



VCS VERIFICATION REPORT

JILIN DA'AN DAGANGZI WIND POWER PROJECT PHASE II (VCS PROJECT ID: 548)



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 "Jilin Da'an Dagangzi Wind Power Project Phase II" (VCS Project ID:548) for the monitoring period 01/01/2019-31/12/2020 within the 2nd VCS crediting period 01/01/2019-31/12/2028, 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.

The verification was performed on the basis of 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 one CL, no CAR nor FAR in this monitoring period.

In CTI's opinion, the GHG emission reductions reported for the project in the monitoring report (version 03 dated 19/01/2022) are fairly stated. The GHG emission reductions of the period from 01/01/2019-31/12/2020 within the 2nd VCS crediting period were calculated correctly on the basis of approved methodology ACM0002 "Grid-connected electricity generation from renewable sources" (version 20.0) and the monitoring plan contained in the approved VCS PD (version 07 dated 21/10/2020) for the 2nd VCS crediting period.

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 “Jilin Da’an Dagangzi Wind Power Project Phase II” during the period amount to 186,772 tCO₂e.

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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 “Jilin Da’an Dagangzi Wind Power Project Phase II” (the project) for the monitoring period 01/01/2019-31/12/2020. 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 “Jilin Da’an Dagangzi Wind Power Project Phase II” for the period 01/01/2019-31/12/2020.

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 20.0)/32/ 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. As per the para 3.9.1 of the VCS Standard Version 4.1, the project size categorization belongs to “Project” as the expected annual emission reductions is 94,250 tCO₂e lower than 300,000 tCO₂e. Therefore, according to the requirement of para 4.1.8 (4) of VCS standard Version 4.1 *“The threshold for materiality with respect to the aggregate of errors, omissions and misrepresentations relative to the total reported GHG emission reductions and/or removals shall be five percent for projects and one percent for large projects.”*, CTI applied a materiality threshold of 5% with respect to omission or misstatements concerning reported quantities of the project activity.

1.4. Summary Description of the Project

1.4.1. 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 project

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

The project is located near the village of Shuanggang, Dagangzi County, Da'an City of Jilin Province, P. R. China, with coordinates of E 123°35'26"~123°38'58" Longitude and N 44°18'23"~ 45°18'46" Latitude. The project activity was registered as a CDM project with Ref.2586 on 09/03/2010 and the 1st CDM crediting period is from 09/03/2010 - 08/03/2017, which has been renewed on 29/03/2019 with the 2nd CDM crediting period from 09/03/2017-08/03/2024. The project has been registered as VCS project with Ref. VCS 548 under VCS Standard Version 2007.1. As per the VCS standard, the project start date is 16/12/2008 when the first turbine put into operation and began generating GHG emission reductions, while the project proponent chose 01/01/2009 as the start date of the 1st VCS crediting period 01/01/2009-31/12/2018. The 2nd VCS crediting period was renewed as 01/01/2019-31/12/2028 approved by Verra.

The amount of 128,377tCO₂e VCUs have been issued for the monitoring period 01/01/2009-08/03/2010 within the 1st VCS crediting period. The monitoring periods 09/03/2010-24/02/2011, 25/02/2011-24/04/2012, 25/04/2012-24/09/2012 and 01/01/2013-24/12/2016 are applied for CERs within the 1st CDM crediting period. Except 25/09/2012 - 31/12/2012 awaiting for issuance

request, total 561,051tCO₂e CERs have been issued. As confirmed with PP during this verification, the emission reductions for the monitoring period 25/12/2016-31/12/2018 have been submitted for under the issuance request under VCS programm.

The installed capacity of the project is 49.5MW equipped with 33 sets of 1,500kW wind turbine-generators in type of FD77B manufactured by Dongfang Steam Turbine Works Company. The electricity generated by the project activity is supplied to the Northeast China Power Grid (hereafter referred to as “NEPG”), and the project is estimated to deliver 94,250 tCO₂e emission reduction annually.

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 approved VCS PD (version 07 dated 21/10/2020) for the 2nd VCS crediting period, 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	Lin Shunrong	1.2, 14.1, 15.1	☒ DR ☒ SV ☒ RP ☐ TR

Technical Reviewer	Wang Guolian	1.2, 3.1, 4.1, 5.1, 5.2, 11.1, 11.2, 12.1	☒ DR ☐ SV ☐ RP ☒ TR
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*DR=Document review; SV=Site visit; RP=Reporting; TR=Technical review

In addition to the VER/VCU monitoring report/1/, the approved VCS PD (version 07 dated 21/10/2020) /13/, emission reduction calculation spreadsheet/2/, the following documents also were assessed as a part of the verification audit:

- The VCS validation report/18/ for the 2nd VCS crediting period/22/;
- The previous VER/VCU monitoring report/23/ and verification report/24/, and previous CDM/CER monitoring reports /25/and verification reports/26/;
- Baseline and monitoring methodology ACM0002 (version 20.0) applied by the project/32/;
- Relevant decisions, clarifications and guidance from the Verra/28/-/32/; 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 10/06/2021, CTI visited the project proponent Jilin CGN Wind Power Co., Ltd. to perform on-site assessment. The key personnel of the project were interviewed or assisted the verification team /33/. 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/33/ are summarized in the table below:

Interviewed personnel	Role	Subject
Mr. Shi Hongfei	Operation Manager and contact person of Jilin CGN Wind Power Co., Ltd.	Operation of the project activity; Implementation of the monitor

Mr. Wang Guobao	Local villager	plan of the project activity; Data collection and data achievement;
Mr. Li Shuming	Local villager	Calibration of meters and equipment maintenance; Data collection and ER calculation;
Mr. Ge Yongheng	Official of local Environment Protection Bureau	Data collection and ER calculation;
Mr. Liu Yang	Project Manager of CGN Carbon Asset Management (Beijing) Co., Ltd.	Local stakeholders' consultation; Project's sustainable development contributions.

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 approved 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 the approved VCS PD;
- A cross-check between information provided in the monitoring report and data from other sources such as plant logbooks and Sales Receipts;
- A check of the monitoring equipment including calibration performance and observations of monitoring practices against the requirements of the approved 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 project documentation and production records, as well as by interviews with personnel from the project developer Jilin 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 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 CL in this monitoring period, and no CARs was raised. The CL was satisfactorily addressed by the project proponents in the approved VCS PD (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.

CTI confirmed that there was no FAR identified in previous verification/24/, and no FAR was raised during this verification.

2.6. Eligibility for Validation Activities

The project has been validated by TÜV SÜD Industrie Service GmbH under the CDM rules and registered as CDM project on 09/03/2010. The VCS GAP validation was completed by Bureau Veritas Certification on 19/11/2010 under VCS standard version 2007.1.

CTI was accredited in Sectoral Scope 1 on validation and verification and thus is eligible for validation and verification activities on the proposed project, the previous validation and verification activities undertaken by CTI as below:

- The verification for emission reductions during the monitoring periods 01/01/2013-24/12/2016 issued as CERs. /26/
- The validation for VCS 2nd renewal crediting period 01/01/2019-31/12/2028 of the project activity has been carried out by CTI under the VCS Standard Version 4.1 and approved by Verra; /22/

By checking the UNFCCC website, the VCS pipeline and the previous verification reports/24//26/, it is confirmed the verification for this monitoring period 01/01/2019-31/12/2020 is the first verification undertaken by CTI after CTI completed the validation of VCS renewal crediting period. In addition, this verified monitoring period is no more than 6 years, nor consecutive to the previous CDM verification with the monitoring period 01/01/2013-24/12/2016 undertaken by CTI. Therefore, the verification undertaken by CTI is in line with the requirement for VVB stipulated in Section 4.1.20 of VCS standard version 4.1.

3.VALIDATION FINDINGS

The project activity is registered as CDM project activity under the UNFCCC on 09/03/2010 with the Registration Ref. No. 2586. The CDM crediting period of the project starts on 09/03/2010 with a renewable crediting period of 3*7 years. The project is also registered as VCS project under VCS 2007.1, and the emission reductions from 01/01/2009-08/03/2010 prior to the CDM crediting period had been claimed as Voluntary Carbon Units (VCUs).

By checking the approved VCS PD (version 07 ,dated 21/10/2020) and site visit interview with project owner, it is confirmed that the project started operation on 16/12/2008 which is the project start date according to the requirement of VCS, while the project proponent chose 01/01/2009 as the start date of the first VCS crediting period. A deviation was identified for the crediting period of the Project. The project is registered as VCS project and completed validation before 19/03/2020. As per VCS requirement, it remains eligible to apply the crediting period requirements under VCS Version 3 which shall be a maximum of ten years and may be renewed at most twice. Therefore, the first renewable crediting period of the Project is updated from 01/01/2009-08/03/2010 to 01/01/2009-31/12/2018, which lasts for 10 years. The 2nd crediting period was renewed as 01/01/2019-31/12/2028.

3.1. Participation under Other GHG Programs

The project has been registered as a CDM project on 09/03/2010 under the UNFCCC with Ref. 2586. The 1st CDM crediting period is 09/03/2010 - 08/03/2017 and the 2nd CDM crediting period is renewed as 09/03/2017-08/03/2024. By checking the UNFCCC website (<https://cdm.unfccc.int/Projects/DB/TUEV-SUED1242408811.21/view?cp=1>), it is confirmed that the emission reductions for the monitoring periods 09/03/2010-24/02/2011, 25/02/2011-24/04/2012, 25/04/2012-24/09/2012, 25/09/2012-31/12/2012 and 01/01/2013-24/12/2016 within the 1st CDM crediting period have been applied for CERs, and total 561,051tCO₂e of CERs have been issued. Furthermore, by checking the UNFCCC website (<https://cdm.unfccc.int/Projects/DB/TUEV-SUED1242408811.21/view>) it is also confirmed that no GHG emission reductions has been issued or requested for issuance under the CDM program during the current 2nd CDM crediting period.

3.2. Methodology Deviations

The validation process/18/ has assessed all factors and issues that constitute the basis for emission reductions from the project according to the applicable CDM methodology ACM0002 (version 20.0) /32/. There was not any methodology deviation applied to this project. Details refer to section 4.1.

3.3. Project Description Deviations

A deviation of crediting period was requested in the VCS PD for the 2nd renewal crediting period in accordance with the requirements under VCS Standard Version 3 and has been approved by Verra. The deviation of crediting period has no impacts on the applicability, additionality or baseline of the project

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 approved VCS PD (version 07 ,dated 21/10/2020). CTI confirms that the project is fully implemented in accordance with the project description contained in VCS PD (version 07 ,dated 21/10/2020), 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 “Jilin Da’an Dagangzi Wind Power Project Phase II” for the monitoring period 01/01/2019-31/12/2020.

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 near the village of Shuanggang, Dagangzi County, Da’an City of Jilin Province, P. R. China. The geographical coordinates are verified by GPS system as E 123°35’26’’~123°38’58’’ Longitude and N 44°18’23’’~ 45°18’46’’ Latitude. The total installed capacity is 49.5MW equipped with 33 sets of 1,500kW wind turbine-generators in type of FD77B. The first turbine started operation on 16/12/2008 and the project put into full operation since 15/12/2009. The actual implementation of the project during this verification period was verified in terms of name plates of turbines and generators and the equipment purchase contract. The details of

the turbines and generators with respect to their installation and capacity have been verified to be consistent with description indicated in the approved VCS PD (version 07 ,dated 21/10/2020).

The electricity generated by the project activity is supplied to the NEPG, which can be confirmed by the Power purchase agreement (PPA) signed between Jilin CGN Wind Power Co., Ltd. and Jilin Power Grid Company/3/. All the monitoring system in operation period is consistent with the description in the approved VCS PD (version 07 ,dated 21/10/2020). 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/7/, 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/6/ and their implementation was confirmed by interview with the key operators/33/ and observing the operation.-

CTI confirms that the project implementation is in accordance with the project description contained in approved VCS PD. Furthermore, through visual inspection and document review, it is confirmed that all physical features of the project activity including data collection systems and storage systems have been implemented in accordance with the approved VCS PD.

4.1.2. Compliance of monitoring plan with monitoring methodology

CTI is able to confirm that the monitoring plan in the approved VCS PD (version 07 ,dated 21/10/2020) is in accordance with the approved methodology applied by the project activity, i.e. ACM0002 (version 20.0).

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 approved VCS PD (version 07 ,dated 21/10/2020). 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 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 each parameter is further verified in the following sections.

Parameters fixed ex ante

“Data and parameters fixed ex ante” in the MR are checked against the approved VCS PD (version 07 ,dated 21/10/2020). The parameter $EF_{grid,CM,y}$ is the combined emission factor of the grid, which was determined ex-ante at the validation stage and will be fixed during the 2nd crediting period. CTI verified and confirms that the emission factor used in the monitoring report is in compliance with the approved VCS PD.

Parameters monitored

CTI conducted document review and performed on-site assessment with project stakeholders to:

- A review of information flows for generating, aggregating and reporting the monitoring parameters;
- Determine whether the operational and data collection procedures are implemented in accordance with the monitoring plan in the approved VCS PD;
- A cross-check between information provided in the monitoring report and data from other sources such as plant logbooks and electricity sales receipts;

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.

According to the registered monitoring plan, the parameter to be monitored is as below:

$EG_{\text{facility},y}$	The net electricity supplied to the grid by the project in year y
$M_{\text{main},\text{export},y}$	Quantity of the electricity supplied to the grid and measured by the meter M_{main} (or M_{backup}) during the monitoring period y
$M_{\text{main},\text{import},y}$	Quantity of the electricity imported from the grid and measured by the meter M_{main} (or M_{backup}) during the monitoring period y
$m_{i,\text{export},y}$	Quantity of the electricity supplied to the grid and measured by the meters m_i during the monitoring period y; i is the number of the meters which installed at its on-site 35kV low voltage side of the 35kV-to-220kV transformer. $i=1\sim14$.
$M_{10\text{kV},\text{import},y}$	Quantity of the electricity imported from the grid and measured by the meter $M_{10\text{kV}}$ during the monitoring period y

Based on the on-site visit and checking the connection diagram, PPA, meters and the monitoring plan in the approved VCS PD, it is confirmed that the project activity shares the same substation 220kV transmission line, the spare 10kV line, and the relevant meters M_{main} , M_{backup} and $M_{10\text{kV}}$ with other four wind farms: phase I, III, IV and V during this monitoring period.

The bidirectional main meter M_{main} and backup meter M_{backup} are installed at the 220kV high voltage side of the on-site 35kV-to-220kV transformer to monitor all the electricity exported to the grid ($M_{\text{main},\text{export},y}$) and imported from the grid ($M_{\text{main},\text{import},y}$) by all the five wind farms.

The appropriate separate meters $M1\sim M14$ are installed at each project site so that the electricity supply can be monitored for each wind farm for calculating the share of the project of the total electricity exported to the grid:

- $M1\sim M3$ Installed at 35kV low voltage side of the 35kV-to-220kV transformer in Phase I to monitor the electricity supplied to the grid by Phase I ($m_{i,\text{export},y}$, $i=1,2,3$)

- M4~M6 Installed at 35kV low voltage side of the 35kV-to-220kV transformer in the proposed project site to monitor the electricity supplied to the grid by the project activity ($m_{i,export,y}$, $i=4,5,6$)
- M7~M9 Installed at 35kV low voltage side of the 35kV-to-220kV transformer in Phase III to monitor the electricity supplied to the grid by Phase III ($m_{i,export,y}$, $i=7,8,9$)
- M10-M12 Installed at 35kV low voltage side of the 35kV-to-220kV transformer in Phase IV to monitor the electricity supplied to the grid by Phase IV ($m_{i,export,y}$, $i=10,11,12$)
- M13-M14 Installed at 35kV low voltage side of the 35kV-to-220kV transformer in Phase V to monitor the electricity supplied to the grid by Phase V ($m_{i,export,y}$, $i=13,14$)

Moreover, there is a spare 10kV line shared by the five wind farms which is used for supplying electricity in emergent case if the wind farm(s) fails to generate power. Meter M_{10kv} is installed at the inlet to the wind farms on the 10kV line to monitor the electricity imported from grid by all wind farms through the 10kV spare line($M_{10kv,import,y}$). For the conservative, $M_{10kv,import,y}$ is served as the electricity imports by the project activity through 10kV spare line.

Thus, the net electricity delivered to the grid by the project activity ($EG_{facility,y}$) is determined by the way of electricity allocation:

$$EG_{facility,y} = M_{main,export,y} - \frac{\sum_{i=4}^6 m_{i,export,y}}{14} - M_{main,import,y} - M_{10kv,import,y}$$

Via the on-site interview and by checking the daily operation and maintenance records/7/, monthly and daily reading records and sale receipts issued by grid company, it is confirmed by the verification team that the spare 10 kV line had been disconnected during this monitoring period since there was no emergency occurred. Thus, $M_{10kv, import,y}$ is 0.

The verification team had on-site checked the location of the meters against the diagram of power connection system/4/ and found them to be consistent and also installed in accordance with the approved VCS PD. All the monitoring facilities and system have been verified by CTI during on-site visit.

The meter readings are continuously measured and monthly recorded by trained staff of the project as agreed with the grid company at 24:00 on the 24th of each month/8/. The electricity sales receipts /9/ issued by the local grid company have been used for cross-check of electricity exports and imports.

Through a cross check, the conservative values from electricity exports and imports 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.

To be concluded, monitoring of data and parameters related to the GHG emission reductions in the project activity have been carried out in accordance with the approved monitoring plan.

Monitoring equipment and calibration

The documents review was carried out. Particular attention was paid to the frequency of measurements, the quality of the monitoring equipment including calibration performance and observations of monitoring practices against the requirements of the approved VCS PD and the methodology ACM0002 (version 20.0) and corresponding tool(s), and the quality assurance and quality control procedures.

All monitoring meters have been calibrated annually as per the monitoring plan covering this monitoring period. The relevant information of the calibration is listed as below:

Meters	Type	SN	Accuracy class	Calibration Date	Validity	Calibration Entity
M _{main}	ZMD402CT44	96628173	0.2S	12/02/2018 11/02/2019 10/02/2020	11/02/2019 10/02/2020 09/02/2021	Jilin Electric Power Research Institute Co., Ltd.
M _{backup}	ZMD402CT44	94348626	0.2S			
M1	DTSD341	1210139747000006	0.5S			
M2	DTSD341	20070865050026	0.5S			
M3	DTSD341	20070865050027	0.5S			
M4	DTSD341	20070712010071	0.2S			
M5	DTSD341	20070865050025	0.5S			
M6	DTSD341	20070865050021	0.5S			
M7	DTSD341	20080846040146	0.5S			
M8	DTSD341	20080846040145	0.5S			
M9	DTSD341	20080846040142	0.5S			
M10	DTSD341	20080846040141	0.5S			
M11	DTSD341	20080846040151	0.5S			
M12	DTSD341	20080846040143	0.5S			
M13	DTSD341	1110089576000011	0.5S			
M14	DTSD341	20080846040150	0.5S			
M _{10kV}	DTSD318	60014972	1.0	12/02/2018	11/02/2019	Da'an Agricultural

				11/02/2019 10/02/2020	10/02/2020 09/02/2021	and Electrical Co., Ltd.
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Calibration records and accreditation certificates/14/- /16/have been verified by the verification team. The actual accuracy of meters M_{main} , M_{backup} and M_4 is verified to be 0.2S, the actual accuracy of the meters M_1 - M_3 and M_5 - M_{14} is verified to be 0.5S, and the actual accuracy of meter M_{10kV} is verified to be 1.0, which is consistent with the description in the approved VCS PD and in compliance with the Technical administrative code of electric energy metering (DL/T448-2016)/17/. The calibration frequency of meters is annual, which is consistent with the approved VCS PD. Based on the site visit and by checking the calibration reports, CTI confirms that:

- All meters have been installed in accordance with the monitoring plan;
- The meters' accuracy is in line with the requirement of the monitoring plan;
- The calibration frequency of the meters is annual, which is in line with the monitoring plan.

And the calibrations are verified to be valid for the whole reporting period.

CL 01 was raised for requesting calibration information of all monitoring meters covering the reporting monitoring period, which has been successfully closed, Refer to Appendix C for details.

Data management and control

Jilin 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/5/, including the organization structure with the responsibilities, personnel competencies, monitoring procedures and monitoring management. By interview with the staff/33/ and check records /7//8/ 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.

As the above and document review, verification team considers that the project activity operated properly in the way complying with the implementation plan and monitoring plan stipulated in the approved VCS PD (version 07 dated 21/10/2020) and the monitoring was performed in a transparent and comprehensive manner during this monitoring period.

By checking the UNFCCC website (<https://cdm.unfccc.int/Projects/DB/TUEV-SUED1242408811.21/view>), it is confirmed that emission reductions within the monitoring periods 09/03/2010-24/02/2011, 25/02/2011-24/04/2012, 25/04/2012-24/09/2012, 25/09/2012-31/12/2012 and 01/01/2013-24/12/2016 are applied for CDM. Except 25/09/2012 - 31/12/2012

awaiting for issuance request, total 561,051tCO₂e of CERs have been issued. No emission reductions were issued as CERs or under requesting for CERs for the period 25/12/2016-08/03/2017 within the first CDM crediting period 09/03/2010 - 08/03/2017. Furthermore, by checking the UNFCCC website (<https://cdm.unfccc.int/Projects/DB/TUEV-SUED1242408811.21/view>) it is confirmed that no GHG emission reductions has been issued or requested for issuance under the CDM program during the current 2nd CDM crediting period 09/03/2017-08/03/2024 including this verified monitoring period 01/01/2019-31/12/2020.

Therefore, it is concluded no double counting issuance has occurred for this verified monitoring period 01/01/2019-31/12/2020 under both VCS and CDM programmes. Via the on-site interview, the proponent confirmed the emission reductions for this verified period are only requested for VCU issuance

The verification team has also checked other GHGs programs such as China Emission Trading System (CCER), Gold Standard, EU ETS, IREC, and based on the interview with the project proponent, during this monitoring period, it is confirmed that except CDM and VCS scheme:

- No evidence showing that the project has participated or been rejected under any other GHG programs since validation or previous verification;
- There is no observation that the project has received or sought any other form of environmental credit, or has become eligible to do so since validation or previous verification;
- The project is completely voluntary CDM project, not included in an emissions trading program or any other mechanism that includes GHG allowance trading.

Based on the on-site inspection, and through the interviews with local villagers and official from local environmental bureau, the verification team agrees on the following points regarding to the promotion of sustainability development by the project activity:

- Achieve GHG emission reductions by avoiding CO₂ emissions, as grid-connected fossil fuel-fired power dominates in the NEPG, which contributes to the China's commitment to peak carbon dioxide emissions before 2030;
- Reduce fossil fuel consumption and avoid pollutants emission, such as sulfur dioxide and dust, brought by fossil fuel combustion;
- Offered job opportunities for local people;
- Achieve economic growth and booming of local tourism through the construction and operation of the project. Furthermore, contribute to local government with more tax revenues and poverty eradication.

4.2. Safeguards

4.2.1. No Net Harm

By checking the EIA summary and conclusion provided in the approved VCS PD, it is confirmed that wind power is green power and the impact caused by wind power on the surrounding ecosystem and

residents, wastewater, noise, 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

As per the approved VCS PD, the local stakeholder's consultation was done in February 2008 through distributing questionnaires, which was designed to be easily filled in. 30 copies of questionnaire were distributed, and 100% recovered were received. The opinions expressed by the stakeholders were recorded and are available on request.

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

For this monitoring period, the project proponent has placed the complaint book in local village committee by the project proponent to allow villagers to record their comments timely. The contact person quarterly checked the complaint book. The phone number of contact person and information of the project are also published on the bulletin board of village committee to facilitate the direct communication from local villager. Furthermore, the contact person had the consultation meetings yearly with local villagers in Sep. 2019 and Dec. 2020 during the monitoring period. All the comments received by the contact person through the above approaches were timely collected and reported to the plant director. Based on the site inspection, i.e. by checking the complaint book/10/, yearly meeting memos/12/ and interviewing with the local villagers, the contact person and plant director/33/, the verification team confirmed that on-going communication mechanism was well set up and carried out at periodic intervals by the project proponent during this monitoring period, and there are no negative comments received for the project.

Moreover, the local environment bureau has conducted periodic spot-check and follow-up interviews with local villagers for their comments regarding to project implementation. Based on the interview with official from local environment bureau, the verification team confirmed that there were no negative comments and issues raised from the local stakeholders during this monitoring period and the project passed all the periodic spot checks by local government.

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

Baseline emissions are determined as multiplying quantity of net electricity supplied to the grid by the project during year y ($EG_{\text{facility},y}$) by the validated ex-ante fixed grid emission factor ($EF_{\text{grid},\text{CM},y}$).

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

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

$EF_{\text{grid},\text{CM},y}$ is the grid emission factor of the which has been verified ex-ante in the validation stage in the approved VCS PD as 0.9139tCO₂e/MWh.

The net electricity supplied to the grid by the project in year y ($EG_{\text{facility},y}$)

As per the iSection 4.1.3 above, EG_y is determined as:

$$EG_{\text{facility},y} = M_{\text{main},\text{export},y} - \frac{\sum_{i=1}^6 m_{i,\text{export},y}}{14} - M_{\text{main},\text{import},y} - M_{10\text{kv},\text{import},y}$$

Data in the monthly reading records were used to report. Through a cross check with the electricity sales receipts, the most conservative values have been applied to calculate the electricity exported to and imported from the grid by the project.

Table 1 The electricity supplied to the grid measured by meter m_i and M_{main}

Period	Phase I	Phase II	Phase III	Phase IV	Phase V	Sub-total	$M_{\text{main},\text{export},y}$
	$m_{1,\text{export},y} + m_{2,\text{export},y} + m_{3,\text{export},y}$	$m_{4,\text{export},y} + m_{5,\text{export},y} + m_{6,\text{export},y}$	$m_{7,\text{export},y} + m_{8,\text{export},y} + m_{9,\text{export},y}$	$m_{10,\text{export},y} + m_{11,\text{export},y} + m_{12,\text{export},y}$	$m_{13,\text{export},y} + m_{14,\text{export},y}$	$m_{1,\text{export},y} + m_{14,\text{export},y}$	
	MWh	MWh	MWh	MWh	MWh	MWh	
	A1	A2	A3	A4	A5	A=A1+A2+A3+A4+A5	
01/01/2019-24/01/2019	4,298.910	4,675.860	4,431.420	4,451.790	3,585.680	21,443.660	21,049.952
25/01/2019-24/02/2019	7,462.560	8,183.280	7,797.510	7,634.970	6,853.280	37,931.600	37,359.872
25/02/2019-24/03/2019	10,626.000	11,510.730	10,203.900	10,676.400	9,651.040	52,668.070	52,389.920
25/03/2019-24/04/2019	11,513.040	12,448.170	11,201.190	11,593.470	10,366.720	57,122.590	56,809.984

25/04/2019-24/05/2019	13,437.480	13,266.750	12,463.290	13,688.430	11,318.440	64,174.390	63,899.968
25/05/2019-24/06/2019	8,704.500	9,128.700	8,573.250	8,745.030	7,613.760	42,765.240	42,349.824
25/06/2019-24/07/2019	3,771.600	4,110.750	3,720.150	4,213.440	3,165.400	18,981.340	18,470.144
25/07/2019-24/08/2019	4,779.390	4,992.960	4,596.480	4,952.430	4,240.320	23,561.580	23,170.048
25/08/2019-24/09/2019	6,042.330	5,981.430	5,940.900	6,285.510	4,105.920	28,356.090	27,969.920
25/09/2019-24/10/2019	13,212.360	13,041.420	12,267.150	13,493.760	9,854.040	61,868.730	61,529.952
25/10/2019-24/11/2019	9,546.390	10,455.480	9,586.710	10,041.360	8,788.640	48,418.580	47,930.080
25/11/2019-24/12/2019	5,401.410	5,940.480	7,161.000	7,761.180	5,503.120	31,767.190	31,230.144
25/12/2019-31/12/2020	1,224.300	1,382.430	1,364.160	1,540.140	1,139.880	6,650.910	6,632.032
Sub-total (2019)	100,020.270	105,118.440	99,307.110	105,077.910	86,186.240	495,709.970	490,791.840
01/01/2020-24/01/2020	4,270.770	4,880.190	4,806.270	5,418.420	4,027.800	23,403.450	22,738.144
25/01/2020-24/02/2020	7,869.540	8,877.750	7,951.860	8,579.340	7,437.360	40,715.850	39,579.936
25/02/2020-24/03/2020	12,050.850	12,554.640	12,312.930	12,020.610	10,801.560	59,740.590	59,290.176
25/03/2020-24/04/2020	12,001.080	12,817.980	12,666.780	11,466.630	11,224.640	60,177.110	59,669.984
25/04/2020-24/05/2020	10,026.240	10,582.110	10,046.400	9,995.790	9,156.840	49,807.380	49,280.000
25/05/2020-24/06/2020	6,710.340	7,250.880	6,394.080	7,373.310	6,353.480	34,082.090	33,419.936
25/06/2020-24/07/2020	4,450.740	4,614.750	4,368.630	5,024.880	4,081.280	22,540.280	21,979.936
25/07/2020-24/08/2020	3,211.950	3,325.350	3,098.760	3,489.990	2,851.800	15,977.850	15,520.032
25/08/2020-24/09/2020	8,708.700	8,880.480	8,446.200	9,264.570	7,850.080	43,150.030	42,709.920
25/09/2020-24/10/2020	10,401.300	10,914.750	10,280.550	11,025.420	8,709.680	51,331.700	50,979.808
25/10/2020-24/11/2020	9,759.540	10,134.180	9,840.600	10,114.020	8,797.880	48,646.220	48,050.112
25/11/2020-24/12/2020	7,367.220	8,305.920	8,255.100	8,142.750	6,755.000	38,825.990	38,050.144
25/12/2020-31/12/2020	1,142.400	1,298.430	1,268.610	1,454.250	1,025.360	6,189.050	6,150.144
Sub-total (2020)	97,970.670	104,437.410	99,736.770	103,369.980	89,072.760	494,587.590	487,418.272
Total	197,990.940	209,555.850	199,043.880	208,447.890	175,259.000	990,297.560	978,210.112

Table 2 The allocated electricity supply to the grid by the Project

Period	Electricity supplied to the grid by the project by allocated calculation	Electricity Sales Receipts	Conservative values of electricity supplied to the grid by the project
	MWh	MWh	MWh

	C=B*A2/A	D	E=MIN(C:D)
01/01/2019-24/01/2019	4,590.011	4,590.000	4,590.000
25/01/2019-24/02/2019	8,059.937	8,060.000	8,059.937
25/02/2019-24/03/2019	11,449.940	11,450.000	11,449.940
25/03/2019-24/04/2019	12,380.047	12,380.000	12,380.000
25/04/2019-24/05/2019	13,210.019	13,210.000	13,210.000
25/05/2019-24/06/2019	9,040.025	9,040.000	9,040.000
25/06/2019-24/07/2019	4,000.041	4,000.000	4,000.000
25/07/2019-24/08/2019	4,909.990	4,910.000	4,909.990
25/08/2019-24/09/2019	5,899.971	5,900.000	5,899.971
25/09/2019-24/10/2019	12,970.008	12,970.000	12,970.000
25/10/2019-24/11/2019	10,349.994	10,350.000	10,349.994
25/11/2019-24/12/2019	5,840.052	5,840.000	5,840.000
25/12/2019-31/12/2019	1,378.506	1,379.000	1,378.506
Sub-total (2019)	104,078.541	104,079.000	104,078.337
25/12/2019-24/01/2020	4,741.457	4,741.000	4,741.000
25/01/2020-24/02/2020	8,630.073	8,630.000	8,630.000
25/02/2020-24/03/2020	12,459.984	12,460.000	12,459.984
25/03/2020-24/04/2020	12,709.960	12,710.000	12,709.960
25/04/2020-24/05/2020	10,470.062	10,470.000	10,470.000
25/05/2020-24/06/2020	7,110.008	7,110.000	7,110.000
25/06/2020-24/07/2020	4,500.029	4,500.000	4,500.000
25/07/2020-24/08/2020	3,230.068	3,230.000	3,230.000
25/08/2020-24/09/2020	8,789.903	8,790.000	8,789.903
25/09/2020-24/10/2020	10,839.927	10,840.000	10,839.927
25/10/2020-24/11/2020	10,009.996	10,010.000	10,009.996
25/11/2020-24/12/2020	8,139.946	8,140.000	8,139.946
25/12/2020-31/12/2020*	1,290.268	1,290.000	1,290.000
Sub-total (2020)	102,921.682	102,921.000	102,920.716

Total	207,000.223	207,000.000	206,999.054
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Table 3 The electricity imported from the grid measured by M_{main}

Period	Electricity imported from grid by meter M_{main} reading	Electricity Sales Receipts	Conservative values of $M_{main,import,y}$
	MWh	MWh	MWh
	F	G	H=MAX(F,G)
01/01/2019-24/01/2019	99.264	99.264	99.264
25/01/2019-24/02/2019	83.072	83.072	83.072
25/02/2019-24/03/2019	68.288	68.288	68.288
25/03/2019-24/04/2019	71.808	71.808	71.808
25/04/2019-24/05/2019	51.040	51.040	51.040
25/05/2019- 24/06/2019	130.592	130.592	130.592
25/06/2019-24/07/2019	230.912	230.912	230.912
25/07/2019-24/08/2019	99.616	99.616	99.616
25/08/2019-24/09/2019	109.824	109.824	109.824
25/09/2019-24/10/2019	79.552	79.552	79.552
25/10/2019-24/11/2019	102.432	102.432	102.432
25/11/2019-24/12/2019	174.944	174.944	174.944
25/12/2019-31/12/2019*	49.280	49.280	49.280
Sub-total (2019)	1,350.624	1,350.624	1,350.624
25/12/2019-24/01/2020	169.312	169.312	169.312
25/01/2020-24/02/2020	137.984	137.984	137.984
25/02/2020-24/03/2020	103.488	103.488	103.488
25/03/2020-24/04/2020	57.024	57.024	57.024
25/04/2020-24/05/2020	89.408	89.408	89.408
25/05/2020-24/06/2020	67.584	67.584	67.584
25/06/2020-24/07/2020	146.432	146.432	146.432
25/07/2020-24/08/2020	109.120	109.120	109.120
25/08/2020-24/09/2020	156.992	156.992	156.992

25/09/2020-24/10/2020	75.328	75.328	75.328
25/10/2020-24/11/2020	56.672	56.672	56.672
25/11/2020-24/12/2020	69.696	69.696	69.696
25/12/2020-31/12/2020	39.424	39.424	39.424
Sub-total (2020)	1,278.464	1,278.464	1,278.464
Total	2,629.088	2,629.088	2,629.088

Table 4 The net electricity supplied to the grid by the Project

Period	Electricity supplied to the grid	$M_{main,import,y}$	Electricity imported from the 10kV line	Net electricity supplied to the grid by the project
	MWh	MWh	MWh	MWh
	E	H	I	J=E-H-I
01/01/2019-24/01/2019	4,590.000	99.264	0.000	4,490.736
25/01/2019-24/02/2019	8,059.937	83.072	0.000	7,976.865
25/02/2019-24/03/2019	11,449.940	68.288	0.000	11,381.652
25/03/2019-24/04/2019	12,380.000	71.808	0.000	12,308.192
25/04/2019-24/05/2019	13,210.000	51.040	0.000	13,158.960
25/05/2019- 24/06/2019	9,040.000	130.592	0.000	8,909.408
25/06/2019-24/07/2019	4,000.000	230.912	0.000	3,769.088
25/07/2019-24/08/2019	4,909.990	99.616	0.000	4,810.374
25/08/2019-24/09/2019	5,899.971	109.824	0.000	5,790.147
25/09/2019-24/10/2019	12,970.000	79.552	0.000	12,890.448
25/10/2019-24/11/2019	10,349.994	102.432	0.000	10,247.562
25/11/2019-24/12/2019	5,840.000	174.944	0.000	5,665.056
25/12/2019-31/12/2019	1,378.506	49.280	0.000	1,329.226
Sub-total (2019)	104,078.337	1,350.624	0.000	102,727.713
25/12/2019-24/01/2020	4,741.000	169.312	0.000	4,571.688
25/01/2020-24/02/2020	8,630.000	137.984	0.000	8,492.016

25/02/2020-24/03/2020	12,459.984	103.488	0.000	12,356.496
25/03/2020-24/04/2020	12,709.960	57.024	0.000	12,652.936
25/04/2020-24/05/2020	10,470.000	89.408	0.000	10,380.592
25/05/2020-24/06/2020	7,110.000	67.584	0.000	7,042.416
25/06/2020-24/07/2020	4,500.000	146.432	0.000	4,353.568
25/07/2020-24/08/2020	3,230.000	109.120	0.000	3,120.880
25/08/2020-24/09/2020	8,789.903	156.992	0.000	8,632.911
25/09/2020-24/10/2020	10,839.927	75.328	0.000	10,764.599
25/10/2020-24/11/2020	10,009.996	56.672	0.000	9,953.324
25/11/2020-24/12/2020	8,139.946	69.696	0.000	8,070.250
25/12/2020-31/12/2020	1,290.000	39.424	0.000	1,250.576
Sub-total (2020)	102,920.716	1,278.464	0.000	101,642.252
Total	206,999.054	2,629.088	0.000	204,369.966

*Note: During this monitoring period, the cut-off time is at 24:00 of the 24th of each month. Data in the monthly reading records were used to report, and crosschecked by electricity sales receipts. Readings during 25/12/2019-31/12/2019 and 25/12/2020-31/12/2020 are also verified with the confirmation letter issued by the grid company. The verification team accepted this approach for ERs calculation and cross check since it is conservative and reasonable.

The corresponding baseline emission reductions during this monitoring period is calculated as:

Period	EG _{facility,y}	EF _{grid,CM,y}	BE _y
	(MWh)	(tCO ₂ e/MWh)	(tCO ₂ e)
01/01/2019-31/12/2019	102,727.713	0.9139	93,882
01/01/2020-31/12/2020	101,642.252	0.9139	92,890
Total	204,369.966	0.9139	186,772

Project emissions

As statement in ACM0002 (version 20.0)/32/, for the wind power activities, the project emissions from the project are not considered. Hence, PE_y during the monitoring period from 01/01/2019-31/12/2020 is considered as zero.

Leakages

Leakage does not need to be accounted for this project as per the applied methodology.

Emission reductions

The emission reductions for this monitoring period was calculated as:

Monitoring period	GHG emission reductions or removals (tCO ₂ e)
01/01/2019-31/12/2019	93,882
01/01/2020-31/12/2020	92,890
Total ERs claimed (in 731 days)	186,772

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

The emission reductions claimed are 186,772tCO₂e in this monitoring period (i.e. 731 days). Compared with yearly expected emission reductions 94,250 tCO₂e (365 days) in the approved VCS PD (corresponding to 188,758tCO₂e for this monitoring period), the reported emission reductions in this monitoring period are lower than the expected. Considering the natural fluctuate of the wind resource and actual generator operation conditions, 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 “Jilin Da’an Dagangzi Wind Power Project Phase II” in China (VCS Project ID: 548) for the period 01/01/2019-31/12/2020.

The verification is based on the baseline and monitoring methodology ACM0002 (version 20.0), the VCS PD (version 07 dated 21/10/2020) and the monitoring report (version 03 dated 19/01/2022). 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 Standard 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 approved VCS PD;
- the monitoring plan in approved VCS PD is as per the applied methodology;
- the monitoring complies with the monitoring plan in the approved VCS PD;
- the monitoring report and other supporting documents provided are complete and verifiable and in accordance with the applicable VCS Standard 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 "Jilin Da'an Dagangzi Wind Power Project Phase II" for the period 01/01/2019-31/12/2020 are fairly stated in the monitoring report (version 03 dated 19/01/2022). The GHG emission reductions were calculated correctly on the basis of the approved

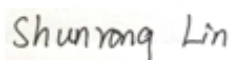
methodology ACM0002 (version 20.0) and the monitoring plan contained in the approved VCS PD (version 07 dated 21/10/2020).

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:

Reporting period: 01/01/2019-31/12/2020

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

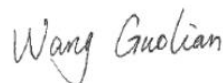
Year	Baseline emissions or removals (tCO ₂ e)	Project emissions or removals (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Net GHG emission reductions or removals (tCO ₂ e)
Year 2019 01/01/2019-31/12/2019	93,882	0	0	93,882
Year 2020 01/01/2020-31/12/2020	92,890	0	0	92,890
Total	186,772	0	0	186,772



Ms. Lin Shunrong

Technical Leader

20/01/2022



Ms. Wang Guolian

Team Reviewer

20/01/2022

APPENDIX A: ABBREVIATIONS

CAR	Corrective Action Request
CCER	China Emission Trading System
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
EU ETS	EU Emissions Trading Scheme
FAR	Forward Action Request
GHG	Greenhouse Gas(es)
IREC	International Renewable Energy Certificates
MP	MONITORING REPORT
MR	Monitoring Report
NEPG	Northeast China Power Grid
PD	Project Description
PP	Project Proponent
SN	Serial Number
VCS	Verified Carbon Standard
VCU	Verified Carbon Unit

APPENDIX B: REFERENCES

5.1.1. Documentation used to verify the information provided by the project proponents

/1/	CGN Carbon Asset Management (Beijing) Co., Ltd.: VER/VCU Monitoring Report for Jilin Da'an Dagangzi Wind Power Project Phase II, version 01 dated 01/06/2021, version 02 dated 21/07/2021 and version 03 dated 19/01/2022
/2/	CGN Carbon Asset Management (Beijing) Co., Ltd.: Emission reduction calculation spreadsheet for Jilin Da'an Dagangzi Wind Power Project Phase II
/3/	Jilin CGN Wind Power Co., Ltd. and Jilin Power Grid Company.: Power Purchase Agreement for Jilin Da'an Dagangzi Wind Power Project Phase II
/4/	Jilin CGN Wind Power Co., Ltd. : Diagram of power connection system
/5/	Jilin CGN Wind Power Co., Ltd.: VER monitoring manual and management procedure.
/6/	Jilin CGN Wind Power Co., Ltd.: Records of training for on-site staff.
/7/	Jilin CGN Wind Power Co., Ltd.: Daily operation and maintenance records, from 01/01/2019-31/12/2020
/8/	Jilin CGN Wind Power Co., Ltd.: Monthly and daily reading records of Jilin Da'an Dagangzi Wind Power Project Phase II from 01/01/2019-31/12/2020
/9/	Jilin Power Grid Company.: Monthly electricity sales receipts from 01/01/2019-31/12/2020 & Confirmation letter for readings during 25/12/2019-31/12/2019 and 25/12/2020-31/12/2020
/10/	Local Village Complaint Book
/11/	Contact information of PP posted on the bulletin board of village committee
/12/	Yearly Meeting Memos of Local Stakeholder Consultation
/13/	CGN Carbon Asset Management (Beijing) Co., Ltd.: approved VCS PD for VCS Renewal Crediting Period (version 07 dated 21/10/2020)
/14/	Jilin Province Administration of Quality and Technology Supervision: Accreditation certificate of Jilin Electric Power Research Institute Co., Ltd., issued on 31/12/2017, valid up to 30/12/2020 Jilin Province Administration of Quality and Technology Supervision: Accreditation certificate of Da'an Agricultural and Electrical Co., Ltd., issued on 31/12/2017, valid up to 30/12/2020

/15/	Accreditation certificate of Jilin Electric Power Research Institute Co., Ltd.: Calibration certificates for meters M_{main} , M_{backup} , and M1-M14 covering this monitoring period
/16/	Accreditation certificate of Da'an Agricultural and Electrical Co., Ltd.: Calibration certificates for meter M_{10kV} covering this monitoring period
/17/	State Economic and Trade Commission: Technical administrative code of electric energy metering (DL/T 448-2016)
/18/	TÜV SÜD Industrie Service GmbH: CDM Validation Report, version 03, dated 25/02/2010
/19/	Bureau Veritas Certification: Validation Opinion on a Revision in Monitoring Plan, report No. BVC/CHINA/MP Change/version 01, dated 04/2011
/20/	China Classification Society Certification Company (CCSC): Validation report form for renewal of crediting period for CDM project activities, version 03, dated 18/01/2019
/21/	Bureau Veritas Certification: VCS Validation Statement for VCS GAP Validation, dated 19/11/2010
/22/	Shenzhen CTI International Certification Co., Ltd (CTI): Validation Report for VCS Renewal Crediting Period, version 01.0, dated 22/10/2020
/23/	CGN Carbon Asset Management (Beijing) Co., Ltd.: VER/VCU Monitoring Report for Jilin Da'an Dagangzi Wind Power Project Phase II of previous monitoring period 01/01/2009-08/03/2010, version 02 dated 15/11/2010
/24/	Bureau Veritas Certification: VCS Verification Report for Jilin Da'an Dagangzi Wind Power Project Phase II of previous monitoring period 01/01/2009-08/03/2010, Report No: BVC/China-VR 7027, dated 19/11/2010
/25/	CGN Carbon Asset Management (Beijing) Co., Ltd.: CDM/CER Monitoring Reports for Jilin Da'an Dagangzi Wind Power Project Phase II of previous monitoring periods 09/03/2010-24/02/2011, 25/02/2011-24/04/2012, 25/04/2012-24/09/2012, 25/09/2012-31/12/2012 and 01/01/2013-24/12/2016
/26/	BUREAU VERITAS CERTIFICATION; CDM Verification Reports for Jilin Da'an Dagangzi Wind Power Project Phase II of previous monitoring period 09/03/2010-24/02/2011, version 01, dated 29/09/2011; BUREAU VERITAS CERTIFICATION; CDM Verification Reports for Jilin Da'an Dagangzi Wind Power Project Phase II of previous monitoring period 25/02/2011-24/04/2012, version 01, dated 18/07/2012; BUREAU VERITAS CERTIFICATION; CDM Verification Reports for Jilin Da'an Dagangzi Wind Power Project Phase II of previous monitoring period 25/04/2012-24/09/2012, version 01, dated 12/11/2012;

	Shenzhen CTI International Certification Co., Ltd: CDM Verification Reports for Jilin Da'an Dagangzi Wind Power Project Phase II of previous monitoring period 01/01/2013-24/12/2016, version 01, dated 28/08/2017
/27/	Dongfang Steam Turbine Works Company: Nameplate of the equipment

5.1.2. 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: VCS Sectoral Scopes http://v-c-s.org/node/448
/31/	Verified Carbon Standard: Registration and Issuance Process, version 4.0
/32/	UNFCCC EB: Approved methodology, ACM0002, version 20.0

5.1.3. Persons interviewed

/33/	Mr. Shi Hongfei, Operation Manager and contact person, Jilin CGN Wind Power Co., Ltd.
	Mr. Wang Guobao, Local villager
	Mr. Li Shuming, Local villager
	Mr. Ge Yongheng, Official of Local Environment Protection Bureau
	Mr Liu Yang, Project Manager, CGN Carbon Asset Management (Beijing) Co., Ltd.

APPENDIX C: CORRECTIVE ACTION REQUESTS, CLARIFICATION REQUESTS AND FORWARD ACTION REQUESTS

5.1.4. Table 1: Corrective Action Requests

CAR ID	Corrective Action Request	Response by Project Proponent	Verification Team Assessment
NA	NA	NA	NA

5.1.5. Table 2: Clarification Requests

CL ID	Clarification Request	Response by Project Proponent	Verification Team Assessment
CL 01	The calibration information of all monitoring meters is missing in the MR, thus it is requested to clarify.	The information of all electricity meters on the calibration of monitoring instruments had been updated in the MR.	OK. It has been revised and verified by CTI. Therefore, CL 01 is closed.

5.1.6. Table 3: Forward Action Requests

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