

VCS VERIFICATION REPORT

XINJIANG JIMUNAI CGN PHASE I WIND FARM PROJECT

Monitoring Period:

19 March 2011 to 27 October 2011

Prepared by: Shenzhen CTI International Certification Co., Ltd
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Summary:

Shenzhen CTI International Certification Co., Ltd (CTI) has performed the verification of the emission reductions reported for the project activity “Xinjiang Jimunai CGN Phase I Wind Farm Project” for the period 19 March 2011 to 27 October 2011, to review and determine the monitored reductions in GHG emissions that have occurred as a result of the project activity. The project has previously been registered by the CDM Executive Board under CDM registration number of 5289 and the current monitoring period covers the period pre-CDM registration. The project activity was validated as CDM project by TÜV Rheinland Japan Ltd. and registered as the CDM project on 28 October 2011. As emission reductions occur prior to the project registration as the CDM project activity, the emission reductions prior to the project’s CDM registration cannot be claimed as Certified Emission Reductions (CERs). These emission reductions are thus claimed as Verified Carbon Units (VCU) under the Verified Carbon Standard (VCS) version 3.4. This is in accordance to the eminent VCS Guidance for projects that are

registered in two GHG programs.

The verification was performed on the basis of VCS Programme Guide version 3.5 and VCS Standard version 3.4 for the VCS projects, as well as criteria given to provide for consistent project operations, monitoring and reporting. The verification was conducted by means of document review, follow-up interviews and site inspections, and the resolution of outstanding issues. The verification team identified two CARs in this monitoring period, and no CL and FAR was raised. The CARs were satisfactorily addressed by the project proponents in the monitoring report.

In CTI's opinion, the GHG emission reductions reported for the project in the monitoring report (version 01 dated 24 November 2013) are fairly stated. The GHG emission reductions were calculated correctly on the basis of approved methodology ACM0002 (version 12.1.0) and the monitoring plan contained in the registered CDM-PDD of (version 3 dated 19 August 2011).

CTI does not assume any responsibility towards the issuance and utilization of the VCU's hereby verified and certified. Request for issuance of VCUs shall be made by the project proponent to an approved VCS Program Registry based on the requirements set out under the most recent version of the VCS Program Guidelines clause on VCS Registration.

The verification of reported emission reductions is based on the information made available to CTI and the engagement conditions detailed in this report. CTI cannot be held liable by any party for decisions made or not made based on this report.

Hence, CTI is able to certify that the emission reductions from the "Xinjiang Jimunai CGN Phase I Wind Farm Project" during the period amount to 61,417 CO₂e.

Abbreviations

CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reduction(s)
CL	Clarification request
CO ₂	Carbon Dioxide
CO ₂ e	Carbon Dioxide Equivalent
CTI	Shenzhen CTI International Certification Co., Ltd
DOE	Designated Operational Entity
EF	Emission Factor
ER	Emission Reduction
ETN	Electricity Transaction Note
FAR	Forward Action Request
GHG	Greenhouse Gas(es)
MR	Monitoring Report
NWPG	Northwest China Power Grid
PD	Project Description
PDD	Project Design Document
UNFCCC	United Nations Framework Convention on Climate Change
VCS	Verified Carbon Standard
VCSA	Verified Carbon Standard Association
VCU	Verified Carbon Unit

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1 INTRODUCTION

CGN Carbon Asset Management (Beijing) Co., Ltd. has commissioned Shenzhen CTI International Certification Co., Ltd (CTI) to carry out the verification and certification of emission reductions reported for the “Xinjiang Jimunai CGN Phase I Wind Farm Project” (the project) for the period 19 March 2011 to 27 October 2011. This report contains the findings from the validation and verification and includes a validation statement for the project and verification statement for the verified carbon units.

1.1 Objective

Verification is the periodic independent review and ex-post determination by an accredited verification body of the monitored reductions in GHG emissions that have occurred as a result of the registered VCS project activity during a defined verification period.

A verification statement is the written assurance by a verification body that, during a specific period in time, a project activity achieved the emission reductions as verified.

The objective of this verification was to verify and provide a verification statement of emission reductions reported for the “Xinjiang Jimunai CGN Phase I Wind Farm Project” for the period 19 March 2011 to 27 October 2011.

1.2 Scope and Criteria

The scope of the verification is:

- To verify that actual monitoring systems and procedures are in compliance with the monitoring systems and procedures described in the monitoring plan;
- To evaluate the GHG emission reduction data and express a conclusion with a reasonable level of assurance about whether the reported GHG emissions reduction data is free from material misstatement;
- To verify that reported GHG emissions data is sufficiently supported by evidence.

The criteria of the verification are:

- VCS Program Guide (version 3.5) /19/;
- VCS Standard (version 3.4) /18/ and other relevant requirements defined by VCSA;
- The approved methodology ACM0002 (version 12.1.0) /27/ applied by the project.

The verification shall ensure that reported emission reductions are complete and accurate in order to be verified.

1.3 Level of Assurance

The verification report expresses a conclusion with a reasonable level of assurance about whether the reported GHG emissions reduction data is free from material misstatement. CTI applied a materiality threshold of 5% with respect to omission or misstatements concerning reported quantities as per VCS standard.

1.4 Summary Description of the Project

1.4.1 Sectoral Scope and Project Type

According to the VCS Program Guide (version 3.5) /19/, the project is applicable under the following activity categories:

- Sectoral Scope: 1. Energy (Renewable/non-renewable).

According to Annex A of the Kyoto Protocol, the project is applicable under the Sectoral Scope 1:

- Energy Industries (renewable/ non-renewable sources).

1.4.2 Project Background

Project title:	Xinjiang Jimunai CGN Phase I Wind Farm Project
Project proponent:	Xinjiang Jimunai CGN Wind Power Co., Ltd. from China
Project location:	Jimunai County, Xinjiang Uygur Autonomous Region, P. R. China
UNFCCC registration No:	5289
UNFCCC registration date:	28 October 2011
Applied baseline and monitoring methodology:	ACM0002 (version 12.1.0)
CDM project crediting period:	28 October 2011 to 27 October 2018 (Renewable)
VCS project start date:	19 March 2011
VCS project crediting period:	19 March 2011 to 27 October 2011
VCU verification period:	19 March 2011 to 27 October 2011

2 VERIFICATION PROCESS

2.1 Method and Criteria

The verification was performed through means of the following three phases in accordance with the requirement of the registered CDM-PDD, the applied methodology, and the VCS Standard (version 3.4) and other relevant VCS requirements:

- A desk review of the monitoring report and all support documents;
- Follow-up interviews with project stakeholders and site inspection;
- The resolution of outstanding issues and the issuance of the verification report and statement.

The following sections outline each step in more detail.

The verification of the emission reductions has assessed all factors and issues that constitute the basis for emission reductions from the project. These include:

- The emission reduction calculations and the relevant data records;
- The calibration and maintenance records for the monitoring instruments;
- The management systems to support the project operation and monitoring.

2.2 Document Review

Based on the requirements of competency, experience and qualified sectoral scopes, CTI appointed a verification team in accordance with CTI's internal procedures.

Function	Name	Technical competence	Task Performance*
Team Leader	Zhang Lei	1.1, 1.2, 4.1, 4.3, 4.4, 13.1, 13.2	☒ DR ☒ SV ☒ RP ☐ TR
Technical Reviewer	Lin Wu	1.1, 1.2, 2.1, 3.1, 4.1, 13.1, 13.2	☒ DR ☐ SV ☐ RP ☒ TR

*DR=Document review; SV=Site visit; RP=Reporting; TR=Technical review

In addition to the VER/VCU monitoring report /1/, VCS project description /10/, emission reduction calculation spreadsheet /2/, the following documents also were assessed as a part of the verification audit:

- The registered CDM-PDD for the project activity /15/, including the monitoring plan and the corresponding CDM validation report /16/;
- Baseline and monitoring methodology ACM0002 (version 12.1.0) applied by the project /27/;
- Relevant decisions, clarifications and guidance from the VCSA /18/-/26/; and
- Other information and references relevant to the project activity /3/-/16/.

During the desk review, CTI has applied standard auditing techniques to assess the quality of information provided. The following activities were performed:

- A review of the data and information presented to verify their completeness;
- A review of the monitoring plan and monitoring methodology, paying particular attention to the frequency of measurements, the quality of metering equipment including calibration requirements, and the quality assurance and quality control procedures; and
- An evaluation of data management and the quality assurance and quality control system in the context of their influence on the generation and reporting of emission reductions.

2.3 Interviews

On 10 December 2013, CTI visited Xinjiang Jimunai CGN Wind Power Co., Ltd., and performed on-site assessment. The key personnel of the project were interviewed or assisted the verification team /28//29/. Main topics of the interview cover implementation of the project construction, applicability of selected methodology, implementation of project monitoring, emission reduction calculation, etc.

2.4 Site Inspections

During the on-site assessment, CTI has applied standard auditing techniques to assess the quality of information provided. The following aspects of the project activity have been verified:

- An assessment of the implementation and operation of the registered project activity is as per the CDM-PDD for the project activity;
- A review of information flows for generating, aggregating and reporting the monitoring parameters; and
- Interviews with relevant personnel to determine whether the operational and data collection procedures are implemented in accordance with the monitoring plan in the CDM-PDD;

- A cross-check between information provided in the monitoring report and data from other sources such as plant logbooks and electricity sale receipts;
- A check of the monitoring equipment including calibration performance and observations of monitoring practices against the requirements of the CDM-PDD and the selected methodology;
- A review of calculations and assumptions made in determining the GHG data and emission reductions; and
- An identification that quality control and quality assurance procedures in place to prevent or identify and correct any errors or omissions in the reported monitoring parameters.

The data presented in the monitoring report were assessed by review of the detailed project documentation and production records, as well as by interviews with personnel from the project developer Xinjiang Jimunai CGN Wind Power Co., Ltd. and project consultant CGN Carbon Asset Management (Beijing) Co., Ltd. and observation of collection of measurements, observation of established monitoring and reporting practices and assessment of the reliability of monitoring equipment. This has enabled the verification team to assess the accuracy and completeness of reported monitoring results, to verify the correct application of the approved monitoring methodology and the determination of the emission reductions.

In addition all parameters required by the monitoring methodology ACM0002 (version 12.1.0), and the management system were assessed during the site visit.

2.5 Resolution of Findings

A corrective action request (CAR) is issued, where:

- i. Non-conformities with the monitoring plan or methodology are found in monitoring and reporting, or if the evidence provided to prove conformity is insufficient;
- ii. Mistakes have been made in applying assumptions, data or calculations of emission reductions which will impair the estimate of emission reductions;
- iii. Issues identified in a FAR during validation to be verified during verification have not been resolved by the project proponents.

A clarification request (CL) shall be raised if information is insufficient or not clear enough to determine whether the applicable VCS requirements have been met.

The verification team identified two CARs in this monitoring period, and no CL was raised. The CARs were satisfactorily addressed by the project proponents (refer to Appendix A for further details).

2.5.1 Forward Action Requests

A forward action request (FAR) is issued for actions if the monitoring and reporting require attention and/or adjustment for the next monitoring period. No FAR was raised during the verification.

2.6 Eligibility for Validation Activities

The project has been validated under the CDM rules and registered as CDM project. CTI has undertaken validation activities as part of the verification for the project according to the VCS Program Guide. CTI was accredited in Sectoral Scope 1 on validation and verification and thus is eligible for validation activities on the proposed project.

3 VALIDATION FINDINGS

Xinjiang Jimunai CGN Phase I Wind Farm Project has been registered as a CDM project activity (UNFCCC Registration Number: 5289). Therefore, CTI only performed validation for the project on those additional requirements by VCSA. This validation was completed as part of the current VCU verification.

3.1 Participation under Other GHG Programs

The project has been registered as a CDM project on 28 October 2011 under the UNFCCC registration number 5289. The project activity was validated by TÜV Rheinland Japan Ltd. /16/. As the project has been validated under the CDM rules, except relevant information provided in the registered CDM-PDD, the additional project description produced from cover page and sections 1.2, 1.3, 1.5, 1.6, 1.7, 1.9, 1.10, 1.12.1, 1.12.2, 1.12.3, 1.12.4 and 1.13 of the *VCS Project Description Template* was completed. CTI has undertaken a validation on the sections above, as detailed below.

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CTI verified the relevant information against the registered CDM-PDD and confirmed their consistency.

Section 1.2: Sectoral Scope and Project Type

According to the “VCS Sectoral Scopes” /20/, the project is applicable under the sectoral scope 1, Energy (renewable/non-renewable). The project is a grid-connected wind power plant with the total installed capacity of 49.5 MW.

Section 1.3: Project Proponent

Project proponent: Xinjiang Jimunai CGN Wind Power Co., Ltd.

Section 1.5: Project Start Date

The project consists of 33 sets of wind turbine and generator. The first wind turbine was put into operation on 19 March 2011 and all wind turbines were put into operation on 23 March 2011 /6/. Therefore, the project start date for VCU issuance is identified as 19 March 2011.

Section 1.6: Project Crediting Period

The project is a registered CDM project with the first 7 years CDM renewable crediting period starting from 28 October 2011 /15/. The project crediting period for VCU issuance is from 19 March 2011 to 27 October 2011.

Section 1.7: Project Scale and Estimated GHG Emission Reductions or Removals

Project	Yes
Large project	NA

Years	Estimated GHG emission reductions or removals (tCO ₂ e)
Year 2011 (19 March 2011 to 27 October 2011)	61,417
Total estimated ERs	65,797

Total number of crediting years	223 days
Average annual ERs	107,695

Annual 107,695 tCO₂e was estimated in the registered CDM-PDD /15/, from which figures in table above were calculated.

Section 1.9: Project Location

The project locates at the southwest of Jimunai County, Xinjiang Uygur Autonomous Region, P. R. China. The geographical coordinates of the proposed project is 86.0054°- 86.8443° east longitude and 47.5454°- 47.5796° north latitude.

Section 1.10: Conditions Prior to Project Initiation

The project activity is the installation of a new grid-connected renewable wind power plant. The conditions prior to project initiation is that the equivalent electricity delivered to the grid by the project activity which would have otherwise been generated by the operation of grid connected power plants in the Northwest China Power Grid (NWPG).

Section 1.12.1: Right of Use

Evidences of proof of title have been verified via documentation proving ownership of the wind power plant and equipment at the on-site visit, such as agreements signed by the project owner and the letter of approval issued by NDRC (DNA of China) /17/.

Section 1.12.2: Emissions Trading Programs and Other Binding Limits

The project is not included in an emissions trading program, and does not take place in a jurisdiction or sector in which binding limits are established on GHG emissions. The project does not reduce GHG emissions from activities that participate in an emissions trading program, so this clause is not applicable.

Section 1.12.3: Other Forms of Environmental Credit

The project was registered as a CDM project activity on 28 October 2011 under the UNFCCC registration number 5289. The project has not been registered under any other GHG programs. The project neither has nor intends to generate any other form of GHG related environmental credits for GHG emission reductions or removals, 61,417 tCO₂e, achieved during the period from 19 March 2011 to 27 October 2011 claimed under the VCS Program.

Section 1.12.4: Participation under Other GHG Programs

The project has not been registered under any other GHG programs.

Section 1.13: Additional Information Relevant to the Project

Eligibility Criteria

The project is not a grouped project. Hence, this clause is not applicable.

Leakage Management

According to ACM0002 (version 12.1.0), no leakage emissions are considered. Hence this clause is not applicable.

Commercially Sensitive Information

It has been confirmed that there is no any commercially sensitive information excluded from the public version of the project description. Hence this clause is not applicable.

Further Information

As a wind power project, the project activity will produce clean electricity using wind resources and will generate GHG emission reductions by avoiding CO₂ emissions from electricity generation of fossil fuel fired power plants. Operation of this project does not lead to GHG emissions. It is confirmed that the project was not implemented to create GHG emissions primarily for the purpose of its subsequent removal or destruction.

3.2 Methodology Deviations

The validation process /16/ has assessed all factors and issues that constitute the basis for emission reductions from the project according to the applicable CDM methodology ACM0002 (version 12.1.0) /27/. There was not any methodology deviation applied to this project. Details refer to section 4.1.

3.3 Project Description Deviations

The verification team assessed through visual inspection and document review that all physical features of the proposed project activity including data monitoring, reporting and collecting systems have been implemented in accordance with the registered CDM-PDD. CTI confirms that the project is fully implemented in accordance with the project description contained in registered PDD (version 3 dated 19 August 2011), and no deviations for the project description. Details refer to section 4.1.

3.4 Grouped Project

The project was not a grouped project; hence this clause is not applicable.

4 VERIFICATION FINDINGS

This section summarises the findings from the verification of the emission reductions reported for the “Xinjiang Jimunai CGN Phase I Wind Farm Project” for the period 19 March 2011 to 27 October 2011.

4.1 Project Implementation Status

4.1.1 Project Implementation in accordance with the registered project design document

The project is a wind power grid-connected plant and locates at the southwest of Jimunai County, Xinjiang Uygur Autonomous Region, P. R. China and the geographical coordinates are verified by GSP system as 86.0054°- 86.8443° east longitude and 47.5454°- 47.5796° north latitude. The electricity generated by the project activity was supplied to the NWPG, which can be confirmed by the Power Purchase Agreement (PPA) signed between Xinjiang Jimunai CGN Wind Power Co., Ltd. and Xinjiang Electric Power Company /3/.

The project's installed capacity is 49.5 MW consisting of 33 set of wind turbines and generators with unit capacity of 1.5 MW. The details of the turbines with respect to installation and capacity have been verified to be consistent with description indicated in the registered CDM-PDD. The project was implemented and commissioned on 19 March 2011 when the first turbine was put into operation and all the wind turbines were put into full operation on 23 March 2011 /6/. The actual implementation of the project during this verification period was verified in terms of name plate capacities of each turbine and monitoring equipment.

All the monitoring system in operation period is consistent with the description in the registered CDM-PDD. The control system at the power plant is automated and assures continuous operation, including monitoring on malfunction of equipment. By checking the daily operation and maintenance records /6/, CTI can confirm that no serious malfunction happened and the plant was under a normal operation as expected in this monitoring period.

On-site training for the related procedures including monitoring, recording and reporting was verified to be in place /5/ and their implementation was confirmed by interview with the key operators /28/ and observing the operation.

As part of the site visit, CTI confirms that the project implementation is in accordance with the project description contained in registered CDM-PDD (version 3 dated 19 August 2011). The verification team confirmed through visual inspection and document review that all physical features of the proposed project activity including data collection systems and storage systems have been implemented in accordance with the registered CDM-PDD.

4.1.2 Compliance of monitoring plan with monitoring methodology

CTI is able to confirm that the monitoring plan in the registered CDM-PDD (version 3 dated 19 August 2011) is in accordance with the approved methodology applied by the project activity, i.e. ACM0002 (version 12.1.0).

4.1.3 Compliance of monitoring with the monitoring plan

The monitoring has been carried out in accordance with the monitoring plan contained in the registered CDM-PDD (version 3 dated 19 August 2011). CTI confirms that all parameters stated in the monitoring plan are monitored and reported appropriately. All parameters required to be monitored by the monitoring plan as per the monitoring methodology ACM0002 (version 12.1.0) and the management system were assessed during the site visit. The monitoring report lists each parameter required by the monitoring plan and the information flow (i.e. from data generation, aggregation, recording, calculation and reporting) for these parameters is provided. The information flow for the each parameter is further verified in the following sections.

Parameters monitored

- (1) $EG_{\text{Facility},y}$ Quantity of net electricity generation supplied by the project to the grid;
- (2) $EG_{\text{export},y}$ Electricity supplied to the grid by the proposed project;
- (3) $EG_{\text{import},y}$ Electricity purchased from the grid by the proposed project;
- (4) $EG_{\text{im-backup},y}$ Electricity imported from the grid by the proposed project through the backup power line

Two bidirectional electronic meters (main meter M1 and backup meter M2) were installed at the high voltage of 110kV on-site substation of the project site to continuously measure and monthly record both the electricity exported by the project to the power grid and the electricity imported by the project from the power grid. The backup meter M2 was used in case of error or emergency of the main meter M1. One bidirectional electronic meter (M3) was installed at the backup line to monitor the imported electricity from the power grid. $EG_{\text{Facility},y}$ is calculated by the electricity exported to the grid ($EG_{\text{export},y}$) minus the electricity imported from the grid ($EG_{\text{import},y}$) and the electricity imported from the grid via the backup power line ($EG_{\text{im-backup},y}$). All the monitoring facilities and system have been verified by CTI during on-site visit.

The meter readings of M1 and M2 are continuously measured by the main meter and backup meter, and recorded by trained staff as agreed with the grid company at 24:00 on the 27th day of each month /7/. The electricity sale and purchase receipts /8/ /9/ to the wind power company issued by the local Grid Company have been used for cross-check of electricity export and import data. Since the value of electricity import each month is very small, the electricity receipts of import was issued covering

whole year 2011, which was used in the emission reduction calculation. CTI was able to confirm it is acceptable and conservative.

The data of electricity imported through 35kV backup power line (measured by M3) are recorded by the grid company on the 18th day of each month. Electricity sales receipts issued by the local Grid Company have been used for cross-check of electricity import data of the backup power line. For conservative, the electricity imported from the grid by the Project through the backup power line during period from 19 March 2011 to 18 November 2011 is taken into consideration. It is acceptable and conservative by CTI.

Data in the monthly reading records were used to the report, through a cross check with the ETNs, and the conservative values from electricity export and import were applied to calculate the net electricity supplied to the grid by the project. The data reported in the monitoring report and ERs calculation spreadsheet has been verified by the verification team. Supporting references and data required to determine the net electricity supplied to the grid by the project is found to be complete and transparent.

Monitoring equipment and calibration

The meters installed at the project site have been calibrated periodically as per the relevant industrial standard by the qualified third party to ensure the monitoring equipments' accuracy and in good conditions. The relevant information of meters' calibration is listed as below.

Item	Main meter M1	Backup meter M2	Backup line meter M3
Type	Bidirectional	Bidirectional	Bidirectional
SN	4200415011003274797	4200415011003274798	954931
Accuracy class	0.2S	0.2S	0.5S
Calibration frequency	Annual	Annual	Annual
Calibration date	1 November 2010	1 November 2010	12 March 2011
Valid period	31 October 2011	31 October 2011	11 March 2012
Calibration entity	Certificate of Metrological Authorization for Xinjiang Electric Power Scientific Research Institute	Certificate of Metrological Authorization for Xinjiang Electric Power Scientific Research Institute	Electricity Metering Center of Xinjiang Altay Electric Power Co., Ltd.

Calibration records and accreditation certificates /12/ /13/ have been verified by the verification team. The actual accuracies of meters M1 and M2 are verified to be 0.2S, which is consistency with the registered CDM-PDD. The actual accuracy of the meter M3 is verified to be 0.5S, which is more accurate than the description (1.0) in the registered CDM-PDD and in compliance with the Technical administrative code of electric energy metering (DL/T 448-2000) /14/. The calibration frequency of meters is annual, which is consistent with the information in the CDM-PDD. CTI can thus confirm that the meters' accuracy and calibration interval are in line with the monitoring plan of the registered CDM-PDD, and the calibrations of meters are verified to be valid for the whole reporting period.

Data management and control

Xinjiang Jimunai CGN Wind Power Co., Ltd. is responsible for operation and routine maintenance of power plant under the project activity. The quality assurance and quality control procedures have been addressed in the CDM project management and monitoring manual /4/, including the

organization structure with the responsibilities, personnel competencies, monitoring procedures and monitoring management. By interview with the staff /28/ and check records /4/-/6/ during on-site visit, it can be confirmed that the monitoring management system is implemented following the project management and monitoring manual.

All monitoring devices have been calibrated and maintained periodically to ensure the accuracy of measurement. Calibration records of instruments used in measurements were made available during the verification visit and found to be valid for the entire period of the verification. Competence and training records of in-plant personnel engaged in measurement of plant parameters were presented during verification and found to be in order.

4.2 Accuracy of GHG Emission Reduction or Removal Calculations

CTI confirms that appropriate methods and formulae for calculating baseline emissions, project emissions and leakage have been followed, and the assumptions, emission factors and default values that are applied in the calculation have been justified.

According to the applied methodology ACM0002 (version 12.1.0) /27/, the emission reductions are determined as the difference between the baseline emissions, project emissions and leakage:

$$ER_y = BE_y - PE_y - LE_y$$

4.2.1 Baseline emissions

The baseline reductions are determined as multiplying the quantity of net electricity generation supplied by the project to the grid by the validated *ex-ante* fixed grid emission factor:

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

Grid emission factor ($EF_{\text{grid},\text{CM},y}$)

$EF_{\text{grid},\text{CM},y}$ is the grid emission factor of the NWPG, which has been verified *ex-ante* in the validation stage in the registered CDM-PDD as 0.9180 tCO₂e/MWh /15/.

Quantity of net electricity generation supplied by the project to the grid ($EG_{\text{facility},y}$)

$EG_{\text{facility},y}$ is the net electricity supplied to the grid by the project, which is determined by the electricity exported to the grid minus the electricity imported from the grid. Data in the monthly reading records were used to report. Through a cross check with the ETNs, the most conservative values have been applied to calculate the electricity exported to and imported from the grid by the project.

Electricity exported to the grid by the project:

Period	Values from meter M1 reading (MWh)	Values from ETNs (MWh)	Verified (MWh)
	A	B	C=Min(A, B)
19/03/2011-27/04/2011	746.24	746.24	746.24
28/04/2011-27/05/2011	13,456.08	13,456.08	13,456.08
28/05/2011-27/06/2011	9,995.92	9,995.92	9,995.92
28/06/2011-27/07/2011	11,244.64	11,244.64	11,244.64
28/07/2011-27/08/2011	9,555.48	9,555.48	9,555.48
28/08/2011-27/09/2011	12,774.08	12,774.08	12,774.08

28/09/2011-27/10/2011	9,572.64	9,572.64	9,572.64
Total			67,345.08

Electricity imported from the grid by the project:

Period	Values from meter M1 reading (MWh)	Values from ETNs for M1 in 2011 (MWh)	Verified (MWh)
	D	E	F=Max(D, E)
19/03/2011-27/04/2011	285.12	435.6	435.6
28/04/2011-27/05/2011	6.16		
28/05/2011-27/06/2011	11.44		
28/06/2011-27/07/2011	5.72		
28/07/2011-27/08/2011	8.8		
28/08/2011-27/09/2011	10.12		
28/09/2011-27/10/2011	14.52		
Total	341.88		

Electricity imported from the grid by the project through the backup power line:

Period	Values from meter M3 reading (MWh)	Values from ETNs for M3 (MWh)	Verified (MWh)
	G	H	I=Max(G, H)
19/03/2011-18/04/2011	0.924	0.924	0.924
19/04/2011-18/05/2011	1.022	1.022	1.022
19/05/2011-18/06/2011	1.218	1.218	1.218
19/06/2011-18/07/2011	0.329	0.329	0.329
19/07/2011-18/08/2011	1.022	1.022	1.022
19/08/2011-18/09/2011	0.441	0.441	0.441
19/09/2011-18/10/2011	0.112	0.112	0.112
19/10/2011-18/11/2011	1.344	1.344	1.344
Total			6.412

Hence, the quantity of net electricity generation supplied by the project to the grid $EG_{\text{facility},y}$ during the monitoring period 19 March 2011 to 27 October 2011 was calculated conservatively as:

$$EG_{\text{facility},y} = EG_{\text{export},y} - EG_{\text{import},y} - EG_{\text{im-backup},y} = 67,345.08 - 435.6 - 6.412 = 66,903.07 \text{ MWh}$$

The emission reductions for this monitoring period were calculated as:

$$ER_y = BE_y = EG_{\text{facility},y} \times EF_{\text{grid,CM},y} = 66,903.07 \text{ MWh} \times 0.9180 \text{ tCO}_2/\text{MWh} = 61,417 \text{ tCO}_2$$

4.2.2 Project emissions

The project emissions are zero according to the methodology ACM0002 (version 12.1.0) /27/.

4.2.3 Leakages

Leakage does not need to be accounted for this project as per the applied methodology ACM0002 (version 12.1.0) /27/..

4.2.4 Emission reductions

The emission reductions for this monitoring period was calculated as:

Years	GHG emission reductions or removals (tCO ₂ e)
Year 2011 (19 March 2011 to 27 October 2011 i.e. 223 days)	61,417
Total ERs claimed	61,417

4.2.5 Comparison of actual emission reductions or net anthropogenic GHG removals by sinks with estimates in registered CDM-PDD

The emission reductions claimed are 61,417 tCO₂e in this monitoring period (i.e. 223 days). Compared with yearly expected emission reductions 107,695 tCO₂e (365 days) in the registered CDM-PDD (corresponding to 65,797 tCO₂e for this monitoring period), the reported emission reductions in this monitoring period are lower than the expected. Considering the wind resource fluctuation, CTI is able to confirm that the actual power supply and also emission reductions reported in this monitoring period are reasonable and appropriate. CTI verified the input data for calculating emission reductions and the calculating process, and confirmed the result were complete and transparent.

4.3 Quality of Evidence to Determine GHG Emission Reductions or Removals

All necessary documentations are collected, referenced and aggregated, which is easily accessible in hard-copy or electronic format. Measurements are performed by calibrated equipment, and the key data can also be cross-checked via other sources, such as records, receipts and inventory data. No assumptions are used that have any material influence on reported emission reductions.

CTI concludes that during this monitoring period, the evidences for determination of emission reductions are sufficient and reasonable, and the calculation of emission reductions is reliable.

4.4 Non-Permanence Risk Analysis

The project is not AFOLU project, and thus non-permanence risk analysis is not applicable for the project.

5 VERIFICATION CONCLUSION

Shenzhen CTI International Certification Co., Ltd (CTI) has performed the verification of the emission reductions that have been reported for the project activity “Xinjiang Jimunai CGN Phase I Wind Farm Project” in China (CDM Registration No. 5289) for the period 19 March 2011 to 27 October 2011.

The verification is based on the baseline and monitoring methodology ACM0002 (version 12.1.0), the validated and registered CDM-PDD (version 3 dated 19 August 2011) and the monitoring report (version 01 dated 24 November 2013). The verification consisted of the following three phases: i) desk review of the project design and the baseline and monitoring plan; ii) follow-up interviews with project stakeholders; iii) resolution of outstanding issues and the issuance of the final verification and certification report.

The project proponents are responsible for the collection, calculation and determination of the GHG data in accordance with the monitoring plan and the reporting of GHG emission reductions on the basis set out within the project monitoring report.

It is CTI's responsibility to provide an independent verification statement on the reported GHG emission reductions for the project. Based on an understanding of the risks associated with reporting of GHG emission data and the controls in place to mitigate these, CTI planned and performed our work to obtain the information and explanations that we considered necessary to provide reasonable assurance that reported GHG emission reductions are fairly stated.

CTI does not assume any responsibility towards the issuance and utilization of the VCU's hereby verified and certified. Request for issuance of VCU's shall be made by the project proponent to an approved VCS Program Registry based on the requirements set out under the most recent version of the VCS Program Guidelines clause on VCS Registration.

The verification of reported emission reductions is based on the information made available to CTI and the engagement conditions detailed in this report. CTI cannot be held liable by any party for decisions made or not made based on this report.

In CTI's opinion the GHG emissions reductions of the “Xinjiang Jimunai CGN Phase I Wind Farm Project” for the period 19 March 2011 to 27 October 2011 are fairly stated in the monitoring report (version 01 dated 24 November 2013). The GHG emission reductions were calculated correctly on the basis of the approved methodology ACM0002 (version 12.1.0) and the monitoring plan contained in the registered CDM-PDD (version 3 dated 19 August 2011).

CTI can confirm that the GHG emission reductions are calculated without material misstatements. Based on the evidence and information that are considered necessary to guarantee that GHG emission reductions are appropriately calculated, CTI confirms the following statement:

Reporting period: From 19 March 2011 to 27 October 2011

Verified GHG emission reductions or removals in the above reporting period:

GHG Emission Reductions or Removals	tCO ₂ e
Baseline Emissions	61,417
Project Emissions	0
Leakage	0
Net GHG emission reductions or removals	61,417

And the emission reductions for each year in the above monitoring period are claimed as follows:

Years	GHG emission reductions or removals (tCO ₂ e)
Year 2011 (19 March 2011 to 27 October 2011 i.e. 223 days)	61,417
Total ERs claimed	61,417

Zhang Lei

Mr. Zhang Lei
Team Leader
20 December 2013

Wu Lin

Mr. Lin Wu
Technical Reviewer
20 December 2013

6 REFERENCES

Documentation used to verify the information provided by the project proponents

- /1/ CGN Carbon Asset Management (Beijing) Co., Ltd.: VER/VCU Monitoring Report for Xinjiang Jimunai CGN Phase I Wind Farm Project, version 01 dated 24 November 2013.
- /2/ CGN Carbon Asset Management (Beijing) Co., Ltd.: Emission reduction calculation spreadsheet for Xinjiang Jimunai CGN Phase I Wind Farm Project, version 01 dated 24 November 2013.
- /3/ Xinjiang Jimunai CGN Wind Power Co., Ltd. and Xinjiang Electric Power Company (on behalf of NWPG): Power Purchase Agreement for Xinjiang Jimunai CGN Phase I Wind Farm Project, signed on 11 April 2011 and valid to 28 December 2011.
- /4/ CGN Carbon Asset Management (Beijing) Co., Ltd.: CDM monitoring manual and management procedure, version 01 dated February 2011.
- /5/ CGN Carbon Asset Management (Beijing) Co., Ltd.: Records of training for on-site staff, dated March 2011.
- /6/ Xinjiang Jimunai CGN Wind Power Co., Ltd.: Operation log sheets, from March 2011 to October 2011.
- /7/ Xinjiang Jimunai CGN Wind Power Co., Ltd.: Monthly reading records of electricity imported and exported by Xinjiang Jimunai CGN Phase I Wind Farm Project from March 2011 to October 2011.
- /8/ Xinjiang Electric Power Company: Electricity sale receipts for the electricity exported to the grid measured by M1, from March 2011 to October 2011.
- /9/ Xinjiang Altay Electric Power Co., Ltd.: Electricity purchase receipts for the electricity imported from the grid measured by M1, from March 2011 to December 2011.

Xinjiang Altay Electric Power Co., Ltd.: Electricity purchase receipts for the electricity imported from the grid measured by M3, from March 2011 to November 2011.
- /10/ CGN Carbon Asset Management (Beijing) Co., Ltd.: VCS project description for Xinjiang Jimunai CGN Phase I Wind Farm Project, version 01 dated 20 November 2013.
- /11/ Xinjiang Uygur Autonomous Region Bureau of Quality and Technology Supervision: Accreditation certificate of Electricity Metering Center of Xinjiang Altay Electric Power Co., Ltd., issued on 8 November 2010 and valid up to 7 November 2014.
Xinjiang Uygur Autonomous Region Bureau of Quality and Technology Supervision: Accreditation certificate of Certificate of Metrological Authorization for Xinjiang Electric Power Scientific Research Institute, issued on 10 April 2008 and valid up to 9 April 2013.
- /12/ Certificate of Metrological Authorization for Xinjiang Electric Power Scientific Research Institute: Calibration certificates for main meter (M1) and backup meter (M2) issued on 1 November 2010.
- /13/ Electricity Metering Center of Xinjiang Altay Electric Power Co., Ltd.: Calibration certificate for backup line meter (M3), issued on 12 March 2011
- /14/ State Economic and Trade Commission: Technical administrative code of electric energy metering (DL/T 448-2000), dated 3 November 2000.
- /15/ CGN Carbon Asset Management (Beijing) Co., Ltd.: CDM-PDD for project activity Xinjiang

Jimunai CGN Phase I Wind Farm Project, version 3 dated 19 August 2011.

- /16/ TÜV Rheinland Japan Ltd.: Validation report for project activity Xinjiang Jimunai CGN Phase I Wind Farm Project, version 04 dated 14 September 2011.
- /17/ National Development and Reform Commission (DNA of China): Letter of approval for Xinjiang Jimunai CGN Phase I Wind Farm Project dated June 2011.

Methodologies, tools and other guidance

- /18/ Verified Carbon Standard: VCS Standard, version 3.4.
- /19/ Verified Carbon Standard: VCS Program Guide, version 3.5.
- /20/ Verified Carbon Standard: VCS Sectoral Scopes
<http://v-c-s.org/node/448>
- /21/ Verified Carbon Standard: VCS Verification Representation, version 3.1.
- /22/ Verified Carbon Standard: VCS Validation Representation, version 3.1.
- /23/ Verified Carbon Standard: VCS Monitoring Report Template, version 3.3.
- /24/ Verified Carbon Standard: VCS Project Description Template, version 3.2.
- /25/ Verified Carbon Standard: VCS Verification Report Template, version 3.3.
- /26/ Verified Carbon Standard: Registration and Issuance Process, version 3.5.
- /27/ CDM Executive Board: Consolidated baseline methodology for grid-connected electricity generation from renewable sources, ACM0002, version 12.1.0.

Persons interviewed

- /28/ Xinjiang Jimunai CGN Wind Power Co., Ltd.:
Mr. Liu Chao, CDM Director
- /29/ CGN Carbon Asset Management (Beijing) Co., Ltd.:
Mr. Xu Xiansong, Senior Project Manager

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APPENDIX A

CORRECTIVE ACTION REQUESTS, CLARIFICATION REQUESTS AND FORWARD ACTION REQUESTS

Table 1: Corrective Action Requests

CAR ID	Corrective Action Request	Response by Project Proponent	Verification Team Assessment
CAR 1	The electricity purchased from the grid was continuously measured by meter M1. According to the registered CDM-PDD, the receipts of electricity sales will be kept for further verification. However, the monthly import electricity purchase receipts are unavailable during on-site visit.	Due to the monthly electricity imported from the grid are small and the grid company settled out the imported electricity by the project in a few months. In this monitoring period, the grid company settled out the imported electricity from 19/03/2011 to 09/01/2012 which had covered the whole monitoring period, and the imported electricity 435.6 MWh had been calculated conservatively.	OK. Since the value of electricity import each month is very small, the electricity receipts of import was issued covering whole year 2011. CTI was able to confirm it is acceptable and conservative. CAR 1 is therefore closed.
CAR 2	The Power Purchase Agreement in year 2011 is unavailable during on-site visit, which is requested to be provided.	The power purchase agreement in 2011 had been provided.	OK. The PPA has been provided and verified by CTI. CAR 2 is therefore closed.

Table 2: Clarification Requests

CL ID	Clarification Request	Response by Project Proponent	Verification Team Assessment
NA	<i>No CL was issued.</i>	NA	NA

Table 3: Forward Action Requests

FAR ID	Forward Action Request	Response by Project Proponent	Verification Team Assessment
NA	<i>No FAR from this verification was issued.</i>	NA	NA