VCS VERIFICATION REPORT

NINGXIA XIANGSHAN WIND FARM PROJECT

(VCS PROJECT ID: 1867)

Document Prepared By

Shenzhen CTI International Certification Co., Ltd

Project Title	Ningxia Xiangshan Wind Farm Project
Version	01.0
Report ID	CTINB-2021-0913

Report Title	Ningxia Xiangshan Wind Farm Project
Client	Beijing Ruifang Information Technology Co., Ltd
Pages	28
Date of Issue	09/10/2021
Prepared By	Shenzhen CTI International Certification Co., Ltd
Contact	Address: F8-A CTI Building, No.4 LiuXianSan Road, Xin'an Street, Bao'an District, 518101, Shen Zhen, China Tel: +86 10 65580012 Email: linshunrong@cti-cert.com Website: http://www.cti-cert.org
Approved By	Zhou Lu 
Work Carried Out By	Team Leader: Wang Guolian Technical Reviewer: Lin Shunrong

Summary:

Shenzhen CTI International Certification Co., Ltd (CTI) has performed the verification of the emission reductions reported for the project activity "Ningxia Xiangshan Wind Farm Project" (VCS Project ID: 1867) for the monitoring period 01/01/2021 to 30/09/2021, 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.

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 no CAR, CL or FAR in this monitoring period.

In CTI's opinion, the GHG emission reductions reported for the project in the monitoring report (version 01.1 dated 08/10/2021) are fairly stated. The GHG emission reductions were calculated correctly on the basis of approved methodology ACM0002 "Consolidated methodology for grid-connected electricity generation from renewable sources" (Version 19.0) and the monitoring plan contained in the registered Joint PD & MR version 2.0 dated 07/04/2019.

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 "Ningxia Xiangshan Wind Farm Project" during the period amount to 581,127 tCO_2e.

CONTENTS

1 INTRODUCTION

Beijing Ruifang Information Technology Co., Ltd has commissioned Shenzhen CTI International Certification Co., Ltd (CTI) to carry out the verification and certification of emission reductions reported for the "Ningxia Xiangshan Wind Farm Project" (the project) for the period 01/01/2021 to 30/09/2021. 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 "Ningxia Xiangshan Wind Farm Project" for the period 01/01/2021 to 30/09/2021.

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) /18/;
- VCS Standard (version 4.1) /17/ and other relevant requirements defined by Verra;
- The approved methodology ACM0002 (Version 19.0) /24/ 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) /18/, the project is applicable under the following activity categories:

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

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

Project Background

Project title:	Ningxia Xiangshan Wind Farm Project
Project proponent:	Ningxia Zhongwei Aluminum New Energy Co., Ltd (China)
Project location:	Zhongwei City, Ningxia Hui Autonomous Region, People's Republic of China
VCS Project ID:	1867
Applied methodology:	ACM0002 (Version 19.0)
VCS project crediting period:	15/04/2017 to 14/04/2027
VCU verification period:	01/01/2021 to 30/09/2021

2 VERIFICATION PROCESS

2.1 Method and Criteria

The verification was performed through means of the following three phases in accordance with the requirement of the registered Joint PD & MR, 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	Wang Guolian	1.2, 3.1, 4.1, 5.1, 5.2, 11.1, 11.2, 12	☒ DR ☒ SV ☒ RP ☐ TR
Technical Reviewer	Lin Shunrong	1.2, 14.1, 15	☒ DR ☐ SV ☐ RP ☒ TR

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

In addition to the VER/VCU monitoring report /1/, Joint PD & MR version 2.0 dated 07/04/2019 /10/, emission reduction calculation spreadsheet /2/, the following documents also were assessed as a part of the verification audit:

- Joint Validation & Verification Report /14/;
- Verification Report of 2nd and 3rd monitoring period /9/;
- Baseline and monitoring methodology ACM0002 applied by the project /24/;
- Relevant decisions, clarifications and guidance from the VERRA /17/-/23/; 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 08/10/2021, CTI visited Ningxia Zhongwei Aluminum New Energy Co., Ltd. performed on-site assessment. The key personnel of the project were interviewed or assisted the verification team /25/. 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 /25/ are summarized in the table below:

Interviewed personnel	Role	Organization	Subject
Mr. Zhang Xin	Duty Director	Ningxia Zhongwei Aluminum New 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; Data collection and ER calculation.
Mr. Lv Fengqi	Staff	Ningxia Zhongwei Aluminum New Energy Co., Ltd	
Mr. Li Gang	Staff	Ningxia Zhongwei Aluminum New Energy Co., Ltd	
Mr. Zhang Lin	Staff	Ningxia Zhongwei Aluminum New Energy Co., Ltd	
Ms. Liu Ting	Staff	Ningxia Zhongwei Aluminum New Energy Co., Ltd	
Mr. Tian Yuangui	Staff	Local DRC	Environmental impact of the project activity.
Mr. Zhong Aiguo	Staff	Local EPB	
Mr. Li Xia	Villager	/	
Mr. Sun Zhiguang	Villager	/	
Ms. Li Pingping	Villager	/	

Mr. Wang Feng	Villager	/	
Ms. Guo Guangcui	Villager	/	
Ms. Jia Min	Villager	/	
Mr. Cheng Feng	Villager	/	
Mr. Yan Fei	Villager	/	

2.4 Site Inspections

The verification team performed the on-site verification (southwest of Zhongwei City, Ningxia Hui Autonomous Region, People's Republic of China) on 08/10/2021. 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 VCS PD for the project activity;
- A review of information flows for generating, aggregating and reporting the monitoring parameters; and
- Interviews with relevant personnel to determine whether the operational and data collection procedures are implemented in accordance with the monitoring plan in the 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 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 Ningxia Zhongwei Aluminum New 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 19.0), 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 no CAR or CL in this monitoring period.

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 /14/, and no FAR was raised during this verification.

2.6 Eligibility for Validation Activities

The project was validated by LGAI Technological Center S.A. (Applus+ Certification) on 08/04/2019 against Voluntary Carbon Standard version 3 during the joint validation and first periodic verification /14/. The proposed monitoring period 01/01/2021 to 30/09/2021 is 4th verification, and CTI just undertook verification activities for the project according to the VCS Program Guide (version 4.0). This section is thus not applicable.

3 VALIDATION FINDINGS

3.1 Participation under Other GHG Programs

The project was validated by LGAI Technological Center S.A. (Applus+ Certification) on 08/04/2019 against VCS Standard version 3.7 during the joint validation and first periodic verification/14/, and CTI

only performed verification activities on the proposed monitoring period for the project according to the VCS Program Guide.

3.2 Methodology Deviations

The validation process /14/ has assessed all factors and issues that constitute the basis for emission reductions from the project according to the applicable CDM methodology ACM0002 (Version 19.0) /24/. There was not any methodology deviation applied to this project. Details refer to section 4.1.

3.3 Project Description Deviations

There were not project description deviations identified by CTI to this monitoring period. 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 monitoring plan included in registered Joint PD & MR (version 2.0 dated 07/04/2019) /10/. 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 "Ningxia Xiangshan Wind Farm Project" for the period 01/01/2021 to 30/09/2021.

4.1 Project Implementation Status

Project Implementation in accordance with the registered project design document

The project is a wind power plant and locates at southwest of Zhongwei City, Ningxia Hui Autonomous Region, People's Republic of China. The project installed 265 wind turbines, each with a capacity of 1.5 MW. The total installed capacity of the project activity is 397.5 MW. The actual implementation of the project during this verification 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 Joint PD & MR. The project started construction on 01/11/2016, and starts commercial operation on 15/04/2017 and full operation on 20/07/2017 /14/. The electricity generated by the project activity was supplied to the Northwest Power Grid (NWPG), which can be confirmed by the Power Purchase Agreement (PPA) signed between Ningxia Zhongwei Aluminum New Energy Co., Ltd. and State Grid Ningxia Electric Power

Co., Ltd. /3/.

The project start date was identified as 15/04/2017 when the project started to operate and began generating GHG emission reductions. According to VCS Standard 3.0, the project crediting period under VCS Version 03 shall be deemed as 10 years and commences at the specific project crediting period start date. The project was validated by LGAI Technological Center S.A. (Applus+ Certification) on 08/04/2019 against VCS Standard version 3.7 and the starting date of the crediting period was chosen by the project proponent as 15/04/2017. Hence, the crediting period of the project is from 15/04/2017 to 14/04/2027. The same has been justified in the Joint Validation & Verification Report /14/ and verification report of 2nd monitoring period /9/. The selected monitoring period 01/01/2021 to 30/09/2021 is the 2nd monitoring period of the project, which is within the crediting period 15/04/2017 to 14/04/2027.

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

On-site training for the related procedures including monitoring, recording and reporting was verified to be in place /5/ and their implementation was confirmed by interview with the key operators /25/ and observing the operation.

As part of the site visit, CTI confirms that the project implementation is in accordance with the project description contained in registered Joint PD & MR (version 2.0 dated 07/04/2019) and monitoring plan. 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 Joint PD & MR (version 2.0 dated 07/04/2019) and monitoring plan.

Compliance of monitoring plan with monitoring methodology

CTI is able to confirm that the monitoring plan in registered Joint PD & MR (version 2.0 dated 07/04/2019) is in accordance with the approved methodology applied by the project activity, i.e. ACM0002 (Version 19.0).

Compliance of monitoring with the monitoring plan

The monitoring has been carried out in accordance with the monitoring plan contained in registered Joint PD & MR (version 2.0 dated 07/04/2019). 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 19.0) 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 in further verified in the following sections.

Parameters monitored

According to registered Joint PD & MR (version 2.0 dated 07/04/2019), there is only one monitoring parameter of the project activity:

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

Electricity generated by this project is transmitted to 110kV on-site substation by 35kV transmission lines and then sent to the Ningxia power grid, which is part of the Northwest Power Gid (NWPG). Finally the electricity is supplied to the Northeast Power Grid (NWPG) of China.

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

$EG_{facility,y} = EG_{export,y} - EG_{import,y}$

$EG_{export,y}$ is electricity exported to the grid by the project;

$EG_{import,y}$ is electricity imported to the project activity by the grid.

For $EG_{export,y}$ and $EG_{import,y}$ are sourced from Meter Reading Records (MRRs) /7/ issued by the project developer, and Electricity Transaction Notes (ETNs) /8/ issued by power grid company covering monitoring period.

For $EG_{export,y}$

4 bidirectional electricity meters (2 main meters and 2 backup meters) installed on the transform substation was measured continuously, recorded monthly and archived electronically. At 24:00 hr of last day of each month, the staff from project developer and power grid company will record electricity meter's readings and form Monthly Reading Records (MRRs) /7/. The staff from power grid company will then transcribes the data into Electricity Transaction Notes (ETNs) /8/, then after the confirmation of the project developer for the ETNs, the project developer will issue the invoice.

For $EG_{import,y}$

4 bidirectional electricity meters (2 main meters and 2 backup meters) installed on the transform substation was measured continuously, recorded monthly and archived electronically. At 24:00 hr of last day of each month, the staff from project developer and power grid company will record electricity meter's readings and form Monthly Reading Records (MRRs) /7/. The staff from power grid company will then transcribes the data into Electricity Transaction Notes (ETNs) /8/, then after the confirmation of the project developer for the ETNs, the power grid company will issue the invoice.

As described above, the meters have been installed in accordance with the MP of Joint PD & MR. 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 ETNs, and the conservative values from electricity export and import were applied to calculate the net electricity supplied to the grid by the project. The data reported in the monitoring report and ERs calculation spreadsheet has been verified by the verification team. Supporting references and data required to determine the net electricity supplied to the grid by the project is found to be complete and transparent.

Monitoring equipment and calibration

The meters 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.

Meter	Serial Number	Type	Accuracy Class	Calibration Frequency	Calibration Date	Validity	Calibration Entity
M522 (main meter)	080002009870	DSSD8848	0.2s	Annually	23/03/2020	22/03/2021	Measurement Center of State Grid Ningxia Electric Power Co., Ltd /11//12/
					19/03/2021	18/03/2022	
M523 (backup meter)	080002009875	DSSD8848	0.2s	Annually	23/03/2020	22/03/2021	
					19/03/2021	18/03/2022	
M533 (main meter)	080002009822	DSSD8848	0.2s	Annually	23/03/2020	22/03/2021	
					19/03/2021	18/03/2022	
M534 (backup meter)	080002009872	DSSD8848	0.2s	Annually	23/03/2020	22/03/2021	
					19/03/2021	18/03/2022	

Calibration records and accreditation certificates /12/ have been verified by the verification team. In the registered Joint PD & MR, the accuracy of meters are 0.2s. By checking the industrial metering configuration standard "Technical Administrative Code of Electric Energy Metering (DL/T 448-2016)" /13/, CTI can confirm that the accuracy level of all meters meet the requirement stipulated in this standard. CTI can thus confirm that the accuracy of the meters is in line with the monitoring plan of the registered Joint PD & MR and relevant industry standard.

In the registered Joint PD & MR, it stated that the meters will be calibrated and checked periodically for accuracy. By checking the calibration reports, CTI found the calibration frequency of these meters is annual, which is in line with the calibrating standard "Technical Administrative Code of Electric Energy Metering (DL/T 448-2016)" /13/. Hence, CTI can confirm that the meters' calibration frequency is in line with the monitoring plan of the registered Joint PD & MR and relevant industry standard, and the calibrations of meters are verified to be valid for the whole reporting period.

Data management and control

Ningxia Zhongwei Aluminum New 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 /25/ 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.

The emission reduction resulted from the project during this monitoring period would apply for VCUs. There are no other forms of environmental credits applied or issued for the project activity. Therefore, the project has not been participated or been rejected under any other GHG programs since validation or previous verification.

By checking registered Joint PD & MR, 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, constructing roads in order that the agriculture and other products in local area could be transported from mountains of Xiangshan to city; which promotes sustained, inclusive and sustainable economic growth, full and productive employment and decent work for local residents.

With the help of the road, which was constructed due to the proposed project, agriculture and other products could be transported from the mountains of Xiangshan to city by Local farmers. It can reduce poverty, providing opportunities for the expansion of related industrial branches and factories manufactuing , which is very important to Ningxia, a poverty-stricken region energy resources of Northwest Power Grid.

To construct such a large-scale wind power plant, the project owner spends a lot to purchase wind turbines and other auxiliary equipment such as transformers and distributed control system etc. The huge investment provides an opportunity for the expansion of related industrial branches and factories, hence stimulates the growth of wind power industry and development of wind power technology in China.

- **SDG 1**: by checking the HR records, CTI confirmed that 65 employment opportunities were created by the project owner during this monitoring period for operation and maintenance of the project activity. The salary of those employed staffs is higher than the China's poverty line.

- **SDG 4**: by checking the training records, CTI confirmed that trainings in relation with safe production, operation, maintenance and management of the wind plant were provided to those employed staffs every year.

The technical parameters have been verified with the nameplates /15/ as below:

Wind turbine	
Rated capacity	1,500kW
Impeller diameter	82~89m
Wheel hub height	70m
Cut-in wind speed	3.0m/s
Rated wind speed	10.5m/s
Cut-out wind speed	25m/s
Max design wind speed	52.5m/s
Rated voltage	690kV
Manufacturer	Dongfang Electric Corporation Dongfang Turbine Co., Ltd

The verification team confirmed that there is no proposed or actual change to the joint PD & MR 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 the registered Joint PD & MR, 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 Xiangshan County in Nov 2016 and Nov 2017. 150 questionnaires were released. In addition, 40 people is interviewed including local residents, builders and members of the local authorities. The project developer 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.

By checking grievance books and interview with local stakeholders during on-site visit, the verification team confirmed that on-going communications with Local stakeholders was being carried out by the project owner during this monitoring period and no negative comments received for the project.

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

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

The baseline reductions are determined as multiplying Quantity of net electricity generation supplied by the Project to the grid ($EG_{facility,y}$) by the validated ex-ante fixed grid emission factor ($EF_{grid,CM,y}$):

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

- **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 registered Joint PD & MR (version 2.0 dated 07/04/2019) as 0.7674 tCO_2e/MWh.

- **Quantity of net electricity generation supplied by the Project to the grid in year y ($EG_{facility,y}$)**

$EG_{facility,y}$ is the quantity of net electricity generation supplied by the project plant/unit to the grid in year y, which is calculated by following formula:

$EG_{facility,y} = EG_{export,y} - EG_{import,y}$

$EG_{export,y}$ is electricity exported to the grid by the project which is determined by readings of main meter 522 and 533. $EG_{import,y}$ is electricity imported to the project activity by the grid which is determined by the readings of main meter 522 and 533. Data in the ETNs were used to cross-checked with that in the Monthly Reading Records (MRRs). The most conservative values have been applied to calculate the electricity exported to and imported from the grid by the project.

Electricity exported to the grid by the project (MWh):

Period	EG_{export}				
	A (main meter 522)	B (main meter 533)	C = A+B	D (ETNs)	MIN (C,D)
01/01/2021-31/01/2021	39,331.488	41,449.884	80,781.372	80,781.372	80,781.372
01/02/2021-28/02/2021	44,803.122	43,901.550	88,704.672	88,704.672	88,704.672
01/03/2021-31/03/2021	48,812.876	45,715.376	94,528.252	94,528.252	94,528.252
01/04/2021-30/04/2021	42,327.726	46,674.978	89,002.704	89,002.704	89,002.704
01/05/2021-31/05/2021	42,596.148	45,153.878	87,750.026	87,750.026	87,750.026
01/06/2021-30/06/2021	39,443.964	42,407.596	81,851.560	81,851.560	81,851.560
01/07/2021-31/07/2021	42,064.946	38,162.166	80,227.112	80,227.112	80,227.112
01/08/2021-31/08/2021	40,241.264	40,324.060	80,565.324	80,565.324	80,565.324
01/09/2021-30/09/2021	38,272.024	39,057.858	77,329.882	77,329.882	77,329.882
Total	**377,893.558**	**382,847.346**	**760,740.904**	**760,740.904**	**760,740.904**

Electricity imported to the project activity by the grid (MWh):

Period	EG_{import}				
	A (main meter 522)	B (main meter 533)	C=A+B	D (ETNs)	MAX (C,D)
01/01/2021-31/01/2021	172.144	230.692	402.836	402.836	402.836
01/02/2021-28/02/2021	189.63	143.948	333.578	333.578	333.578
01/03/2021-31/03/2021	147.602	206.738	354.340	354.340	354.340
01/04/2021-30/04/2021	197.498	224.434	421.932	421.932	421.932
01/05/2021-31/05/2021	193.746	235.018	428.764	428.764	428.764

01/06/2021-30/06/2021	143.43	176.96	320.390	320.390	320.390
01/07/2021-31/07/2021	218.946	219.352	438.298	438.298	438.298
01/08/2021-31/08/2021	153.412	233.128	386.540	386.540	386.540
01/09/2021-30/09/2021	153.09	228.48	381.570	381.570	381.570
Total	**1,569.498**	**1898.75**	**3,468.248**	**3,468.248**	**3,468.248**

Hence, the quantity of the net electricity supplied to the grid from the project EG during the monitoring period was calculated conservatively as:

$EG_{facility,y} = EG_{export,y} - EG_{import,y} = 760,740.904 - 3,468.248 = 757,272.656$ MWh

And the corresponding baseline emission reductions are calcualted as:

$BE_y = EG_{facility,y} \times EF_{grid,CM,y} = 757,272.656 \times 0.7674 = 581,127\ tCO_2e$

Project emissions

As statement in the registered PD & MR, for the wind power activities, the project emissions from the project are not considered. Hence, PE_y during the monitoring period from Ningxia Xiangshan Wind Farm Project is considered as zero.

Leakages

Leakage does not need to be accounted for this project as per the registered PD & MR.

Emission reductions

The emission reductions for this monitoring period was calculated as:

Monitoring period	GHG emission reductions or removals (tCO_2e)
01/01/2021 to 30/09/2021, i.e. 273 days	581,127
Total ERs claimed (in 273 days)	581,127

Comparison of actual emission reductions or net anthropogenic GHG removals by sinks with estimates in validated VCS PD

The emission reductions claimed are 581,127 tCO_2e in this monitoring period (i.e. 273 days). Compared with yearly expected emission reductions 544,491 tCO_2e (calculated as 727,982 tCO_2e/365 days*273 days) in the registered joint PD & MR, the reported emission reductions in this monitoring period are 6.73% higher than the expected, which is considered to be in the reasonable variation range. Moreover, when considering actual annual electricity generation in this monitoring period in the financial analysis, the IRR of the project is still under the benchmark /10/ /14/. 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 "Ningxia Xiangshan Wind Farm Project" in China (VCS Project ID: 1867) for the period 01/01/2021 to 30/09/2021.

The verification is based on the baseline and monitoring methodology ACM0002 (Version 19.0), the registeted PD & MR (version 2.0 dated 07/04/2019) and the monitoring report (version 01.1 dated 08/10/2021). 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 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 joint PD & MR;
- the monitoring plan in registered joint PD & MR is as per the applied methodology;
- the monitoring complies with the monitoring plan in the registered joint PD & MR;
- the monitoring report and other supporting documents provided are complete and verifiable and in accordance with the applicable VCS Version 4 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 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.

In CTI's opinion the GHG emissions reductions of the "Ningxia Xiangshan Wind Farm Project" for the period 01/01/2021 to 30/09/2021 are fairly stated in the monitoring report (version 01.1 dated 08/10/2021). The GHG emission reductions were calculated correctly on the basis of the approved methodology ACM0002 (Version 19.0) and the monitoring plan contained in the registered PD & MR (version 2.0 dated 07/04/2019).

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 01/01/2021 to 30/09/2021

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

Year	Baseline emissions or removals (tCO_2e)	Project emissions or removals (tCO_2e)	Leakage emissions (tCO_2e)	Net GHG emission reductions or removals (tCO_2e)
01/01/2021 - 30/09/2021	581,127	0	0	581,127
Total	581,127	0	0	581,127

Wang Guolian

Ms. Wang Guolian

Team Leader

09/10/2021

Shunrong Lin

Ms. Lin Shunrong

Technical Reviewer

09/10/2021

APPENDIX A: ABBREVIATIONS

CAR	Corrective Action Request
CER	Certified Emission Reduction(s)
CL	Clarification request
CO_2	Carbon Dioxide
CO_2e	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
NWPG	Northwest 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/ Beijing Cronus Technology Counsultancy Centre: VER/VCU Monitoring Report for Ningxia Xiangshan Wind Farm Project, version 01 dated 04/10/2021 and version 01.1 dated 08/10/2021.

/2/ Beijing Cronus Technology Counsultancy Centre: Emission reduction calculation spreadsheet for Ningxia Xiangshan Wind Farm Project.

/3/ Ningxia Zhongwei Aluminum New Energy Co., Ltd and State Grid Ningxia Electric Power Co., Ltd: Power Purchase Agreement for Ningxia Xiangshan Wind Farm Project.

/4/ Ningxia Zhongwei Aluminum New Energy Co., Ltd: VER monitoring manual and management procedure.

/5/ Ningxia Zhongwei Aluminum New Energy Co., Ltd: Records of training for on-site staff.

/6/ Ningxia Zhongwei Aluminum New Energy Co., Ltd: Operation log sheets, from 01/01/2021 to 30/09/2021.

/7/ Ningxia Zhongwei Aluminum New Energy Co., Ltd: Monthly reading records (MMRs) of electricity imported and exported by Ningxia Xiangshan Wind Farm Project from 01/01/2021 to 30/09/2021.

/8/ State Grid Ningxia Electric Power Co., Ltd: Monthly electricity transaction notes from 01/01/2021 to 30/09/2021.

/9/ Shenzhen CTI International Certification Co., Ltd: VCS Verification Report of 2nd monitoring period, version 01.0 dated 06/04/2021; VCS Verification Report of 3rd monitoring period, version 01.0 dated 06/04/2021.

/10/ Beijing Cronus Technology Consultancy Centre: Joint Project Description & Monitoring Report, version 2.0 dated 07/04/2019.

/11/ Ningxia Hui Autonomous Region Quality and Technical Supervision Bureau: Accreditation certificate of Measurement Center of State Grid Ningxia Electric Power Co., Ltd , issued on 28/01/2017, valid till 27/01/2022.

/12/ Measurement Center of State Grid Ningxia Electric Power Co., Ltd: Calibration certificates for meter 522, 523, 533 and 534 issued on 23/03/2020 and 19/03/2021.

/13/ State Economic and Trade Commission: Technical administrative code of electric energy

metering (DL/T 448-2016).

/14/ LGAI Technological Center S.A. (Applus Certification): Joint Validation & Verification Report, version 01.1, dated 08/04/2019.

/15/ Ningxia Zhongwei Aluminum New Energy Co., Ltd: nameplate of the equipment

/16/ Ningxia Zhongwei Aluminum New Energy Co., Ltd: HR records

Methodologies, tools and other guidance

/17/ Verified Carbon Standard: VCS Standard, version 4.1.

/18/ Verified Carbon Standard: VCS Program Guide, version 4.0.

/19/ Verified Carbon Standard: VCS Sectoral Scopes

/20/ Verified Carbon Standard: VCS Verification Representation, version 4.1.

/21/ Verified Carbon Standard: VCS Verification Report Template, version 4.0.

/22/ Verified Carbon Standard: VCS Monitoring Report Template, version 4.0.

/23/ Verified Carbon Standard: Registration and Issuance Process, version 4.0.

/24/ UNFCCC EB: Approved methodology, ACM0002, version 19.0

Persons interviewed

/25/ Mr. Zhang Xin, Duty Director, Ningxia Zhongwei Aluminum New Energy Co., Ltd

Mr. Lv Fengqi, staff, Ningxia Zhongwei Aluminum New Energy Co., Ltd

Mr. Li Gang, staff, Ningxia Zhongwei Aluminum New Energy Co., Ltd

Mr. Zhang Lin, staff, Ningxia Zhongwei Aluminum New Energy Co., Ltd

Ms. Liu Ting, staff, Ningxia Zhongwei Aluminum New Energy Co., Ltd

Mr. Tian Yuangui, Lcal DRC

Mr. Zhong Aiguo, Local EPB

Mr. Li Xia, villager

Mr. Sun Zhiguang, villager

Ms. Li Pingping, villager

Mr. Wang Feng, villager

Ms. Guo Guangcui, villager

Ms. Jia Min, villager

Mr. Cheng Feng, villager

Mr. Yan Fei, villager

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
NA	NA	NA	NA

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