indicated in the PD.
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Data / Parameter:	EG _{export,y}																							
Data unit:	MWh																							
Description:	The electricity exported to NCPG by the project in year y																							
Purpose of the data:	Calculation of baseline emissions																							
Parameter value:	757,109.850																							
Source of data used:	The electricity exported to NCPG by the project in year y (EG _{export,y}) are all sourced from Meter Reading Record (MRRs) /10/ issued by the project owner and Electricity Transaction Notes (ETNs) /11/ covering monitoring period.																							
Information flow:	3 bidirectional electricity meters (M1.1, M1.2 and M1.3) installed in parallel connection on project activity site as main meter and 1 bidirectional electricity meter installed at the Delingshan substation as backup meter were measured continuously, recorded monthly and archived electronically. At 24:00 hr of the last day of each month, the staff from project owner will record 3 bidirectional electricity meters' readings and form Meter Reading Records (MRRs). The staff from power grid company will record the meter readings of main meter then transcribes the data into Electricity Transaction Notes (ETNs) then after the confirmation of the project owner for the ETNs, the project owner will issue the invoice. The data for MRRs and ETNs have been sent to the CDM consulting company for reporting of GHG emission reduction. The conservative one would be used for ER calculation.																							
Monitoring method, frequency and equipments:	The parameter was measured continuously and recorded monthly by 3 bi-direction electricity meters (Main Meter) installed in parallel connection on project activity site and 1 bi-direction electricity meter (Backup Meter) installed at the Delingshan substation during the monitoring period verified by site visit. See below for the information of 4 bi-direction electricity meters and verified by site visit and checking calibration certificates /12/: <table><tr><th>Meter</th><th>Type</th><th>Serial Number</th><th>Accuracy</th></tr><tr><td>M1.1</td><td>LANDIS</td><td>LY806380</td><td>0.5s</td></tr><tr><td>M1.2</td><td>LANDIS</td><td>LY807098</td><td>0.5s</td></tr><tr><td>M1.3</td><td>LANDIS</td><td>LY807108</td><td>0.5s</td></tr><tr><td>M2</td><td>LANDIS</td><td>94743524</td><td>0.2s</td></tr></table> The type, serial number and accuracy have been confirmed by site visit.				Meter	Type	Serial Number	Accuracy	M1.1	LANDIS	LY806380	0.5s	M1.2	LANDIS	LY807098	0.5s	M1.3	LANDIS	LY807108	0.5s	M2	LANDIS	94743524	0.2s
Meter	Type	Serial Number	Accuracy																					
M1.1	LANDIS	LY806380	0.5s																					
M1.2	LANDIS	LY807098	0.5s																					
M1.3	LANDIS	LY807108	0.5s																					
M2	LANDIS	94743524	0.2s																					
Calibration:	The calibration information is shown as below /12/:																							

	Meter	Calibration date	Valid until
	M1.1	06/01/2014	05/01/2015
		26/12/2014	25/12/2015
		12/12/2015	11/12/2016
		01/02/2016	31/01/2017
		23/01/2017	22/01/2018
		16/01/2018	15/01/2019
		09/01/2019	08/01/2020
	M1.2	06/01/2014	05/01/2015
		26/12/2014	25/12/2015
		12/12/2015	11/12/2016
		01/02/2016	31/01/2017
		23/01/2017	22/01/2018
		16/01/2018	15/01/2019
		09/01/2019	08/01/2020
	M1.3	06/01/2014	05/01/2015
		26/12/2014	25/12/2015
		12/12/2015	11/12/2016
		01/02/2016	31/01/2017
		23/01/2017	22/01/2018
		16/01/2018	15/01/2019
		09/01/2019	08/01/2020
	M2	20/02/2013	19/02/2014
		13/02/2014	12/02/2015
		06/02/2015	05/02/2016
		25/01/2016	24/01/2017
		17/01/2017	16/01/2018
		11/01/2018	10/01/2019
		04/01/2019	03/01/2020
	The calibration was conducted by accredited third parties which is Electric energy Measuring and Testing Centre of Inner Mongolia Electric Power Science Research Institute was accredited by Quality and Technical Supervision Bureau of Inner Mongolia valid from 25/12/2013 to 11/12/2023 /13/.		
QA/QC procedure:	Data record will be archived for a period of 2 years after the crediting period to which the records pertain.		
Means of verification:	Data of the parameter was verified by checking MRRs and ETNs. All data is in line with MRRs and ETNs; Information flow was verified by checking MRRs and ETNs, and all information are consistent; Monitoring method was verified by site visit, checking calibration certificates, all monitoring method meets the description in the PD; Calibration was verified by checking calibration certificate and Accreditation certificate, all calibration of monitoring equipment meets the requirement indicated in the PD.		

Data / Parameter:	EG _{import,y}																							
Data unit:	MWh																							
Description:	The electricity imported by the project from the NCPG in year y																							
Purpose of the data:	Calculation of baseline emissions																							
Parameter value:	1,898.750																							
Source of data used:	The electricity imported by the project from the NCPG in year y (EG _{import,y}) are all sourced from Meter Reading Record (MRRs) /10/ issued by the project owner and Electricity Transaction Notes (ETNs) /11/ covering monitoring period.																							
Information flow:	3 bidirectional electricity meters (M1.1, M1.2 and M1.3) installed in parallel connection on project activity site as main meter and 1 bidirectional electricity meter installed at the Delingshan substation as backup meter were measured continuously, recorded monthly and archived electronically. At 24:00 hr of the last day of each month, the staff from project owner will record 2 bidirectional electricity meters' readings and form Meter Reading Records (MRRs). The staff from power grid company will record the meter readings of main meter then transcribes the data into Electricity Transaction Notes (ETNs) then after the confirmation of the project owner for the ETNs, the power grid company will issue the invoice. The data for MRRs and ETNs have been sent to the CDM consulting company for reporting of GHG emission reduction. The conservative one would be used for ER calculation.																							
Monitoring method, frequency and equipments:	The parameter was measured continuously and recorded monthly by 3 bi-direction electricity meters (Main Meter) installed in parallel connection on project activity site and 1 bi-direction electricity meter (Backup Meter) installed at the Delingshan substation during the monitoring period verified by site visit. See below for the information of 4 bi-direction electricity meters and verified by site visit and checking calibration certificates /12/: <table><tr><th>Meter</th><th>Type</th><th>Serial Number</th><th>Accuracy</th></tr><tr><td>M1.1</td><td>LANDIS</td><td>LY806380</td><td>0.5s</td></tr><tr><td>M1.2</td><td>LANDIS</td><td>LY807098</td><td>0.5s</td></tr><tr><td>M1.3</td><td>LANDIS</td><td>LY807108</td><td>0.5s</td></tr><tr><td>M2</td><td>LANDIS</td><td>94743524</td><td>0.2s</td></tr></table> The type, serial number and accuracy have been confirmed by site visit.				Meter	Type	Serial Number	Accuracy	M1.1	LANDIS	LY806380	0.5s	M1.2	LANDIS	LY807098	0.5s	M1.3	LANDIS	LY807108	0.5s	M2	LANDIS	94743524	0.2s
Meter	Type	Serial Number	Accuracy																					
M1.1	LANDIS	LY806380	0.5s																					
M1.2	LANDIS	LY807098	0.5s																					
M1.3	LANDIS	LY807108	0.5s																					
M2	LANDIS	94743524	0.2s																					
Calibration:	The calibration information is shown as below /12/:																							

	Meter	Calibration date	Valid until
	M1.1	06/01/2014	05/01/2015
		26/12/2014	25/12/2015
		12/12/2015	11/12/2016
		01/02/2016	31/01/2017
		23/01/2017	22/01/2018
		16/01/2018	15/01/2019
		09/01/2019	08/01/2020
	M1.2	06/01/2014	05/01/2015
		26/12/2014	25/12/2015
		12/12/2015	11/12/2016
		01/02/2016	31/01/2017
		23/01/2017	22/01/2018
		16/01/2018	15/01/2019
		09/01/2019	08/01/2020
	M1.3	06/01/2014	05/01/2015
		26/12/2014	25/12/2015
		12/12/2015	11/12/2016
		01/02/2016	31/01/2017
		23/01/2017	22/01/2018
		16/01/2018	15/01/2019
		09/01/2019	08/01/2020
	M2	20/02/2013	19/02/2014
		13/02/2014	12/02/2015
		06/02/2015	05/02/2016
		25/01/2016	24/01/2017
		17/01/2017	16/01/2018
		11/01/2018	10/01/2019
		04/01/2019	03/01/2020
	The calibration was conducted by accredited third parties which is Electric energy Measuring and Testing Centre of Inner Mongolia Electric Power Science Research Institute was accredited by Quality and Technical Supervision Bureau of Inner Mongolia valid from 25/12/2013 to 11/12/2023 /13/.		
QA/QC procedure:	Data record will be archived for a period of 2 years after the crediting period to which the records pertain.		
Means of verification:	Data of the parameter was verified by checking MRRs and ETNs. All data is in line with MRRs and ETNs; Information flow was verified by checking MRRs and ETNs, and all information are consistent; Monitoring method was verified by site visit, checking calibration certificates, all monitoring method meets the description in the PD; Calibration was verified by checking calibration certificate and Accreditation certificate, all calibration of monitoring equipment meets the requirement indicated in the PD.		

Parameters available at validation stage:

Below data has been verified against the data sources and the PDD.

Parameter title	Description	Data	Source
EF _{grid,CM,y}	Baseline emission factor of NCPG in the monitoring period.	1.0755	Notification on 2007 baseline emission factors for regional power grids in China, issued by China on 09/08/2007 /14/.

4.3 Quality of Evidence to Determine GHG Emission Reductions and Removals

The monitoring has been carried out in accordance with the monitoring plan contained in the registered PD /3/ version 04 dated 23/12/2012.

As a result of verification of the ER calculation process, the assessment team confirmed that all the parameters required for the determination of the emission reductions have been included in the MR Report and ER Calculation Spreadsheet /2/ and are consistent with the applied methodology ACM0002 version 9.0 and the monitoring plan contained in the registered PD. The parameters are complete in this monitoring period.

After verifying the reported figures with the raw data sources, it's confirmed that the values of the parameters from the raw data sources are consistent with those quoted in the ER Calculation Spreadsheet and the MR Report. The verification process for the same has been clearly described above in section 4.2 of the report.

4.4 Non-Permanence Risk Analysis

Not applicable as a renewable project.

5 SAFEGUARDS

5.1 No Net Harm

By checking the EIA summary and conclusion provided in the registered PD, it is confirmed that Wind power is green power and the impact caused by wind farm on the surrounding ecosystem and residents, water, and atmosphere etc. is very little, there would be no net harm caused due to the project activity. Also, the EIA of the project are approved by the government.

Also, no potential environment or social economic matter was found during the site visit. The project is renewable energy project and thus no net harm observed in Air or water quality on-site.

5.2 Local Stakeholder Consultation

The local stakeholder's meeting was held in Urad Zhongqi, Bayan Nur League, Inner Mongolia Autonomous Region on 14/01/2008. 30 participants attended the meeting including local residents, builders and members of the local authorities. The project owner introduced the proposed project, and then a survey was arranged through a one-page questionnaire, which was designed to be easily filled in. The opinions expressed by the stakeholders were recorded and are available on request.

The stakeholder meeting and the survey showed that the proposed project receives strong support from the local community. They all believe the proposed project will promote local economic development and agree with the project development and construction.

Communications with Local stakeholders was being carried out at periodic intervals. There are no negative comments received for the project.

All such conclusion has been verified through site visit and check registered PD.

6 VERIFICATION CONCLUSION

Applus+ Certification has been commissioned by Beijing Ruifang Information Technology Co., Ltd to perform the verification of greenhouse gas emission reductions of the project activity “Guohua Wulate Zhongqi Phase I 49.5 MW Wind farm Project” (UNFCCC Ref. No. 2597, VCS Ref. No. 1204).

The management of Guohua CWP (Bayannaoer) Wind Power Co., Ltd. is responsible for the preparation of the GHG emissions data and the reported GHG emissions reductions on the basis set out within the project’s Monitoring Plan in the registered PD /3/, version 04 dated 23/12/2012.

Our verification approach was based on the requirements as defined under the applicable VCS standards and relevant UNFCCC requirements. Our approach is risk-based, drawing on an understanding of the risks associated with reporting GHG emissions data and the controls in place to mitigate these. The verification can confirm that:

- the project is implemented and operated as per the registered PD;
- the monitoring plan in registered PD is as per the applied methodology;
- the monitoring complies with the monitoring plan in the registered PD;
- the monitoring report and other supporting documents provided are complete and verifiable and in accordance with the applicable VCS and CDM requirements;
- the installed equipment being essential for generating emission reduction runs reliably and is calibrated appropriately;
- the monitoring system is in place and generates GHG emission reductions data;
- the GHG emission reductions are calculated without material misstatements.

In our opinion, the GHG emission reductions for “Guohua Wulate Zhongqi Phase I 49.5 MW Wind farm Project” during the monitoring period 21/01/2014 to 31/07/2019 as reported in Monitoring Report, prepared on the basis of the project’s Monitoring Plan are fairly stated. Based on the information we have seen and evaluated, we confirm the following statement:

Reporting period: From 21/01/2014 to 31/07/2019 (divided into 6 vintage periods). Verified GHG emission reductions or removals in the above reporting period:

Vintage period	Baseline emissions (tCO ₂ e)	Project emissions (tCO ₂ e)	Leakage (tCO ₂ e)	Emission Reductions (tCO ₂ e)
21/01/2014 to 31/12/2014	144,362	0	0	144,362
01/01/2015 to 31/12/2015	146,240	0	0	146,240
01/01/2016 to 31/12/2016	142,597	0	0	142,597
01/01/2017 to 31/12/2017	145,987	0	0	145,987
01/01/2018 to 31/12/2018	147,633	0	0	147,633

01/01/2019 to 31/07/2019	84,918	0	0	84,918
Total	811,737	0	0	811,737

APPENDIX 1: REFERENCE LIST

1. Monitoring report, version 1.0, dated 19/12/2019; version 2.0, dated 23/12/2019
2. ER calculation spreadsheet
3. Registered PD, version 04, dated 23/12/2012
4. Verification report No. CCP.VOL0897A, version 3, completed by SGS (Gap Validation Part)
5. VCS standard version 3.7, dated on 21/06/2017
6. Statement issued by project owner
7. Approved methodology ACM0002, version 9.0, dated 27/02/2009
8. CDM Monitoring procedure
9. Nameplate of the equipment
10. Meter Reading Record (MRRs) for Main Meter
11. Electricity Transaction Notes covering the monitoring period
12. Calibration certificates of meters covering the whole monitoring period issued by Electric energy Measuring and Testing center of Inner Mongolia Electric Power Science Research Institute
13. Accreditation certificates for Electric energy Measuring and Testing center of Inner Mongolia Electric Power Science Research Institute issued by Quality and Technical Supervision Bureau of Inner Mongolia
14. Notification on 2007 baseline emission factors for regional power grids in China, issued by China on 09/08/2007