



VCS VERIFICATION REPORT

HEBEI YUXIAN KONGZHONGCAOYUAN 49.5MW WIND FARM PROJECT


(VCS PROJECT ID: 413)



Document 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 “Hebei Yuxian Kongzhongcaoyuan 49.5MW Wind Farm Project” (VCS Project ID: 413) for the monitoring period 01/01/2017 to 30/11/2021, to review and determine the monitored reductions in GHG emissions that have occurred as a result of the project activity. These emission reductions are claimed as Verified Carbon Units (VCU) under the Verified Carbon Standard (VCS) version 4.1.

The verification was performed on the basis of VCS Programme Guide version 4.0 and VCS Standard version 4.1 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 1 CAR, no CL or FAR in this monitoring period.

In CTI's opinion, the GHG emission reductions reported for the project in the monitoring report (version 03 dated 16/06/2022) are fairly stated. The GHG emission reductions of the period from 01/01/2017 to 30/11/2021 were calculated correctly on the basis of approved methodology ACM0002 “Consolidated methodology for grid-connected electricity generation from renewable sources” version 6.0 and version 20.0.

CTI does not assume any responsibility towards the issuance and utilization of the VCUs 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 “Hebei Yuxian Kongzhongcaoyuan 49.5MW Wind Farm Project” during the period amount to 508,734 tCO₂e.

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1 INTRODUCTION

Demeter Venture UK Limited has commissioned Shenzhen CTI International Certification Co., Ltd (CTI) to carry out the verification and certification of emission reductions reported for the “Hebei Yuxian Kongzhongcaoyuan 49.5MW Wind Farm Project” (the project) for the period 01/01/2017 to 30/11/2021. This report contains the findings from the verification and includes a 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 “Hebei Yuxian Kongzhongcaoyuan 49.5MW Wind Farm Project” for the period 01/01/2017 to 30/11/2021.

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 4.0) /29/
- VCS Standard (version 4.1) /28/ and other relevant requirements defined by Verra;
- The approved methodology ACM0002 (version 6.0 and version 20.0) /31/ 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

Sectoral Scope and Project Type

According to the VCS Program Guide (version 4.0) /29/, the project is applicable under the following activity categories:

- Sectoral Scope: 1. Energy (Renewable/non-renewable).
- Project type: Wind-power generation project.

According to Annex A of the Kyoto Protocol, the project is applicable under the Sectoral Scope 1: Energy Industries (renewable/ non-renewable sources).

Project Background

Project title:	Hebei Yuxian Kongzhongcaoyuan 49.5MW Wind Farm Project
Project proponent:	Hebei Construction Investment Yuzhou Wind Energy Co., Ltd (China)
Project location:	the southwest of Yuxian County, Zhangjiakou City of Hebei Province, P.R.China
VCS Project ID:	413
Applied methodology:	ACM0002 version 6.0 (the first VCS crediting period) ACM0002 version 20.0 (the second VCS crediting period)
VCS project crediting period:	17/07/2008 to 16/07/2018 (the first VCS crediting period) 17/07/2018 to 16/07/2028 (the second VCS crediting period)
VCU verification period:	01/01/2017 to 30/11/2021 (01/01/2017 to 16/07/2018 belongs to the first crediting period, 17/07/2018 to 30/11/2021 belongs to the second crediting period)

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 registered VCS PD and renewed VCS PD, the applied methodology, and the VCS Standard (version 4.1) 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	Du Wenjun	1.2	<input checked="" type="checkbox"/> DR <input checked="" type="checkbox"/> SV <input checked="" type="checkbox"/> RP <input type="checkbox"/> TR
Technical Reviewer	Lin Shunrong	1.2	<input checked="" type="checkbox"/> DR <input type="checkbox"/> SV <input type="checkbox"/> RP <input checked="" type="checkbox"/> TR

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

In addition to the VER/VCU monitoring report /1/, renewed VCS PD (version 02 dated 12/02/2020) /10/, registered CDM PDD (version 04 dated 05/08/2008) /24/, registered VCS PD (version 04 dated 05/08/2008) /11/, renewed CDM PDD (version 06 dated 02/09/2016) /25/ and emission reduction calculation spreadsheet /2/, the following documents also were assessed as a part of the verification audit:

- Validation Report of renewed VCS PD /16/;
- Validation Opinion of renewed CDM PDD /26/;
- Validation Report of registered CDM PDD /17/;
- VCS Monitoring Report of previous monitoring period /22/;

- VCS Verification Report of previous monitoring period /23/;
- Baseline and monitoring methodology ACM0002 applied by the project /31/;
- Relevant decisions, clarifications and guidance from the Verra /28/-/30/; and
- Other information and references relevant to the project activity.

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 09/12/2021, CTI visited Hebei Construction Investment Yuzhou Wind Energy Co., Ltd. performed on-site assessment. The key personnel of the project were interviewed or assisted the verification team /32/. Main topics of the interview cover implementation of the project construction, applicability of selected methodology, implementation of project monitoring, emission reduction calculation, etc.

The key personnel interviewed /32/ are summarized in the table below:

Interviewed personnel	Role	Organization	Subject
Mr. Zhao Jianshou	Duty Director	Hebei Construction Investment Yuzhou Wind Energy Co., Ltd.	Operation of the project activity; Implementation of the monitor plan of the project activity; Data collection and data achievement; Calibration of meters and equipment maintenance;
Ms. Li Jia	O&M Staff	Hebei Construction Investment Yuzhou Wind Energy Co., Ltd.	
Mr. Xu Liming	O&M Staff	Hebei Construction Investment Yuzhou Wind Energy Co., Ltd.	
Mr. Zhao Gang	O&M Staff	Hebei Construction Investment Yuzhou Wind Energy Co., Ltd.	
Ms. Liu Min	Financial Staff	Hebei Construction Investment Yuzhou Wind Energy Co., Ltd.	
Mr. Li Qiang	Local resident	Local Village	The impact of the project activity; The complaint by local stakeholders; The stakeholder consultation during the operation of the project activity.
Mr. Zhao Zhiyuan			
Mr. Liu Fei			
Mr. Yan Yulong	Staff	Local Environment Protection Bureau	
Mr. Cao Wanpeng	Project Manager	Hebei Construction Investment Yuzhou Wind Energy Co., Ltd	Data collection and ER calculation.

2.4 Site Inspections

The verification team performed the on-site verification (the southwest of Yuxian County, Zhangjiakou City of Hebei Province, P.R.China) on 09/12/2021. The interviewed personnel and objective are listed in above table. 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 registered VCS PD and renewed VCS PD of 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 registered VCS PD and renewed VCS PD;
- 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 monitoring plan in registered VCS PD and renewed VCS PD 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 Hebei Construction Investment Yuzhou Wind Energy 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 6.0 and version 20.0), and the management system were assessed during the site visit.

2.5 Resolution of Findings

A corrective action request (CAR) shall be raised, 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 1 CAR and no CL in this monitoring period.

A forward action request (FAR) is issued for actions if the monitoring and reporting require attention and/or adjustment for the next monitoring period.

CTI confirmed that there was no FAR identified in previous verification /23/, and no FAR was raised during this verification.

2.6 Eligibility for Validation Activities

The renewed VCS PD of the project activity was validated by LGAI Technological Center, S.A. (Applus+ Certification) on 29/02/2020 /16/, the registered CDM PDD and registered VCS PD was validated by

TÜV SÜD Industrie Service GmbH on 17/02/2009 /17/. The previous VCS verification was carried out by Bureau Veritas Certification Holding SAS on 03/03/2010 /23/. 6 periodic verifications were carried out by Bureau Veritas Certification Holding SAS on 12/10/2009, 17/02/2011, 21/09/2011, 10/09/2012, 31/10/2012 and 24/11/2012 respectively under CDM scheme. The proposed VCS monitoring period 01/01/2017 to 30/11/2021 is 2nd VCS verification, CTI just undertook verification activities for the project according to the VCS Program Guide. This section is thus not applicable.

3 VALIDATION FINDINGS

3.1 Participation under Other GHG Programs

The registered VCS PD of the project activity was validated by TÜV SÜD Industrie Service GmbH on 17/02/2009 /17/. The renewed VCS PD of the project activity was validated by LGAI Technological Center, S.A. (Applus+ Certification) on 29/02/2020 /16/ under VCS scheme. CTI only performed verification activities on the proposed monitoring period for the project under VCS scheme according to VCS Program Guide.

3.2 Methodology Deviations

The validation process /16/ /17/ has assessed all factors and issues that constitute the basis for emission reductions from the project according to the applicable CDM methodology ACM0002 (version 6.0 and version 20.0) /31/. Therefore, it is confirmed that there was no deviation for methodology.

3.3 Project Description Deviations

The project was registered under CDM scheme on 23/02/2009 (UNFCCC ID. 2088). By checking UNFCCC website (<https://cdm.unfccc.int/Projects/DB/TUEV-SUED1218534453.07/view?cp=1>), the verification team confirmed that for the project activity, the first CDM crediting period is from 23/02/2009 - 22/02/2016. As per relevant CDM standard, the crediting period of the project could be renewed twice.

The project was registered under VCS scheme in 2008. In the Verification Report of previous monitoring period, it was mentioned that the project started operation since 17/07/2008. By checking UNFCCC website, it was confirmed that the project activity was registered as CDM project activity on 23/02/2009. Therefore, the VCS crediting period was determined as 17/07/2008 to 22/02/2009.

As per VCS scheme under which the project was registered, the project crediting period is allowable for 10 years and could be renewed twice. Considering 3*7 years CDM crediting period, it is reasonable that the total VCS crediting period was determined from 17/07/2008 to 16/07/2029, of which the first VCS crediting period is from 17/07/2008 to 16/07/2018 and the second VCS crediting period is from 17/07/2018 to 16/07/2028.

This deviation has no impact on 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

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

4 VERIFICATION FINDINGS

This section summarizes the findings from the verification of the emission reductions reported for the “Hebei Yuxian Kongzhongcaoyuan 49.5MW Wind Farm Project” for the period 01/01/2017 to 30/11/2021.

4.1 Project Implementation Status

Project Implementation in accordance with the approved project design document

The project is a grid-connected wind power plant, which is located in the southwest of Yuxian County, Zhangjiakou City of Hebei Province, P.R.China. The project activity installed 33 sets of 1500 kW wind turbine-generator with a total installed capacity 49.5 MW.

The average annual power delivered to the grid by the project is expected to be 111,610 MWh. The actual implementation of the project during this monitoring period was verified in terms of name plate capacities of each wind turbine and monitoring equipment. The details of the wind turbines with respect to installation and capacity have been verified to be consistent with description indicated in the registered VCS PD and renewed VCS PD. The first wind turbine was put into operation on 17/07/2008 and all the wind turbines started operation on 27/09/2008, which was verified by site visit interview, checking verification report of previous monitoring period /23/. The electricity generated by the project activity was supplied to the North China Power Grid (NCPG), which can be confirmed by the Power Purchase Agreement (PPA) signed between Hebei Construction Investment Yuzhou Wind Energy Co., Ltd. and State Grid Hebei Electric Power Company /3/.

The project start date was identified as 17/07/2008 when the project activity started to operate and began generating GHG emission reductions. The first crediting period is from 17/07/2008 to 16/07/2018 while the second crediting period is from 17/07/2018 to 16/07/2028. This monitoring period is from 01/01/2017 to 30/11/2021, in which the period from 01/01/2017 to 16/07/2018 belongs to the first crediting period, and the period from 17/07/2018 to 30/11/2021 belongs to the second crediting period

All the monitoring system in operation period is consistent with registered VCS PD (version 04 dated 05/08/2008) and renewed VCS PD (version 02 dated 12/02/2020). The control system at the power plant is automated and assures continuous operation, including monitoring on malfunction of equipment. By checking the Operation Log /6/, CTI was able to 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 /32/ and observing the operation.

Except the deviation mentioned above, CTI confirmed during site visit that the project implementation is in accordance with registered VCS PD (version 04 dated 05/08/2008) and renewed VCS PD (version

02 dated 12/02/2020). And 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 registered VCS PD (version 04 dated 05/08/2008) and renewed VCS PD (version 02 dated 12/02/2020).

Compliance of monitoring plan with monitoring methodology

The verification team is able to confirm that the monitoring plan in the registered VCS PD (version 04 dated 05/08/2008) and renewed VCS PD (version 02 dated 12/02/2020) is in accordance with the approved methodology applied by the project activity, i.e. ACM0002 (version 6.0 and version 20.0). Therefore, the verification team is able to confirm that the monitoring plan is in accordance with the approved methodology applied by the project activity, i.e. ACM0002 (version 6.0 and version 20.0).

Compliance of monitoring with the monitoring plan

The monitoring has been carried out in accordance with the monitoring plan contained in the registered VCS PD (version 04 dated 05/08/2008) and renewed VCS PD (version 02 dated 12/02/2020). 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 6.0 and version 20.0) 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

According to the monitoring plan contained in the registered VCS PD (version 04 dated 05/08/2008) and renewed VCS PD (version 02 dated 12/02/2020), parameters monitored for the project activity were justified as follows:

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

By site interview and checking the monitoring plan contained in the renewed VCS PD (version 02 dated 12/02/2020) and verification reports, CTI confirmed $EG_{\text{facility},y}$ is calculated using equation:

$$EG_{\text{facility},y} = EG_{\text{s},y} - (EG_{\text{c},y} + EG_{\text{backupline},y})$$

Where:

$EG_{\text{s},y}$: Electricity supplied to the grid by the project

$EG_{\text{c},y}$: Electricity consumed from the grid by the project through the main power line (the 1st crediting period);

Electricity consumed from the grid by the project (the 2nd crediting period)

$EG_{\text{backupline},y}$: Electricity consumed from the grid by the project. through the backup line (the 1st crediting period);

Electricity consumed by the project through the backup line (the 2nd crediting period).

Electricity supplied to the grid by the project ($EG_{s,y}$)

By site interview and checking the monitoring plan contained in the registered VCS PD (version 04 dated 05/08/2008) and renewed VCS PD (version 02 dated 12/02/2020) and verification reports, CTI confirmed $EG_{s,y}$ is continuously measured by main meter M1 and backup meter M2. Both meters were bi-directional and installed at the high voltage side of 35kV/110kV transformer. The meter reading was recorded monthly and archived electronically. When main meter M1 is not working well, readings from backup meter M2 will serve as reference for calculation of emission reductions. By checking operation log /6/, it is confirmed that main meter M1 is working well during this monitoring period. In this monitoring period, the cut-off time was 24:00 hr of last day of each month. At the cut-off time, the staff from project developer and the grid company read the electricity meters together. The project developer record electricity meter readings and form Monthly Reading Records (MRRs) /7/. The staff from power grid company record electricity meter readings and then transcribes the data into Electricity Receipts /8/. $EG_{s,y}$ was sourced from Meter Reading Records (MRRs) /7/ issued by the project developer, and Electricity Receipts /8/ issued by power grid company covering monitoring period.

Electricity consumed from the grid by the project through the main power line / Electricity consumed from the grid by the project ($EG_{c,y}$)

By site interview and checking the monitoring plan contained in the renewed VCS PD (version 02 dated 12/02/2020) and verification reports, CTI confirmed $EG_{c,y}$ is continuously measured by main meter M1 and backup meter M2. Both meters were bi-directional and installed at the high voltage side of 35kV/110kV transformer. The meter reading was recorded monthly and archived electronically. When main meter M1 is not working well, readings from backup meter M2 will serve as reference for calculation of emission reductions. By checking operation log /6/, it is confirmed that main meter M1 is working well during this monitoring period. In this monitoring period, the cut-off time was 24:00 hr of last day of each month. At the cut-off time, the staff from project developer and the grid company read the electricity meters together. The project developer record electricity meter readings and form Monthly Reading Records (MRRs) /7/. The staff from power grid company record electricity meter readings and then transcribes the data into Electricity Receipts /9/. $EG_{c,y}$ was sourced from Meter Reading Records (MRRs) /7/ issued by the project developer, and Electricity Receipts /9/ issued by power grid company covering monitoring period.

Electricity consumed from the grid by the project through the backup line / Electricity consumed by the project through the backup line ($EG_{backupline,y}$)

By site interview and checking the monitoring plan contained in the renewed VCS PD (version 02 dated 12/02/2020) and verification reports, CTI confirmed $EG_{backupline,y}$ is continuously measured by meter M3, which is installed at the 10kV backup line. The meter reading was recorded monthly and archived electronically. By checking operation log /6/ and Monthly Reading Records (MRRs) /7/, it is confirmed that in this monitoring period no electricity was consumed by the project through the backup line.

As described above, the meters have been installed in accordance with VCS Program rules and meet all appropriate rules and requirements of VCS standard. CTI has on-site checked the location of the meters against the diagram of power connection system and found them to be consistent.

Data in the monthly reading records were used to the report, through a cross check with Electricity Receipts. The conservative values were used for the monitoring report and ERs calculation spreadsheet, which has been verified by the verification team. Supporting references and data required to determine the quantity of net electricity generation supplied by the project is found to be complete and transparent. As described above, the meters have been installed in accordance with VCS Program rules and meet all appropriate rules and requirements of VCS standard. CTI has on-site checked the location of the meters against the diagram of power connection system and found them to be consistent.

Data in the monthly reading records were used to the report, through a cross check with Electricity Receipts. The conservative values were used for the monitoring report and ERs calculation spreadsheet, which has been verified by the verification team. Supporting references and data required to determine the quantity of net electricity generation supplied by the project is found to be complete and transparent.

Monitoring equipment and calibration

The meters 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	Type	Serial No.	Accuracy	Calibration date	Validity
M1	ZMD402	94827518	0.2S	22/12/2016	21/12/2017
				22/12/2017	21/12/2018
				22/12/2018	21/12/2019
				22/12/2019	21/12/2020
				22/12/2020	21/12/2021
M2	ZMD402	95411208	0.2S	22/12/2016	21/12/2017
				22/12/2017	21/12/2018
				22/12/2018	21/12/2019
				22/12/2019	21/12/2020
				22/12/2020	21/12/2021
M3	DSSD331	20070130 030114	0.5S	11/04/2016	10/04/2017
				11/04/2017	10/04/2018
				11/04/2018	10/04/2019
				11/04/2019	10/04/2020
				11/04/2020	10/04/2021
				11/04/2021	10/04/2022

The meters were calibrated by Measurement Center of State Grid Yibei Electric Power Co., Ltd.. Calibration records and accreditation certificates /12//13/ have been verified by the verification team. The accuracy of all meters are comply with that in the monitoring plan of the registered VCS PD (version

04 dated 05/08/2008) and renewed VCS PD (version 02 dated 12/02/2020). By checking the industrial metering configuration standard “Technical Administrative Code of Electric Energy Metering (DL/T 448-2016)” /15/, CTI can confirm that the accuracy level of all meters meet the requirement stipulated in this standard. In conclusion, the verification team can confirm that the accuracy of the meters is in line with monitoring plan of the registered VCS PD (version 04 dated 05/08/2008) and renewed VCS PD (version 02 dated 12/02/2020) and relevant industry standard.

In the monitoring plan of the registered VCS PD (version 04 dated 05/08/2008) and renewed VCS PD (version 02 dated 12/02/2020), it stated that the meters will be calibrated and checked annually for accuracy. By checking the calibration reports, the verification team found the calibration frequency of these meters is annual, which is in line with the calibrating standard “Technical Administrative Code of Electric Energy Metering” /15/. Hence, the verification team can confirm that the meters’ calibration frequency is in line with monitoring plan of the registered VCS PD (version 04 dated 05/08/2008) and renewed VCS PD (version 02 dated 12/02/2020) and relevant industry standard, and the calibrations of meters are verified to be valid for the whole reporting period.

Data management and control

Hebei Construction Investment Yuzhou Wind Energy 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 VER 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 /32/ 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.

By checking UNFCCC website (<https://cdm.unfccc.int/Projects/DB/TUEV-SUED1218534453.07/view?cp=1>), it is confirmed by CTI that the project has been registered as CDM project activity on 23/02/2009 with reference No. 2088. GHG emission reductions have been issued as CERs from 23/02/2009 to 24/10/2012 under CDM scheme. CERs were awaiting issuance request for the period from 25/10/2012 to 31/12/2016 under CDM scheme. There are no CDM issuance during this monitoring period. Furthermore, CTI checked public information from the REC Mechanism database of China, Chinese Emission Trading System, Gold Standard Registry and interviewed with project owner during site visit, it is confirmed that except CDM and VCS scheme, the project has not been participated or been rejected under any other GHG programs since validation or previous verification.

Therefore, the verification team confirmed that the project only applies CERs and VCUs under CDM and VCS, and no rejection from CDM and VCS occurs, there are no other forms of environmental credits

applied or issued for the project activity, the emission reduction resulted from the project during this monitoring period would only apply for VCU.

By checking the registered VCS PD (version 04 dated 05/08/2008) and renewed VCS PD (version 02 dated 12/02/2020), China's National Plan on Implementation of the 2030 Agenda for Sustainable Development and 17 SDGs defined by UNDP, and interviewing with stakeholders during site visit, the verification team confirmed that the project would contribute to sustainable development in as below:

- SDG 13: Reducing greenhouse gas emissions compared to a business-as-usual scenario;
- SDG 7: Providing clean and renewable energy source and displacing the power generation of fossil fuel power plants, reducing pollution emissions caused by coal burning significantly, thus mitigating the air pollution and its adverse impacts on human health, promoting sustainable economic development in local area;
- SDG 8: Providing direct and indirect employment opportunities during construction and operation period and increasing power supply to alleviate power shortage in China, which promotes sustained, inclusive and sustainable economic growth, full and productive employment and decent work for local residents. The technical parameters have been verified with the nameplates /14/ as below:

Parameters	Unit	Value
Type of Turbine	/	FD70B
Nominal output	kW	1500
Diameter	m	70
Hub height	m	65
Rated voltage	V	690
Nominal wind speed	m/s	13

The verification team confirmed that there is no proposed or actual change to monitoring plan of the registered VCS PD (version 04 dated 05/08/2008) and renewed VCS PD (version 02 dated 12/02/2020) 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 Safeguards

4.2.1 No Net Harm

By checking the EIA summary and conclusion provided in registered VCS PD (version 04 dated 05/08/2008) and renewed VCS PD (version 02 dated 12/02/2020), it is confirmed that wind power is green power and the impact caused by wind power on the surrounding ecosystem and residents, wastewater, solid waste 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.

4.2.2 Local Stakeholder Consultation

The local stakeholder's meeting was held in Yuxian County on June 2007. 40 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.

For continuous communication with local stakeholders, the project owner public its office telephone to local people and put a grievance book /21/ in the office of the company. Via checking the grievance book, It is confirmed by the verification team that no comments were received. Through interviewing with staff from local environmental protection bureau and local residents during the site visit, it is confirmed by the verification team that during the implementation stage of this monitoring period, local authority has conducted spot checks on the implementation of the project periodically as per the request from the local governments' regulations, no negative comments and issues from the local stakeholders during this monitoring period were identified and the project passed all the periodic spot checks by local government.

All such conclusion has been verified through site visit and checking registered VCS PD (version 04 dated 05/08/2008) and renewed VCS PD (version 02 dated 12/02/2020).

4.3 AFOLU-Specific Safeguards

For non-AFOLU projects, this section is not required.

4.4 Accuracy of GHG Emission Reduction and 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, the emission reductions are determined as the difference between the baseline emissions, project emissions and leakage:

$$ER_y = BE_y - PE_y$$

Baseline emissions

For the monitoring period belongs to the 1st crediting period, baseline reductions are determined as multiplying Net electricity supplied to the grid by the project (EG_y) by the validated ex-ante fixed grid emission factor ($EF_{grid,CM,y}$).

$$\begin{aligned} BE_y &= EG_y \times EF_{grid,CM,y} \\ &= (EG_{s,y} - EG_{c,y} - EG_{backupline,y}) \times EF_{grid,CM,y} \end{aligned}$$

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

EF is the grid emission factor of the which has been verified ex-ante in the validation stage in the registered VCS PD (version 04 dated 05/08/2008) as 1.0755¹ tCO₂e/MWh for the 1st crediting period.

Net electricity supplied to the grid by the project (EG_y)

EG_y is calculated by following formula:

$$EG_y = EG_{s,y} - EG_{c,y} - EG_{backupline,y}$$

For the monitoring period belongs to the 2nd crediting period, baseline reductions are determined as multiplying Quantity of net electricity generation supplied by the project plant/unit to the grid in year y ($EG_{facility,y}$) by the validated ex-ante fixed grid emission factor ($EF_{grid,CM,y}$).

$$\begin{aligned} BE_y &= EG_{facility,y} \times EF_{grid,CM,y} \\ &= (EG_{s,y} - EG_{c,y} - EG_{backupline,y}) \times EF_{grid,CM,y} \end{aligned}$$

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

EF is the grid emission factor of the which has been verified ex-ante in the validation stage in the renewed VCS PD (version 02 dated 12/02/2020) as 0.84045 tCO₂e/MWh for the 2nd crediting period.

Quantity of net electricity generation supplied by the project plant/unit to the grid in year y ($EG_{facility,y}$)

$EG_{facility,y}$ is calculated by following formula:

$$EG_{facility,y} = EG_{s,y} - EG_{c,y} - EG_{backupline,y}$$

Data in the Monthly Reading Records (MRRs) and Electricity receipts are used to calculate EG_y / $EG_{facility,y}$ as follows:

¹ $EF_{grid,CM,y}$ is not directly available in the approved PDD but calculated based on the ex-ante data fixed in the registered VCS PD.

period	EG _{s,y} (MWh)			EG _{c,y} (MWh)			EG _{backuptline,y} (MWh)	EG _y / EG _{facility,y} (MWh)
	MRRs (MWh)	electricity receipts (MWh)	Conservative value (MWh)	MRRs (MWh)	electricity receipts (MWh)	Conservative value (MWh)	value for ER calculation (MWh)	
	A	B	C=Min(A,B)	D	E	F=Max(D,E)	G	H=C-F-G
01/01/2017-31/01/2017	10529.160	10529.160	10529.160	10.880	10.880	10.880	0.000	10518.280
01/02/2017-28/02/2017	10790.310	10790.310	10790.310	13.760	13.760	13.760	0.000	10776.550
01/03/2017-31/03/2017	9722.880	9722.880	9722.880	9.250	9.250	9.250	0.000	9713.630
01/04/2017-30/04/2017	8755.320	8755.320	8755.320	16.310	16.310	16.310	0.000	8739.010
01/05/2017-31/05/2017	7387.160	7387.160	7387.160	10.050	10.050	10.050	0.000	7377.110
01/06/2017-30/06/2017	6340.400	6340.400	6340.400	11.320	11.320	11.320	0.000	6329.080
01/07/2017-31/07/2017	6530.170	6530.170	6530.170	10.920	10.920	10.920	0.000	6519.250
01/08/2017-31/08/2017	6021.546	6021.546	6021.546	9.620	9.620	9.620	0.000	6011.926
01/09/2017-30/09/2017	7510.520	7510.520	7510.520	10.930	10.930	10.930	0.000	7499.590
01/10/2017-31/10/2017	8401.930	8401.930	8401.930	6.650	6.650	6.650	0.000	8395.280
01/11/2017-30/11/2017	8880.250	8880.250	8880.250	8.020	8.020	8.020	0.000	8872.230
01/12/2017-31/12/2017	9684.790	9684.790	9684.790	15.690	15.690	15.690	0.000	9669.100
Total in 2017 The 1st crediting period	100554.436	100554.436	100554.436	133.400	133.400	133.400	0.000	100421.036
01/01/2018-31/01/2018	10320.640	10320.640	10320.640	12.880	12.880	12.880	0.000	10307.760

01/02/2018-28/02/2018	9988.310	9988.310	9988.310	10.760	10.760	10.760	0.000	9977.550
01/03/2018-31/03/2018	8790.250	8790.250	8790.250	13.180	13.180	13.180	0.000	8777.070
01/04/2018-30/04/2018	9628.190	9628.190	9628.190	8.190	8.190	8.190	0.000	9620.000
01/05/2018-31/05/2018	8510.280	8510.280	8510.280	12.730	12.730	12.730	0.000	8497.550
01/06/2018-30/06/2018	8320.190	8320.190	8320.190	18.040	18.040	18.040	0.000	8302.150
01/07/2018-16/07/2018	3623.176	3623.176	3623.176	5.920	5.920	5.920	0.000	3617.256
Total in 2018 The 1st crediting period	59181.036	59181.036	59181.036	81.700	81.700	81.700	0.000	59099.336
17/07/2018-30/07/2018	4560.230	4560.230	4560.230	4.190	4.190	4.190	0.000	4556.040
01/08/2018-31/08/2018	7223.660	7223.660	7223.660	11.280	11.280	11.280	0.000	7212.380
01/09/2018-30/09/2018	9038.520	9038.520	9038.520	9.400	9.400	9.400	0.000	9029.120
01/10/2018-31/10/2018	9892.140	9892.140	9892.140	4.810	4.810	4.810	0.000	9887.330
01/11/2018-30/11/2018	13924.060	13924.060	13924.060	7.380	7.380	7.380	0.000	13916.680
01/12/2018-31/12/2018	9620.510	9620.510	9620.510	13.660	13.660	13.660	0.000	9606.850
Total in 2018 The 2nd crediting period	54259.120	54259.120	54259.120	50.720	50.720	50.720	0.000	54208.400
01/01/2019-31/01/2019	12209.660	12209.660	12209.660	9.280	9.280	9.280	0.000	12200.380
01/02/2019-28/02/2019	11487.290	11487.290	11487.290	10.220	10.220	10.220	0.000	11477.070
01/03/2019-31/03/2019	10922.740	10922.740	10922.740	12.650	12.650	12.650	0.000	10910.090

01/04/2019-30/04/2019	10923.110	10923.110	10923.110	13.870	13.870	13.870	0.000	10909.240
01/05/2019-31/05/2019	7046.270	7046.270	7046.270	10.390	10.390	10.390	0.000	7035.880
01/06/2019-30/06/2019	6693.470	6693.470	6693.470	6.280	6.280	6.280	0.000	6687.190
01/07/2019-31/07/2019	8025.160	8025.160	8025.160	9.920	9.920	9.920	0.000	8015.240
01/08/2019-31/08/2019	9902.170	9902.170	9902.170	14.220	14.220	14.220	0.000	9887.950
01/09/2019-30/09/2019	8120.350	8120.350	8120.350	18.040	18.040	18.040	0.000	8102.310
01/10/2019-31/10/2019	7092.760	7092.760	7092.760	8.170	8.170	8.170	0.000	7084.590
01/11/2019-30/11/2019	10097.550	10097.550	10097.550	9.230	9.230	9.230	0.000	10088.320
01/12/2019-31/12/2019	11032.640	11032.640	11032.640	9.930	9.930	9.930	0.000	11022.710
Total in 2019 The 2nd crediting period	113553.170	113553.170	113553.170	132.200	132.200	132.200	0.000	113420.970
01/01/2020-31/01/2020	11902.870	11902.870	11902.870	10.880	10.880	10.880	0.000	11891.990
01/02/2020-28/02/2020	11509.250	11509.250	11509.250	9.050	9.050	9.050	0.000	11500.200
01/03/2020-31/03/2020	11823.470	11823.470	11823.470	6.320	6.320	6.320	0.000	11817.150
01/04/2020-30/04/2020	9272.880	9272.880	9272.880	6.680	6.680	6.680	0.000	9266.200
01/05/2020-31/05/2020	8034.790	8034.790	8034.790	12.330	12.330	12.330	0.000	8022.460
01/06/2020-30/06/2020	8327.190	8327.190	8327.190	11.320	11.320	11.320	0.000	8315.870
01/07/2020-31/07/2020	7802.660	7802.660	7802.660	10.810	10.810	10.810	0.000	7791.850

01/08/2020-31/08/2020	7092.160	7092.160	7092.160	10.220	10.220	10.220	0.000	7081.940
01/09/2020-30/09/2020	9903.150	9903.150	9903.150	9.400	9.400	9.400	0.000	9893.750
01/10/2020-31/10/2020	9320.740	9320.740	9320.740	8.020	8.020	8.020	0.000	9312.720
01/11/2020-30/11/2020	12034.460	12034.460	12034.460	8.630	8.630	8.630	0.000	12025.830
01/12/2020-31/12/2020	12904.880	12904.880	12904.880	8.170	8.170	8.170	0.000	12896.710
Total in 2020 The 2nd crediting period	119928.500	119928.500	119928.500	111.830	111.830	111.830	0.000	119816.670
01/01/2021-31/01/2021	11083.110	11083.110	11083.110	10.220	10.220	10.220	0.000	11072.890
01/02/2021-28/02/2021	12021.290	12021.290	12021.290	13.040	13.040	13.040	0.000	12008.250
01/03/2021-31/03/2021	9870.360	9870.360	9870.360	8.630	8.630	8.630	0.000	9861.730
01/04/2021-30/04/2021	9908.230	9908.230	9908.230	7.920	7.920	7.920	0.000	9900.310
01/05/2021-31/05/2021	9265.480	9265.480	9265.480	10.440	10.440	10.440	0.000	9255.040
01/06/2021-30/06/2021	8703.550	8703.550	8703.550	8.530	8.530	8.530	0.000	8695.020
01/07/2021-31/07/2021	8824.840	8824.840	8824.840	10.570	10.570	10.570	0.000	8814.270
01/08/2021-31/08/2021	9013.470	9013.470	9013.470	7.690	7.690	7.690	0.000	9005.780
01/09/2021-30/09/2021	12321.700	12321.700	12321.700	10.820	10.820	10.820	0.000	12310.880
01/10/2021-31/10/2021	11804.580	11804.580	11804.580	8.250	8.250	8.250	0.000	11796.330
01/11/2021-30/11/2021	11023.460	11023.460	11023.460	8.210	8.210	8.210	0.000	11015.250

Total in 2021 The 2nd crediting period	113840.070	113840.070	113840.070	104.320	104.320	104.320	0.000	113735.750
Total	561316.332	561316.332	561316.332	614.170	614.170	614.170	0.000	560702.162

Based on the values of monitored parameters in the above table, the emission reductions are calculated as follows:

Period	EG _y / EG _{facility,y} (MWh)	EF _{grid,CM,y} (tCO ₂ /yr)	Baseline Emissions (tCO ₂ e)
01/01/2017-31/12/2017 (the 1 st crediting period)	100421.036	1.0755	108,002
01/01/2018-16/07/2018 (the 1 st crediting period)	59099.336		63,561
17/07/2018-31/12/2018 (the 2 nd crediting period)	54208.400	0.84045	45,559
01/01/2019-31/12/2019 (the 2 nd crediting period)	113420.970		95,324
01/01/2020-31/12/2020 (the 2 nd crediting period)	119816.670		100,699
01/01/2021-30/11/2021 (the 2 nd crediting period)	113735.750		95,589
Total in this monitoring period	560702.162	/	508,734

*By checking the statement from local power grid company /27/, the verification team verified that electricity supplied to the grid by the project and electricity consumed from the grid by the project for the period from 01/07/2018 to 16/07/2018 and from 17/07/2018 to 31/12/2018 has been confirm by local Grid company.

Hence, the corresponding baseline emission reductions are calculated as:

For the period 01/01/2017 - 16/07/2018 that belongs to 1st crediting period,

$$BE_y = EG_{facility,y} \times EF_{grid,CM,y} = 159,520.372 \times 1.0755 = 171,563 \text{ tCO}_2\text{e}$$

For the period 17/07/2018 - 30/11/2021 that belongs to 2nd crediting period,

$$BE_y = EG_{facility,y} \times EF_{grid,CM,y} = 401,181.79 \times 0.84045 = 337,171 \text{ tCO}_2\text{e}$$

Project emissions

As statement in the registered VCS PD (version 04 dated 05/08/2008) and renewed VCS PD (version 02 dated 12/02/2020), for the wind power activities, the project emissions from the project is zero. Hence, PE_y during the monitoring period from Hebei Yuxian Kongzhongcaoyuan 49.5MW Wind Farm Project is zero.

Leakages

Leakage does not need to be accounted for this project as per the renewed VCS PD.

Emission reductions

The emission reductions for this monitoring period was calculated as:

Monitoring period	GHG emission reductions or removals (tCO ₂ e)
01/01/2017-31/12/2017	108,002
01/01/2018-31/12/2018	109,120
01/01/2019-31/12/2019	95,324
01/01/2020-31/12/2020	100,699
01/01/2021-30/11/2021	95,589
Total ERs claimed (in 1795 days)	508,734

Comparison of actual emission reductions or net anthropogenic GHG removals by sinks with estimates in the registered VCS PD and renewed VCS PD

The estimated annual GHG emission reductions in the first crediting period are 118,735 tCO₂e/yr, and are 93,802 tCO₂e/yr during the second crediting period. The emission reductions claimed are 508,734 tCO₂e in this monitoring period (i.e. 1795 days). Compared with expected emission reductions 499,690 tCO₂e (calculated as $118,735/365d \times 562d + 93,802/365d \times 1233d$) in the registered VCS PD and renewed VCS PD, the reported emission reductions in this monitoring period are 1.81% larger than the expected, which is considered to be in the reasonable variation range. By checking the registered VCS PD /24/, it is confirmed that when considering actual electricity generation and emission reductions of this monitoring period in the financial analysis, the IRR of the project is still under the benchmark.

Therefore, 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.

4.5 Quality of Evidence to Determine GHG Emission Reductions and 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.

4.6 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 “Hebei Yuxian Kongzhongcaoyuan 49.5MW Wind Farm Project” in China (VCS Project ID: 413) for the period 01/01/2017 to 30/11/2021.

The verification is based on the baseline and monitoring methodology ACM0002 (version 6.0 and version 20.0), registered VCS PD (version 04 dated 05/08/2008) and renewed VCS PD (version 02 dated 12/02/2020). 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.

Our verification approach was based on the requirements as defined under the applicable VCS Version 4.1 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 VCS PD and the renewed VCS PD;
- the monitoring plan in registered renewed VCS PD is as per the applied methodology;
- the monitoring complies with the monitoring plan in the registered VCS PD and the renewed VCS PD;
- the monitoring report and other supporting documents provided are complete and verifiable and in accordance with the applicable VCS Version 4.1 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.

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 "Hebei Yuxian Kongzhongcaoyuan 49.5MW Wind Farm Project" for the period 01/01/2017 to 30/11/2021 are fairly stated in the monitoring report (version 03 dated 16/06/2022). The GHG emission reductions were calculated correctly on the basis of the approved methodology ACM0002 (version 6.0 and version 20.0) and the monitoring plan contained in the registered VCS PD (version 04 dated 05/08/2008) and the renewed VCS PD (version 02 dated 12/02/2020).

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:

Verification period: From 01/01/2017 to 30/11/2021

Verified GHG emission reductions and removals in the above verification period:

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)
01/01/2017-31/12/2017	108,002	0	0	108,002
01/01/2018-31/12/2018	109,120	0	0	109,120
01/01/2019-31/12/2019	95,324	0	0	95,324
01/01/2020-31/12/2020	100,699	0	0	100,699
01/01/2021-30/11/2021	95,589	0	0	95,589
Total	508,734	0	0	508,734

Du wenjun

Mr. Du Wenjun

Team Leader

16/06/2022

Shunrong Lin

Ms. Lin Shunrong

Technical Reviewe

16/06/2022

APPENDIX A: ABBREVIATIONS

CAR	Corrective Action Request
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)
MP	MONITORING REPORT
MR	Monitoring Report
NCPG	North China Power Grid
PD	Project Description
PP	Project Proponent
VCS	Verified Carbon Standard
VCU	Verified Carbon Unit

APPENDIX B: REFERENCES

Documentation used to verify the information provided by the project proponents

- /1/ Demeter Venture UK Limited: VER/VCU Monitoring Report for Hebei Yuxian Kongzhongcaoyuan 49.5MW Wind Farm Project, version 1.0 dated 06/12/2021, version 02 dated 10/12/2021, version 03 dated 16/06/2022
- /2/ Demeter Venture UK Limited: Emission reduction calculation spreadsheet for Hebei Yuxian Kongzhongcaoyuan 49.5MW Wind Farm Project
- /3/ Hebei Construction Investment Yuzhou Wind Energy Co., Ltd. and State Grid Hebei Electric Power Company: Power Purchase Agreement for Hebei Yuxian Kongzhongcaoyuan 49.5MW Wind Farm Project.
- /4/ Hebei Construction Investment Yuzhou Wind Energy Co., Ltd.: VER monitoring manual and management procedure.
- /5/ Hebei Construction Investment Yuzhou Wind Energy Co., Ltd.: Records of training for on-site staff.
- /6/ Hebei Construction Investment Yuzhou Wind Energy Co., Ltd.: Operation log sheets, from 01/01/2017 to 30/11/2021.
- /7/ Hebei Construction Investment Yuzhou Wind Energy Co., Ltd.: Monthly reading records (MRRs) of Hebei Yuxian Kongzhongcaoyuan 49.5MW Wind Farm Project from 01/01/2017 to 30/11/2021.
- /8/ Gansu Power Grid Company: Electricity Receipts of Annual electricity exported to the grid from 01/01/2017 to 30/11/2021.
- /9/ Gansu Power Grid Company: Electricity Receipts of Annual electricity imported from the grid from 01/01/2017 to 30/11/2021.
- /10/ Demeter Venture UK Limited: the renewed VCS PD, version 02 dated 12/02/2020.
- /11/ VERRA Website: Registered VCS PD version 04 dated 05/08/2008.
- /12/ Hebei Provincial Market Supervision Administration: Accreditation certificate of Measurement Center of State Grid Yibei Electric Power Co., Ltd. valid till 29/11/2023.
- /13/ Measurement Center of State Grid Yibei Electric Power Co., Ltd.: Calibration certificates for meters covering this monitoring period.
- /14/ Hebei Construction Investment Yuzhou Wind Energy Co., Ltd.: nameplate of the equipment
- /15/ State Economic and Trade Commission: Technical administrative code of electric energy

- metering (DL/T 448-2016).
- /16/ LGAI Technological Center, S.A. (Applus+ Certification): Validation Report of Renewed VCS PD, version 01.0 dated 29/02/2020.
 - /17/ TÜV SÜD Industrie Service GmbH: the Validation Report of registered CDM PDD, version 04 dated 05/08/2008
 - /18/ UNFCCC website: CDM Monitoring Reports for Hebei Yuxian Kongzhongcaoyuan 49.5MW Wind Farm Project of previous monitoring periods
 - /19/ UNFCCC website: CDM Verification Reports for Hebei Yuxian Kongzhongcaoyuan 49.5MW Wind Farm Project of previous monitoring periods
 - /20/ Business License of Hebei Construction Investment Yuzhou Wind Energy Co., Ltd.
 - /21/ Photo of grievance book to collect comments about project implementation from local stakeholders
 - /22/ VERRA website: VCS Monitoring Report for Hebei Yuxian Kongzhongcaoyuan 49.5MW Wind Farm Project of previous monitoring period
 - /23/ VERRA website: VCS Verification Report for Hebei Yuxian Kongzhongcaoyuan 49.5MW Wind Farm Project of previous monitoring period
 - /24/ UNFCCC website: registered CDM PDD, version 04 dated 05/08/2008
 - /25/ UNFCCC website: Renewed CDM PDD, version 06 dated 02/09/2016
 - /26/ Shenzhen CTI International Certification Co.,Ltd (CTI): Validation Opinion of renewed CDM PDD, version 01 dated 03/09/2016
 - /27/ Statement from local power grid company about electricity supplied to the grid by the project and electricity consumed from the grid by the project for the period from 01/07/2018 to 16/07/2018 and from 17/07/2018 to 31/12/2018

Methodologies, tools and other guidance

- /28/ Verified Carbon Standard: VCS Standard, version 4.1.
- /29/ Verified Carbon Standard: VCS Program Guide, version 4.0.
- /30/ Verified Carbon Standard: Registration and Issuance Process, version 4.0.
- /31/ UNFCCC EB: Approved methodology, ACM0002, version 6.0 and version 20.0

Persons interviewed

- /32/ Mr. Zhao Jianshou, Duty Director, Hebei Construction Investment Yuzhou Wind Energy Co.,

Ltd.

Ms. Li Jia, O&M Staff, Hebei Construction Investment Yuzhou Wind Energy Co., Ltd.

Mr. Xu Liming, O&M Staff, Hebei Construction Investment Yuzhou Wind Energy Co., Ltd.

Mr. Zhao Gang, O&M Staff, Hebei Construction Investment Yuzhou Wind Energy Co., Ltd.

Mr. Xu Qiang, O&M Staff, Hebei Construction Investment Yuzhou Wind Energy Co., Ltd.

Ms. Liu Min, Financial Staff, Hebei Construction Investment Yuzhou Wind Energy Co., Ltd.

Mr. Li Qiang, local resident, Local Village

Mr. Zhao Zhiyuan, local resident, Local Village

Mr. Liu Fei, local resident, Local Village

Mr. Yan Yulong, Staff, Local Environment Protection Bureau

Mr. Cao Wanpeng, Project Manager, Hebei Construction Investment Yuzhou Wind Energy Co., Ltd

APPENDIX C: 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
01	The emission factor of 1 st crediting period used in the initial version MR is not consistent with that in the registered VCS PD. PP is requested to update the emission factor of 1 st crediting period and recalculate emission reductions accordingly.	The emission factor and emission reduction of 1 st crediting period has been updated and recalculated in the MR (version 03 dated 16/06/2022).	By checking MR (version 03 dated 16/06/2022), it is confirmed the emission factor of 1 st crediting period has been updated to be consistent with that in the registered VCS PD. The emission reductions have been recalculated, which is confirmed to be correct. Therefore, CAR 01 was closed.

Table 2: Clarification Requests

CL ID	Clarification Request	Response by Project Proponent	Verification Team Assessment
NA	NA	NA	NA

Table 3: Forward Action Requests

FAR ID	Forward Action Request	Response by Project Proponent	Verification Team Assessment
NA	NA	NA	NA