



JINGYUAN COUNTY 100MW SOLAR POWER GENERATION PROJECT



Document Prepared By Shenzhen CTI International Certification Co., Ltd

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Prepared By	Shenzhen CTI International Certification Co., Ltd (CTI)
Contact	Shenzhen CTI International Certification Co., Ltd F8-A CTI Building, No.4 LiuXianSan Road, Xin'an Street Bao'an District, Shen Zhen 518101, P. R. China Phone: +86-10-65580012

	https://www.cti-cert.org/ Contact: Ms. Lin Shunrong Email: linshunrong@cti-cert.com
Approved By	Zhou Lu
Work Carried Out By	Feng Tian (TL& verifier) Lin Shunrong (TR)

Summary:

- **A brief description of the verification and the project**

The project activity developed in Zhongyuan Village, Ruoli Township, Jingyuan County, Baiyin City, Gansu Province, P. R. China, is a project that generate clean form of electricity through solar energy. The installed capacity of the project activity is 100 MW. The utilization of solar energy is for generation of power, the average annual power delivered to the grid by the project is expected to be 141,403.5 MWh. The Project can reduce GHG emissions by replacing the electricity generated by fossil fuel fired power plants in Northwest Power Grid (NWPG). The project started operation on 29-December-2014 and it was registered as a VCS project activity with the Ref. No. 1406.

- **The purpose and scope of verification**

The objective of the verification is to have an independent review ex-post determination by a VVB (Validation and Verification Body) of the monitored GHG emission reductions that have occurred as a result of the implementation of the project activity during a defined monitoring period.

- **The monitoring period**

This is the 3rd monitoring period started from 01-November-2020 to 31-December-2021.

- **The method and criteria used for verification**

Verification is conducted using Shenzhen CTI International Certification Co., Ltd procedures in line with the requirements specified in the latest version of the VCS Validation and Verification Manual and applying auditing techniques. The verification team assessed the project activity's compliance against the VCS Version 4.3, the selected CDM methodology and the project monitoring report. The project is eligible under Project Scope 1. Energy (renewable/non-renewable). The verification criteria followed the guidance documents provided by VCS included the following:

VCS Version 4.3, VCS Program Guide Version 4.2 and the applied CDM methodology "ACM0002. Grid-connected electricity generation from renewable sources" (Version 16.0).

- **The number of findings raised during verification**

In the course of the verification, 2 Corrective Action Requests (CARs), 2 Clarification Requests (CLs) were raised and successfully closed. The assessment is included in the report.

- **Any uncertainties associated with the verification**

There are no restrictions of uncertainty.

- **Summary of the verification conclusion**

Climate Bridge (Shanghai) Ltd. has commissioned the Shenzhen CTI International Certification Co., Ltd to carry out the Verified Carbon Standard (VCS) 3rd periodical verification of the project, "Jingyuan County 100MW Solar Power Generation Project" (No. 1406) with regard to the relevant requirements of VCS standard Version 4.3. CTI confirms all verification activities including objectives, scope and criteria, level of assurance, monitoring and monitoring report adhere to VCS Version 4.3 and all associated updated as documented in this report, are complete.

CTI concludes that the project activity "Jingyuan County 100MW Solar Power Generation Project" in China, as described in the final version of the Monitoring Report, meets all relevant requirements for VCS verification activity and correctly applied the methodology ACM0002. Version 16.0. Hence CTI is able to certify that the GHG emission reduction from the project during the monitoring period from 01-November-2020 to 31-December-2021 are claimed as amount to 147,771 tCO₂e VCUs.

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1. INTRODUCTION

1.1 Objective

Climate Bridge (Shanghai) Ltd. has commissioned the Shenzhen CTI International Certification Co., Ltd to carry out the Verified Carbon Standard (VCS) 3rd periodical verification of the project for the monitoring period from 01-November-2020 to 31-December-2021. The objective of verification is to have an independent review ex-post determination by a VVB of the monitored GHG emission reductions that have occurred as a result of the project activity implemented during a defined monitoring period. The evaluation is done against the requirements of the VCS Version 4.3 based on the monitoring report. In order to confirm that the GHG emission reductions sound reasonable and meet the identified criteria, the verification involves the assessment of monitoring plan conformance to VCS rules and applied methodology. Verification is requirement and is seen as necessary to provide assurance on the generation of VCUs.

1.2 Scope and Criteria

The scope of the verification is to verify that: (a) the actual monitoring system and procedures are in compliance with the monitoring systems and procedures described in the monitoring plan; (b) the GHG emission reductions data and express a conclusion with a reasonable level of assurance about whether the reported GHG emission reductions data are free from material misstatement; (c) the reported GHG emissions data is sufficiently supported by evidence. Verification shall ensure that the reported GHG emission reductions are complete and accurate in accordance with the applicable VCS criteria in order to be certified. Verification is conducted using CTI procedures in line with the requirements specified in the VCS Program and ISO14064-3 requirements and applying auditing techniques. Verification team assessed and determines that the implementation and operation of the project activity, and steps to report GHG emission reductions comply with the VCS rules. The verification involved a document review of relevant documentation and interview with the project participants. Verification is not meant to provide any consultancy towards the project participants; however, stated request for clarifications and/or corrective actions may have provided input for improvement of the monitoring.

1.3 Level of Assurance

All GHG sinks, sources and GHG emissions equal to or greater than 5% of the total GHG assertions are considered. The project is expected to generate average of 128,589 VCUs per year, and therefore can be considered as a project per the VCS rules, in regards to its scale, subject to a 5% materiality threshold.

The assessment was conducted to provide a reasonable level of assurance of compliance against the defined audit criteria and materiality threshold within the audit scope. Based on the audit findings the verification statement reasonably assures that the GHG assertion is materially correct and is a fair representation of the GHG data and information.

1.4 Summary Description of the Project

The project is implemented by Gansu Deyou Energy Technology Co., Ltd., the main purpose of this project activity is to generate clean form of electricity through renewable solar energy. The installed capacity of the project activity is 100 MW, consisting of 48 sets of power generation units (sub-systems), 45 of them is about 2 MW and each one is equipped with 4 inverters, the rest 3 sub-systems is about 1 MW and each one is equipped with 2 inverters. The utilization of solar energy is for generation of electricity power, the average annual power delivered to the grid by the project is expected to be 141,403.5 MWh. The Project can reduce GHG emissions by replacing the electricity generated by fossil fuel fired power plants in Northwest Power Grid (NWPg). It's estimated that the project activity could achieve GHG emission reductions of 128,589 tCO₂e annually. The project activity is installed in Zhongyuan Village, Ruoli Township, Jingyuan County, Baiyin City, Gansu Province, People's Republic of China.

The project activity generates GHG emission reductions by generate clean form of electricity through renewable solar energy, in the 3rd monitoring period from 01-November-2020 to 31-December-2021, the total verified carbon units (VCUs) achieved in the monitoring period are 147,771 tCO₂e, which has been verified by on-site inspection, and checking the related documentations, interview with the project implementer.

The project activity generates GHG emission reductions by replacing the electricity generated by fossil fuel fired power plants Northwest Power Grid (NWPg). Thus the project generates GHG emission reductions and produces financial, social and environmental benefits. The project has resulted in the local sustainable development as described in Section 1 of the Monitoring Report. The project was registered as a VCS project activity with the Ref. No. 1406/33/ and the 147,771 tCO₂e of emission reductions have been certified as claimed verified carbon units (VCUs) for this monitoring period.

2. VERIFICATION PROCESS

2.1 Method and Criteria

A project specific Verification and monitoring plan was developed to guide the verification auditing process to ensure efficiency and effectiveness. The purpose of the verification is to present a risk assessment for determining the nature and extent of validation procedures necessary to ensure the risk of auditing error is reduced to a reasonable level. According to the ISO14064-3, the criteria are the policy, procedure or requirement used as reference against which evidence is compared. Therefore, verification of the monitoring plan and the reported project results were measured for compliance against the following criteria:

- VCS Standard, v4.3/26/
- VCS Program Guide, v4.2/25/
- VCS Program Definitions, v4.2/24/
- CDM methodology ACM0002 "Grid-connected electricity generation from renewable sources" (Version 16.0)/21/

The verification process derived from all items in the verification criteria stated above. Field sampling and techniques based on the project parameters, scope and best professional judgement of the verification team in order to meet a reasonable level of assurance. The verification method of the project consisted of the following steps:

- Contract review
- Appointment of team members and technical reviewers
- A desk review of the VCS Monitoring Report/1/ submitted by the client and additional supporting documents with the use of customized verification documents checklist
- Verification planning
- On-Site assessment
- Background investigation and follow-up interviews with personnel of the project developer and related farmers, technicians
- Draft verification reporting
- Resolution of Corrective Action Requests (CARs) and Clarification Requests (CLs)
- Final verification reporting
- Technical review
- Final approval of the verification.

The verification process derived from all items in the verification criteria stated above. Field sampling and techniques based on the project parameters, scope and best professional judgement of the verification team in order to meet a reasonable level of assurance.

2.2 Document Review

The VCS MR/1/ and supporting background documents related to the project implementation were reviewed. Document review was conducted to ensure consistency with and identify any deviation from VCS program requirements. Desk review included an examination of the project details, data and parameters, and quantification of GHG emission reductions.

Furthermore, the verification team used additional documentation by third parties like host party legislation, technical reports referring to the monitoring or to the basic conditions and technical data.

The references used in the course of this verification are summarized in Appendix 3.

The verification was performed basing on the documents check and site inspection/measurements, refer to the section 4 of this report for the verification process detail and corresponding documents review.

2.3 Interviews

The objective of the interview process was to solicit important information from personnel related to project and relevant to the verification process. Onsite interviews and information discussions were conducted with representatives from project implementer, operation staffs, local officers, residents and Project VCS development consultant. The interviews were performed by the verification team on-site (within the project area, in Zhongyuan Village, Ruoli Township, Jingyuan County, Baiyin City, Gansu Province, P. R. China) and the following is a list of the main interviewees and subject.

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Wang	Mingbo	Gansu Deyou Energy Technology Co., Ltd /plant chief	27-July-2022	- Chronological description of the project activity with documents of key steps of the implementation.	Li Ziqi
2.	Zhang	Xuanzhong	Gansu Deyou Energy Technology Co., Ltd /plant duty chief	27-July-2022	- Technical details of the project realization, designing, operational life time - ER calculation	
3.	Gao	Binggui	Gansu Deyou Energy Technology Co., Ltd /Director of Maintenance Department	27-July-2022	- Monitoring system and arrangements - Monitoring device - Calibration - QA/QC - Ownership	
4.	Wang	Xiaowen	Gansu Deyou Energy Technology Co., Ltd /Operation staff	27-July-2022	- local stakeholder consultation - Training	
5.	Jin	Xiangzhao	Gansu Deyou Energy Technology Co., Ltd /Operation staff	27-July-2022		
6.	Li	Haihui	Baiyin City Ecological	27-July-2022	- Local rules and regulations - Stakeholder comments	

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
			Environment Bureau /Officer		- Environmental aspects	
7.	Liu	Zhancong	Local resident	27-July-2022	- Stakeholder comments - Environmental aspects	
8.	Hu	Guangsheng		27-July-2022		
9.	Liu	Mengde	Gansu Heihe Electric Power Sales Co., Ltd./Project Manager	27-July-2022		

2.4 Site Inspections

The verification site inspection was conducted on 27-July-2022. A ground inspection of the project was conducted during the site visit and the verification team interviewed representatives from project implementer, operation staffs, local officers, residents and Project VCS development consultant

During the site inspection, the project location, main equipment, monitoring equipment and project implementation were inspected and document evidence were checked, details as following table,

Duration of on-site inspection: 27-July-2022				
No.	Activity performed on-site	Site location	Date	Team member
1.	Opening meeting Interview with representatives from PP	Conference room in Baiyin City, Gansu Province, P.R. China	27-July-2022	Feng Tian
2	On-site inspection of project	Project Area in Zhongyuan Village, Ruoli Township, Jingyuan County, Baiyin City, Gansu Province, P.R. China	27-July-2022	Feng Tian
3	Documents check	Project Area in Zhongyuan Village, Ruoli Township, Jingyuan County, Baiyin City, Gansu Province, P.R. China	27-July-2022	Feng Tian
4	Finding Summary	Project Area in Zhongyuan Village, Ruoli Township, Jingyuan County, Baiyin City, Gansu Province, P.R. China	27-July-2022	Feng Tian
5	Close Meeting	Project Area in Zhongyuan Village, Ruoli Township, Jingyuan County, Baiyin City, Gansu Province, P.R. China	27-July-2022	Feng Tian

2.5 Resolution of Findings

Material discrepancies identified in the course of the validation are addressed either as CARs, CLs or FARs.

A Corrective Action Request (CAR) is established where:

The project participants have made mistakes that will influence the ability of the project activity to achieve real, measurable additional emission reductions;

The VCS Version 4.3 requirements have not been met;

There is a risk that the emission reductions cannot be monitored or calculated.

A Clarification Request (CL) will be issued where information is insufficient, unclear or not transparent enough to establish whether a requirement is met.

A Forward Action Request (FAR) will be issued when certain issues related to project implementation should be reviewed during the first verification.

A detailed list of the CARs CLs and FAR raised and discussed in the course of this verification is included in Appendix 4 of this report.

In the course of the verification, 2 Corrective Action Requests (CARs), 2 Clarification Requests (CLs) were raised and successfully closed. The assessment is included in Appendix 4 of the report.

2.5.1 Forward Action Requests

This is the 3rd periodical verification, and there is no FAR raised in the 1st and 2nd periodical verification report/5/ and validation report/4/.

2.6 Eligibility for Validation Activities

The VVB Shenzhen CTI International Certification Co., Ltd holds accreditation for both validation and verification for the relevant sectoral scope 1.

3. VALIDATION FINDINGS

3.1 Participation under Other GHG Programs

The project only sought the registration with the VCS Program and validation was conducted by VVB and has been successfully registered in VCS Program with the Ref. No. 1406/33/.

The project proponent is not part of any emission trading program which has been confirmed via checking the UNFCCC/32/, GS/30/, VCS/33/ and other GHG schemes' website. The net GHG emission reductions during this monitoring period from the project was not used for compliance with emission trading programs or to meet binding limits on GHG emissions. The project activity has not participated under any other GHG programs which has been confirmed via checking the UNFCCC/32/, GS/30/, VCS/33/ and other GHG schemes' website, it is verified that the implementation of the project is consistent with the description in the PD and the monitoring system is fully functional to generate Verified Carbon Units (VCUs) without any double counting for this monitoring period from 01-November-2020 to 31-December-2021 which has been confirmed by checking the Declaration of no double counting and not involved in other GHG scheme/13/.

Besides, based on VVB's local expertise, China has a national emissions trading scheme only cover the high-emission industries, such as power generation sector that emitted at least 26,000 tons of CO₂e/year which has been verified in the public website/34/, and it is confirmed that the project activity is not included the mandatory emission control scheme and there is no emission cap enforced for the project owner by checking the enforced company list in public information/35/. Hence, it is confirmed that the project is only participated in VCS program/33/ and emission reductions will not be double counted.

3.2 Methodology Deviations

There is no methodology deviation applied to this monitoring period.

3.3 Project Description Deviations

There is no project description deviation applied to this monitoring period.

3.4 Grouped Project

This section is not applicable as the project is not a grouped project.

4. VERIFICATION FINDINGS

4.1 Project Implementation Status

Through the onsite visit, interviewing the project developer and reviewing the project operation, it was confirmed that the project was implemented to generate clean form of electricity through renewable solar energy. The installed capacity of the project activity is 100 MW, consisting of 48 sets of power generation units (sub-systems), 45 of them is about 2 MW and each one is equipped with 4 inverters, the rest 3 sub-systems is about 1 MW and each one is equipped with 2 inverters. The utilization of solar energy is for generation of power, the average annual power delivered to the grid by the project is expected to be 141,403.5 MWh. The Project can reduce GHG emissions by replacing the electricity generated by fossil fuel fired power plants in Northwest Power Grid (NWPB). It's estimated that the project activity could achieve GHG emission reductions of 128,589 tCO₂e annually. Via checking the MR/1/ and by site inspection, CTI verified that there are no changes on the key equipment and technology since the last verification of the project.

On the basis of site visit and the reviewed project monitoring report and other supporting docs, it can be confirmed that w.r.t. the realized technology, as well as the monitoring and metering equipment, the project has been implemented and operated as applied methodology/21/ and monitoring plan described in the registered PD/3/.

This verification covers the period from 01-November-2020 to 31-December-2021 (including both days). The project activity generates GHG emission reductions by generate clean form of electricity through renewable solar energy, in the 3rd monitoring period from 01-November-2020 to 31-December-2021, the total verified carbon units (VCUs) achieved in the monitoring period are 147,771 tCO₂e, which has been verified by on-site inspection, and checking the related documentations, interview with the project implementer.

The project started operation on 29-December-2014 which are verified by site visit checking the operation log/18/ against the previous periodical verification reports/5/ and it was registered as a VCS project and allocated with VCS ID 1406/33/.

The project has neither been registered and rejected nor seeking registration under any other GHG programs which has been confirmed via checking the UNFCCC/32/, GS/30/, VCS/33/ and other GHG schemes' website. It is verified that the project is seeking registration only in VCS program/33/.

The project activity is not part of any emission trading program which has been confirmed via checking the UNFCCC/32/, GS/30/, VCS/33/ and other GHG schemes' website. The net GHG emission reductions during this monitoring period from the project was not used for compliance with emission trading programs or to meet binding limits on GHG emissions. The project activity has not participated under any other GHG programs which has been confirmed via checking the UNFCCC/32/, GS/30/, VCS/33/ and other GHG schemes' website.

Besides, based on VVB's local expertise, China has a national emissions trading scheme only cover the high-emission industries, such as power generation sector that emitted at least 26,000 tons of CO₂e/year which has been verified in the public website/34/, and it is confirmed that the project activity is not included the mandatory emission control scheme and there is no emission cap enforced for the project owner by

checking the enforced company list in public information/35/. Hence, it is confirmed that the emission reductions without any double counting for this monitoring period from 01-November-2020 to 31-December-2021 which has been confirmed by checking the Declaration of no double counting and not involved in other GHG scheme/15/.

The project was registered as a VCS project activity with the VCS Ref. No. 1406/33/, with 1st 10 years crediting period started from 29-December-2014 to 28-December-2024 under VCS Program.

The project completed validation before 19-March-2020, hence the project is eligible to apply the crediting period requirements under VCS Version 3 which is in line with the Appendix 3 of VCS standard version 4.3, which means that the project can use maximum of ten years and renewed at most twice, i.e. total maximum of 30 years' crediting period, while due to the project has lifetime of 25 years, then the total VCS crediting period was determined as 29-December-2014 to 28-December-2039.

This monitoring period (01-November-2020 to 31-December-2021) is the 3rd monitoring period under VCS scheme.

Details of the project location are given in table 4-1 below:

Table 4-1: Project Location

No.	Project Location
Host Country	China
Region:	Gansu Province
Project location address:	Zhongyuan Village, Ruoli Township, Jingyuan County, Baiyin City
Latitude:	36° 59'0.15"N - 36° 59'42.46"N
Longitude:	105° 7'45.21"E - 105° 9'35.54"E

The location of the project site is verified with on-site investigation by GPS devices and confirmed by checking the map/29/.

Details of the project equipment technical parameters are given in table 4-2 below:

Table 4-2 Project equipment technical parameters

Photovoltaic Modules (Polysilicon)							
Manufacturer	Trina Solar Co., Ltd.		Hareon Solar Co., Ltd.		JA Solar Co., Ltd.		
Type	TSM-255PC05A	TSM-265PC05A	HR-255P-18/Bb	HR-260P-18/Bb	JAP6-60-255/3BB	JAP6-60-260/3BB	JAP6-60-265/3BB
Quantity	36,608	16,500	220,892	64,522	31,988	35,420	8,580
Rated maximum power (P _{max})	255 W	265 W	255 W	260 W	255 W	260 W	265W
Maximum power voltage (V _{mp})	30.5 V	31.0 V	30.25 V	30.51 V	30.29 V	30.63 V	30.96 V
Maximum power current (I _{mp})	8.37 A	8.55 A	8.43 A	8.52 A	8.42 A	8.49 A	8.56 A
Open circuit voltage	38.1 V	38.4 V	37.54 V	37.65 V	37.82 V	37.98 V	38.14 V

(V _{oc})							
Short circuit current (I _{sc})	8.88 A	9.10 A	8.94 A	9.09 A	8.98 A	9.04 A	9.10 A
Lifetime	25 years	25 years	25 years	25 years	25 years	25 years	25 years
Inverter							
Manufacturer	Power-One Italy S.p.a						
Type	PVI-500.0-TL-CN			PVI-500.0-TL-CN			
Quantity	140			46			
Max input Voltage (V _{dc max})	1000 V			900 V			
Max total input current (I _{dc max})	1100 A			1100 A			
Max Continuous Output power (P _{acr})	470-560 kW			500 kW			
Rated output voltage (V _{acr})	300-360 V			320 V			
Max output current for each phase (I _{ac max})	900 A			900 A (rms)			
Lifetime	25 years			25 years			
Box transformer							
Manufacturer	Jiangsu Huapeng Transformer Co., Ltd.						
Type	ZGSF11-Z.G-1100/35		ZGSF11-Z.G-2250/35		ZGSF11-Z.G-2500/35		
Quantity	3		16		29		
Rated power	1100/550-550 kVA		2250/1125-1125 kVA		2500/1250-1250 kVA		
Rated voltage	38.5±2×2.5%/0.34-0.34 kV		38.5±2×2.5%/0.34-0.34 kV		38.5±2×2.5%/0.34-0.34 kV		
Rated current	16.5/933.9-933.9 A		33.7/1910.3-1910.3 A		37.5/2122.6-2122.6 A		
Rated frequency	50 Hz		50 Hz		50 Hz		
Lifetime	25 years		25 years		25 years		

Via site inspection of the main equipment and checking the nameplate of the equipment/20/, CTI verified that the technical parameters listed in above table are correct and actual and consistent with PD.

The approved consolidated methodology applied in the project activity is ACM0002 “Grid-connected electricity generation from renewable sources” (Version 16.0)/21/.

Via on-site inspection and interview with the project implementer, CTI verified that the project contributes the sustainable development goal through the following aspects:

- The project activity supplied renewable energy to the power grid (Goal 7 of UN SDG) – verified by interview with staffs and checking the meter reading records/8/ and monthly electricity sale receipts/9/, it is confirmed that 172,468.810 MWh of electricity from renewable sources has been supplied to the power grid during this monitoring period and totally accumulated 956,436.240 MWh of electricity from renewable sources has been supplied to the power grid since the project started operation, hence the contribution to this SDG has been confirmed and the provisions for monitoring and reporting this goal is verified as reasonable/;
- The project activity creates new job opportunities and contributing to local economic prosperity (Goal 8 of UN SDG) – verified by interview with staffs and checking the Employment Contracts/15/ and monthly payroll/16/, it is confirmed that 13 long-term job opportunities have been provided during this monitoring period and totally offers 13 long-term employment opportunities since the project started operation, hence the contribution to this SDG has been confirmed and the provisions for monitoring and reporting this goal is verified as reasonable;
- Sequester greenhouse gas and mitigate climate changes (Goal 13 of UN SDG) – verified by checking the Emission Reduction Calculation sheet/2/, CTI confirmed that the project achieved GHG emission reductions of 147,771 tCO₂e during the reporting period, and accumulated 819,471 tCO₂e of GHG emission reduction have been achieved since the project started operation, hence the contribution to this SDG has been confirmed and the provisions for monitoring and reporting this goal is verified as reasonable.

Via checking the validation report/4/ and previous verification report/5/, CTI verified that there were no any previously validated methodology and project description deviations.

In conclusion, Verification Team was able to confirm that the project implementation is in accordance with the project description contained in the registered PD/3/.

CAR 01 was raised and successfully closed. Refer to Appendix 4 for detail assessment.

4.2 Safeguards

4.2.1 No Net Harm

The analysis of the potential environmental and socio-economic impacts of the project activity is described in MR/1/. The assessment is as below,

The project activity promotes environmental and socio-economic well-being as it results in zero GHG emissions due to installation and operation of clean, renewable energy technology for electricity generation.

By checking Environmental Impact Assessment (EIA) Report/7/ for the project activity, the verification team confirm all environmental impacts has been analyzed and no net harm was detected.

Besides, 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 and vegetation and soil on-site thus no negative environmental and socio-economic impacts during this verification period.

Furthermore, via site inspection, CTI confirmed that the project using clean renewable solar energy to reduce greenhouse gas emissions and the environmental pollution. Meanwhile, the implementation of the

project improved local socio-economic development through creating career opportunities and supplied clean renewable energy which has been confirmed by site interview with local officer and residents.

4.2.2 Local Stakeholder Consultation

A stakeholder survey was carried out by the project developer during the project preparation stage which was prior to the start date of the construction has been verified by checking the PD/3/ and validation report/4/. The stakeholders' background information and comments from questionnaires were summarized and recorded in the PD/3/ and assessed in the validation report/4/. The concerned comments received during the project preparation stage, has been mitigated by project owner as verified by checking the PD/3/ and validation report/4/.

During the implementation stage of this monitoring period, via checking the local stakeholder communication survey questionnaires/13/ and interview with the local officer and local residents during site visit, it is confirmed that the project developer carried out questionnaire survey for the local stakeholders including representatives from government, local residents, staff of the project plant and other relevant stakeholders to collect the relevant comments and suggestions in March 2021 to collect any comments or inputs to the project implementation.

Via checking the filled 30 questionnaires/14/, interview with the local officer and local resident during site visit, it is verified that all of them expressed the project will benefit the local environment, economy and social development, some of them thought there is no significant impact on those, and no negative impact were raised by stakeholders.

Furthermore, communications with Local stakeholders are being carried out at periodic intervals. And via interview with the local officer, it is confirmed that the local authority has conducted spot checks on the implementation of the project from time to time as per the request from the local governments' regulations and it is found that there were no negative comments received for the project for this monitoring period.

Hence there is no need to change the project design based on the stakeholder inputs and CTI confirmed that all the processes have been implemented to receive comments from local stakeholders as well as communicate with them at periodic intervals which in compliance with the VCS requirements.

CL 01 and CL 02 were raised and successfully closed. Refer to Appendix 4 for detail assessment.

4.3 AFOLU-Specific Safeguards

N.A.

4.4 Accuracy of GHG Emission Reduction and Removal Calculations

4.4.1 Assessment of implementation Status of the Project Activity

In accordance with the registered PD/3/, there are total 48 sets of power generation units (sub-systems), 45 of them is about 2 MW and each one is equipped with 4 inverters, the rest 3 sub-systems is about 1 MW and each one is equipped with 2 inverters have been designed to be installed to utilize solar energy for power generation. The electricity generated by the project was transformed to 110kV by two main

transformers (1# and 2#) before connected to the Beitan 110kV Substation through the 110kV transmission line. Finally, the electricity generated by the Project is delivered to NWPG.

Via checking the MR/1/ and by site inspection, CTI verified that there are no changes on the key equipment and technology since the last periodical verification of the project.

On the basis of site visit and the reviewed project monitoring report and other supporting docs, it can be confirmed that the realized technology, as well as the monitoring and metering equipment, the project has been implemented and operated as applied methodology/21/ and monitoring plan described in the registered PD/3/. Neither emergencies (including of overhaul times, downtimes of equipment, exchange of equipment, etc.) happened to the monitoring system in this monitoring period, nor did events or situations occur during the monitoring period which may impact the applicability of the methodology.

4.4.2 Assessment of Data and parameters Available at Validation

By means of comparison of the MR/1/ and the ER calculation/2/ with the registered PD/3/, the verification team has checked whether all parameters fixed ex-ante have been applied correctly.

The parameters that are fixed ex ante are following:

Parameters	Source of data	Values applied	Demonstration by Verification team
EF_{grid,CM,y} - Combined margin emission factor for the grid connected to the Project activity	Official and authoritative statistic data according to the registered PD	0.8568 tCO ₂ e/MWh	This is an ex-ante fixed value as listed in the PD/3/ and derived from Official and authoritative statistic data which is calculated based on “Tool to calculate the emission factor for an electricity system” (version 04.0)/27/ which has been verified during the validation process/4/.

In conclusion, the parameter fixed ex ante has been indicated in the registered PD/3/. And the MR is checked as in line with the PD/3/.

4.4.3 Assessment of Data and parameters Monitored

During the verification all relevant monitoring parameters as listed in PD/3/ have been verified and summarized in the below table.

$EG_{facility,y}$	Quantity of net electricity generation supplied by the project plant/unit to the grid in year y										
Title in line with Methodology?	Yes										
Data unit correctly expressed?	Yes – MWh										
Appropriate description?	Yes										
Monitored Value?		<table><tr><th>Year</th><th>$EG_{facility,y}$</th></tr><tr><td>01-November-2020~31-December-2020</td><td>21,006.243</td></tr><tr><td>01-January-2021~31-December-2021</td><td>151,462.567</td></tr><tr><td>Total</td><td>172,468.810</td></tr></table>	Year	$EG_{facility,y}$	01-November-2020~31-December-2020	21,006.243	01-January-2021~31-December-2021	151,462.567	Total	172,468.810	
Year	$EG_{facility,y}$										
01-November-2020~31-December-2020	21,006.243										
01-January-2021~31-December-2021	151,462.567										
Total	172,468.810										
Correct value provided?	Yes										
Source clearly referenced? (appropriate?)	Yes—it is calculated by the electricity delivered to the grid by the project ($EG_{out,y}$) minus the electricity consumed by the project which is imported from the grid ($EG_{in,y}$) $EG_{facility,y} = EG_{out,y} - EG_{in,y}$										

Choice of data correctly justified?	Yes –calculated by equation $EG_{facility,y} = EG_{out,y} - EG_{in,y}$
Measurement method and procedures correctly described?	Yes – $EG_{out,y}$ and $EG_{in,y}$ are measured continuously and recorded monthly
Calculation method?	Yes – $EG_{facility,y} = EG_{out,y} - EG_{in,y}$
Monitoring frequency correctly described?	Continuously measured by meters and monthly recorded - verified as per PD/3/ and the applied methodology/21/
Monitoring equipment correctly described?	N/A
QA/QC procedure correctly described?	N/A
Purpose of data?	BE calculation
Comments?	N/A

$EG_{out,y}$	Quantity of the electricity delivered to the grid by the project in year y				
Title in line with Methodology?	Yes				
Data unit correctly expressed?	Yes – MWh				
Appropriate description?	Yes				
Monitored Value?		Year		$EG_{out,y}$	
		01-November-2020~31-December-2020		21,377.163	
		01-January-2021~31-December-2021		152,970.007	
		Total		174,347.170	
Correct value provided?	Yes				
Source clearly referenced? (appropriate?)	Yes—it is monitored by two bi-directional electricity meters Main meter M1 and Backup meter M1’ were installed in the Beitan substation which can measure the electricity delivered to the grid by the project. The project owner reads the main meter M1 every month/8/ and then submits the reading results to the grid company/10/. Upon agreement on the electricity reading from both parties, the power grid pays the project owner for exported electricity and the project owner provides the grid company with a sale receipt/9/.				
Choice of data correctly justified?	Yes –monitored by two bi-directional electricity meters Main meter M1 and Backup meter M1’ installed in the Beitan substation				
Measurement method and procedures correctly described?	Yes –two bi-directional electricity meters Main meter M1 and Backup meter M1’ installed in the Beitan substation and project owner was responsible for monitoring including monitoring, aggregating and processing original data, crosscheck and archiving of monitoring data.				
Calculation method?	N/A				
Monitoring frequency correctly described?	Continuously measured by meter and monthly recorded/8/ - verified as per PD/3/ and the applied methodology/21/				
Monitoring equipment correctly described?	Main meter M1 and Backup meter M1’ - verified as per PD/3/ and the applied methodology/21/				
	Type	Serial number	Accuracy class	Date of calibration	Validity

	M1 MK6E	213211533	0.2s	29- November- 2019 26- November- 2020	28- November- 2020 25- November- 2021
	M1' MK6E	213211534	0.2s	20- November- 2021	19- November- 2022
The model, serial No., accuracy class and calibration information of the equipment used has been provided, the electricity meters were calibrated by Metrological Authorization of State Grid Gansu Electric Power Company Electric Power Research Institute Metrology Center /12/ annually, which are confirmed in line with the frequency defined in PD and national standard, by checking the calibration report/11/, it is confirmed that the calibration the equipment was valid for this monitoring period.					
QA/QC procedure correctly described?	The calibration frequency of electricity meters with accuracy of 0.2s is verified in compliance with national standard Technical Administrative Code of Electric Energy Metering (DL/T 448)/19/. The electricity sale receipts/9/ have been used for cross-check and via comparing the total value of electricity sale receipts/12/ for this motoring period with the electricity meter reading records/8/, CTI verified that the values are consistent.				
Purpose of data?	Calculation of $EG_{facility,y}$				
Comments?	N/A				

$EG_{in,y}$	Quantity of the electricity consumed by the project which is imported from the grid in year y		
Title in line with Methodology?	Yes		
Data unit correctly expressed?	Yes – MWh		
Appropriate description?	Yes		
Monitored Value?		Year	$EG_{in,y}$
		01-November-2020~31-December-2020	370,920
		01-January-2021~31-December-2021	1,507.440
		Total	1,878.360
Correct value provided?	Yes		
Source clearly referenced? (appropriate?)	Yes—it is monitored by two bi-directional electricity meters Main meter M1 and Backup meter M1’ were installed in the Beitan substation which can measure the electricity consumed by the project which is imported from the grid. The project owner reads the main meter M1 every month/8/ and then submits the reading results to the grid company/10/. Upon agreement on the electricity reading from both parties, the project owner pays the power grid for imported electricity and the grid company provides the project owner with a purchase receipt/9/.		
Choice of data correctly justified?	Yes –monitored by two bi-directional electricity meters Main meter M1 and Backup meter M1’ installed in the Beitan substation		

Measurement method and procedures correctly described?	Yes –two bi-directional electricity meters Main meter M1 and Backup meter M1’ installed in the Beitan substation and project owner was responsible for monitoring including monitoring, aggregating and processing original data, crosscheck and archiving of monitoring data.				
Calculation method?	N/A				
Monitoring frequency correctly described?	Continuously measured by meter and monthly recorded/8/ - verified as per PD/3/ and the applied methodology/21/				
Monitoring equipment correctly described?	Main meter M1 and Backup meter M1’ - verified as per PD/3/ and the applied methodology/21/				
	Type	Serial number	Accuracy class	Date of calibration	Validity
	M1 MK6E	213211533	0.2s	29-November-2019 26-November-2020	28-November-2020 25-November-2021
	M1’ MK6E	213211534	0.2s	20-November-2021	19-November-2022
	The model, serial No., accuracy class and calibration information of the equipment used has been provided, the electricity meters were calibrated by Metrological Authorization of State Grid Gansu Electric Power Company Electric Power Research Institute Metrology Center /12/ annually, which are confirmed in line with the frequency defined in PD and national standard, by checking the calibration report/11/, it is confirmed that the calibration the equipment was valid for this monitoring period.				
QA/QC procedure correctly described?	The calibration frequency of electricity meters with accuracy of 0.2s is verified in compliance with national standard Technical Administrative Code of Electric Energy Metering (DL/T 448)/19/. The electricity purchase receipts/9/ have been used for cross-check and via comparing the total value of electricity purchase receipts/12/ for this motoring period with the electricity meter reading records/8/, CTI verified that the values are consistent.				
Purpose of data?	Calculation of $EG_{facility,y}$				
Comments?	N/A				

In conclusion, CTI confirmed that all monitoring parameters have been measured / determined without material misstatements and in line with PD, applied methodology, all applicable standards and relevant requirements.

CAR 02 was raised and successfully closed. Refer to Appendix 4 for detail assessment.

4.4.4 Assessment of in Compliance with monitoring plan

By means of comparison of the MR with the applied CDM methodology and all VCS standards’ requirements.

The verification team has checked whether the monitoring implementation during this monitoring period is in compliance with the latest approved monitoring plan/3/ and related requirements of the applied methodology/tools.

The verification team has checked the monitoring system in MR against the applied methodology and latest approved monitoring plan/3/ under CDM scheme.

The monitoring system has been operated as per the latest approved monitoring plan/3/ as in compliance with the latest applicable version of the methodology (ACM0002 Version 16.0).

Data and parameters to be monitored as above tables are confirmed in line with the latest approved monitoring plan/3/ and applied methodology, also corresponding to the formula used for ER calculation.

Monitoring structure

The PD contains a diagram illustrating the Management structure of VCS monitoring to be implemented by the PP in order to implement the project activity. Via the MR and PD, the monitoring team consists of the office manager, monitoring staff and auditing staff, and by site interview with the monitoring representatives, CTI confirmed that the roles of the monitoring group have been clearly defined and the responsibilities have been implemented by monitoring group sufficiently. The organizational structure is considered sufficient to fulfil the monitoring requirements of the methodology and to ensure that emission reductions can be verified.

Monitoring process

Data and parameters to be monitored as above tables in section 4.4.2 are confirmed in line with the methodology and tool, also corresponding to the formula used for ER calculation.

For the monitoring system and points of electricity, via on-site investigation, it is confirmed that the electricity monitoring system is installed to directly and continuously measure the electricity by the project activity, all the listed parameters are measured on-time by the meters installed respectively. The electricity generated is supplied to the grid and imported from the grid under the Power Purchase Agreement/10/.

All monitoring devices were calibrated/11/ by qualified third parties/12/ in line with the national calibration standard/19/ and PD.

QA/QC

The QA/QC manager is in charge of calibration and maintenance of the instruments to ensure their accuracy and reliability. The accuracy of all the monitoring devices is in line with the related requirements as confirmed in the calibration report/11/. Calibration of equipment has been implemented periodically by qualified party/12/ according to national standards and rules/11/. All the records have been documented by the PP.

The monitoring team was trained for basic conception and management of the project activity by checking the training records/17/, specific staff collected the measured electricity data regularly and complete the corresponding records, keeping all the data collected as part of monitoring archived electronically.

Internal audit was conducted by QA/QC manager for cross check all the data as described in above tables in section 4.4.2.

Emergency procedure

Project owner will take actions to deal with missing data due to negligence and improper operation and maintain or will replace the broken monitoring devices if any malfunction, and specially for the electricity monitoring, if the data and record on main meter M1 was found to be wrong, the data and record on backup meter M2 would be used as backup data for calculation and no emission reduction will be claimed when both M1 and M1' are out of work.

By site interview with monitoring staff and experts and checking the related evidence for data and calibration/8/, /9/, /12/, CTI verified that no emergency situations have been occurred. Thus no emergency procedure was used for this monitoring period.

Based on above assessment, CTI verified that the monitoring system complies with the applied methodology and the monitoring plan and all applied procedures are completely in compliance to the methodology ACM0002 (Version 16.0) and latest approved monitoring plan/3/.

4.4.5 Compliance with the calibration frequency requirements for measuring instruments

During the verification the relevant monitoring equipment has been checked whether the calibration requirements have been met; especially if the calibration frequency is in line with the requirements of the registered PD/3/ and/or the applicable calibration standards/19/.

The information of monitoring equipment used for monitoring in this monitoring period is listed in PD and the calibration information has been assessed in above section 4.4.2 in each monitoring parameter table.

Furthermore, via checking the certificate of third party who conducted the calibration/12/, CTI confirmed that the third party get the related qualification.

In conclusion, the equipment used for monitoring is controlled and calibrated in accordance with the latest approved monitoring plan/3/. Based on that CTI can confirm that all installed monitoring equipment has been duly calibrated for this entire monitoring period/11/.

4.4.6 Assessment of data and calculation of emission reductions or net removals

4.4.6.1 Calculation of baseline GHG emissions or removals

According to the methodology and registered PD, BE is calculated as below

$$BE_y = EG_{PJ,y} \times EF_{grid,CM,y} \quad (1)$$

$$EG_{PJ,y} = EG_{facility,y} = EG_{out,y} - EG_{in,y} \quad (2)$$

Where:

BE_y	=	Total baseline emissions during the year y in tons of CO ₂ (tCO ₂ /yr)
$EG_{PJ,y}$	=	Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the project activity in year y (MWh)

$EG_{facility,y}$	=	Quantity of net electricity generation supplied by the project plant/unit to the grid in year y (MWh/yr)
$EG_{out,y}$	=	Quantity of the electricity delivered to the grid by the project in year y (MWh/yr)
$EG_{in,y}$	=	Quantity of the electricity consumed by the project which is imported from the grid in year y (MWh/yr)
$EF_{grid,CM,y}$	=	Combined margin CO ₂ emission factor for grid connected power generation in year y calculated using the latest version of the "Tool to calculate the emission factor for an electricity system" (tCO ₂ e/MWh)

During this monitoring period, based on the above assessment in section 4.4.2 and 4.4.3, CTI verified that the BE_y for this monitoring period is calculated as below table,

Table 4-1 BE_y calculation during this monitoring period

Year	$EG_{facility,y}$ (MWh)	$EF_{grid,CM,y}$ (tCO ₂ e/MWh)	BE_y (tCO ₂ e)
01-November-2020~31-December-2020	21,006.243	0.8568	17,998
01-January-2021~31-December-2021	151,462.567	0.8568	129,773
Total	172,468.810	0.8568	147,771

Hence, the total baseline emission for this monitoring period is calculated as **147,771 tCO₂e**.

In conclusion, the calculations of baseline GHG emissions have been carried out in accordance with the formulae and methods described in the registered monitoring plan, the applied methodology and, where applicable, the applied standardized baseline. Any assumptions used in baseline GHG emissions have been justified. Appropriate emission factor values have been correctly applied. No errors, miscalculations, omissions, misstatements or incomplete information has been identified. It can be confirmed that the baseline emission calculation is overall correct.

4.4.6.2 Calculation of project GHG emissions or actual net GHG removals by sinks

According to the PD and methodology, the project emissions is 0 due to the project is a solar power project, hence $PE_y=0$.

4.4.6.3 Calculation of leakage GHG emissions

According to the PD and methodology, the leakage emissions is not considered.

4.4.6.4 Summary of calculation of GHG emission reductions or net anthropogenic GHG removals by sinks

The verification team has checked the MR includes a summary table of the emission reductions calculation.

Summary of emission reductions during the monitoring period,

$$ER_y = BE_y - PE_y \quad (3)$$

Hence, the emission reductions during this monitoring period are summarized in the table below,

Table 4-2 Emission Reductions Calculation during this monitoring period

Parameters	Baseline Emissions BE_y	Project Emissions PE_y	Leakage Emissions LE_y	Net GHG emission reductions or removals ER
------------	------------------------------	-----------------------------	-----------------------------	--

Period	(tCO ₂ e)	(tCO ₂ e)	(tCO ₂ e)	(tCO ₂ e)
01-November-2020~31-December-2020	17,998	0	0	17,998
01-January-2021~31-December-2021	129,773	0	0	129,773
Total	147,771	0	0	147,771

All the figures as per the monitoring report were cross-checked by the verification team against basic monitored data. Refer to section 4.4.2 and 4.4.3 of this report for assessment details.

Via checking the values in MR/1/ against the ER calculation sheet/2/, CTI confirmed that the emission reductions calculation is overall correct.

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

The comparison of actual values of the monitoring period with the estimations in the registered PD/3/ has been carried out by VVB.

As per the PD/3/, VVB confirmed that the annual estimated emission reduction is 103,297 tCO₂e, the estimated emission reduction in this monitoring period is 150,079 tCO₂e ((128,589 tCO₂e / 365 days) × 426 days). The actual emission reductions in this monitoring period are 147,771 tCO₂e, which is only 1.54% less than the estimation in the registered PD/3/ which is verified as reasonable for the solar power type project based on expertise of the verification team.

4.5 Quality of Evidence to Determine GHG Emission Reductions and Removals

Refer to section 4.4 above for the detail assessment of each monitoring parameters and Appendix 3 for the supporting evidence used to determine the GHG emission reductions.

For each reported data, the evidence is provided and verified as sufficient and quality is appropriate. Also, the cross-checks have been performed on the reported data with different source of evidence. The information flow from data generation and aggregation, to recording, calculation and final transposition into the monitoring report has been assessed by VVB in section 4.4 for each parameter and also the calibration have been conducted as per the frequency of monitoring equipment defined in the registered PD.

Therefore, it is concluded that the evidence provided are verified as sufficient and quality is appropriate and thus the evidence can be used to determine the GHG emission reductions and removals for this monitoring period.

4.6 Non-Permanence Risk Analysis

N/A

5. VERIFICATION CONCLUSION

Climate Bridge (Shanghai) Ltd. has commissioned the Shenzhen CTI International Certification Co., Ltd to carry out the Verified Carbon Standard (VCS) 3rd periodic verification of the project activity Jingyuan County 100MW Solar Power Generation Project, VCS Ref. No. 1406 for the period 01-November-2020 to 31-December-2021, with regard to the relevant requirements for VCS Version 4.3.

Based on the documented evidence and corroborated by an on-site assessment, CTI can confirm that:

- the project has been implemented and operated as per the registered PD;
- there is no project description deviation identified for this monitoring period;
- the project complies with the verification criteria for projects set out in VCS Version 4.3;
- the monitoring report and other supporting documents provided are complete and verifiable and in accordance with the applicable VCS requirement;
- the monitoring is in place as per the applied monitoring methodology;
- the monitoring complies with the monitoring plan in the registered PD;

It is certified that the claimed GHG emission reductions from the project during the monitoring period amount as follows:

Verification period: From 01-November-2020 to 31-December-2021

Verified claimed GHG emission reductions from the project (VCUs) in the above verification period:

Year	Baseline Emissions BE_y	Project Emissions PE_y	Leakage Emissions LE_y	Net GHG emission reductions or removals ER
	(tCO ₂ e)	(tCO ₂ e)	(tCO ₂ e)	(tCO ₂ e)
01-November-2020~31-December-2020	17,998	0	0	17,998
01-January-2021~31-December-2021	129,773	0	0	129,773
Total	147,771	0	0	147,771



Feng Tian
CTI
Verification Team Leader
14-October-2022



Zhou Lu
CTI
Final Approval
14-October-2022

APPENDIX 1: ABBREVIATIONS

Abbreviations	Full texts
CA	Corrective Action / Clarification Action
CAR	Corrective Action Request
CCER	China Certified Emission Reduction
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CH ₄	Methane
CL	Clarification Request
CO ₂	Carbon dioxide
CO ₂ e	Carbon dioxide equivalent
CP	Certification Program // Crediting Period
DverR	Draft Verification Report
EIA	Environmental Impact Assessment
ER	Emission Reduction
ETS	Emission Trading Scheme
FAR	Forward Action Request
FverR	Final Verification Report
GHG	Greenhouse gas(es)
GS	Gold Standard
GWP	Global Warming Potential
IPCC	Intergovernmental Panel on Climate Change
MP	Monitoring Plan
MR	Monitoring Report
NWPG	Northwest Power Grid
PA	Project Activity
PD	Project Description
PP	Project Participant
QA/QC	Quality Assurance / Quality Control
UNFCCC	United Nations Framework Convention on Climate Change
VVS	Validation and Verification Standard
VCS	Verified Carbon Standard
VCSA	Verified Carbon Standard Association
VCU	Verified Carbon Unit
VVB	Validation/Verification Body

APPENDIX 2: COMPETENCE OF TEAM MEMBERS AND TECHNICAL REVIEWERS

Mr. Tian FENG

Satisfies the requirements of competence management system of CTI Certification, and is hereby appointed as:

Qualification					
GHG Auditor	Validator	Verifier	Team Leader	Technical Reviewer	Technical Expert
√	-	√	√	-	-

Scope	Technical Area
SS 1: Energy industries (renewable/non-renewable sources)	TA 1.2: Energy generation from renewable energy sources

This appointment is valid for 3 years from its date of approval below and is bound by internal requirements of management system of the Certification Body of CTI.

Approved by:

Wu LIN

Wu Lin

Technical Competent Manager

Shenzhen, 10/02/2022

Ms. Shunrong LIN

Satisfies the requirements of competence management system of CTI Certification, and is hereby appointed as:

Qualification						
Status	GHG Auditor	Validator	Verifier	Team Leader	Technical Reviewer	Technical Expert
Date	√	√	√	√	√	√

Scope	Technical Area
SS 1: Energy industries (renewable/non-renewable sources)	TA 1.2: Energy generation from renewable energy sources
SS 14: Afforestation and reforestation	TA 14.1: Afforestation and reforestation
SS 15: Agriculture	TA 15.1: Agriculture

This appointment is valid for 3 years from its date of approval below and is bound by internal requirements of management system of the Certification Body of CTI.

Approved by:

Wu Lin

Wu LIN

Technical Competent Manager

Shenzhen, 01/01/2021

APPENDIX 3: DOCUMENTS REVIEWED OR REFERENCED

No	Author	Title	References to the document	Provider
1.	Gansu Heihe Electric Power Sales Co., Ltd.	Monitoring Report	Monitoring Report for the 3 rd monitoring period Draft version 1.0, dated 24-July-2022 Final version 2.0, dated 14-October-2022	Project Owner
2.	Gansu Heihe Electric Power Sales Co., Ltd.	Emission Reduction Calculation Sheet	Emission Reduction Calculation sheet (related to MR) Draft version 1.0, dated 24-July-2022 Final version 2.0, dated 30-September-2022	Project Owner
3.	Gansu Heihe Electric Power Sales Co., Ltd.	VCS Project Description	VCS registered Project Description (PD) for the project, version 2.0, dated 02-February-2015	VERRA website
4.	TUV NORD	Validation report	VCS Validation report for the project, version 01, dated 02-March-2015	VERRA website
5.	VVBs	Previous Verification docs	Previous VCS verification reports and MRs for the project	VERRA website
6.	Local Business Administration	Business License	Business License of Gansu Deyou Energy Technology Co., Ltd.	Project Owner
7.	Lanzhou Coal Mine Design Institute	EIA	Environmental Impact Assessment (EIA) Report dated in August 2013	PP
8.	PP	Meter Reading Records	Meter Reading Records for EG _{out,y} and EG _{in,y} for this monitoring period	PP
9.	PP and Gansu Province Power Grid Company Trading Center Co., Ltd.	Electricity Sale and Purchase Receipts	Monthly Electricity Sale and Purchase Receipts covering this monitoring period	PP
10.	PP and Gansu Province Power Grid Company	Power Purchase Agreement	Power Purchase Agreement dated in July 2015 valid for this monitoring period	PP
11.	State Grid Gansu Electric Power Company Electric Power Research Institute Metrology Center	Calibration report	Calibration report for all the electricity meters with validity covering this monitoring period	PP
12.	Quality and Technical Supervision Bureau of Gansu	Certificate of Metrological Authorization	Certificate of Metrological Authorization of State Grid Gansu Electric Power Company Electric Power Research Institute Metrology Center, valid from 29-September-2018 to 28-September-2022	PP

No	Author	Title	References to the document	Provider
13.	Project Owner	Declaration	Declaration of no double counting and not involved in other GHG scheme for the project issued on 22-September-2022	Project Owner
14.	Project Owner and local stakeholder	Local stakeholder consultation records	Local stakeholder communication survey questionnaires during this monitoring period	Project Owner
15.	PP and staffs	Employment contracts	Employment contracts	PP
16.	PP	Payroll	Monthly payroll to the solar plant staffs	PP
17.	PP	Training records	Training records for operation staff and monitoring team and Certificates of operation to staff	PP
18.	PP	Operation Log	Operation Log of the project for this monitoring period	PP
19.	National Energy Bureau	DL/T 448-2016	Technical Administrative Code of Electric Energy Metering (DL/T 448-2016)	Public website
20.	On-site Validation team	Photographs of Project Site	Photographs of project area, main equipment, monitoring devices, control room etc. taken by verification team during the on-site verification	On-site Verification team
21.	UNFCCC	Applied methodology	Approved CDM methodology ACM0002: "Grid-connected electricity generation from renewable sources" (Version 16.0)	UNFCCC Website
22.	VERRA	Monitoring Report Template	VCS- Monitoring-Report -Template-v4.1	VERRA
23.	VERRA	Registration and Issuance Process version 4.1	Registration and Issuance Process version 4.1	VCS website
24.	VERRA	VCS Program Definitions	VCS Program Definitions, v4.2	VCS website
25.	VERRA	VCS Program Guide	VCS Program Guide, v4.2	VCS website
26.	VERRA	VCS Standard	VCS Standard, v4.3	VCS website
27.	UNFCCC	Methodological tool	"Tool to calculate the emission factor for an electricity system" (version 04.0)	UNFCCC website
28.	China CER Exchange Info-platform	China CER	http://cdm.ccchina.org.cn/ccer.aspx	Website
29.	Google	Google Earth Map	earth.google.com	Website
30.	GS	Gold Standard	http://www.goldstandard.org/	Website
31.	Intergovernmental Panel on Climate Change	IPCC Guidelines	2016 IPCC Guidelines for National Greenhouse Gas Inventories: work book	www.ipcc-nggip.iges.or.jp
32.	UNFCCC	UNFCCC	http://cdm.unfccc.int	Website
33.	VCS	VCS	https://verra.org/project/vcs-program/	Website

No	Author	Title	References to the document	Provider
			https://registry.verra.org/app/projectDetail/VCS/36	
34.	Ministry of Ecology and Environment of China	China cap & trade scheme	http://www.mee.gov.cn/xxgk2018/xxgk/xxgk02/202101/t20210105_816131.html	Public Website
35.	Ministry of Ecology and Environment of China	Enforced company list	http://mee.gov.cn/xxgk2018/xxgk/xxgk03/202012/W020201230736907682380.pdf	Public Website

APPENDIX 4: CLARIFICATION REQUESTS, CORRECTIVE ACTION REQUESTS AND FORWARD ACTION REQUESTS

Table 1. Remaining FAR from validation and/or previous verification

FAR ID	N/A	Section no.		Date:
Description of FAR				
Project participant response				Date:
Documentation provided by project participant				
VVB assessment				Date:

Table 2. CL from this verification

CL ID	01	Section no.	2.2	Date : 08/08/2022
Description of CL				
The information of Local Stakeholder Consultation provided in section 2.2 is not in line with the requests of MR template.				
Project participant response				Date : 23/09/2022
The information of Local Stakeholder Consultation has been provided in the updated MR according to the requirements of MR template.				
Documentation provided by project participant				
/1/- version 02 /14/				
VVB assessment				Date: 29/09/2022
The revised MR is checked, CTI confirmed that the information has been added accordingly. Refer to section 4.2 of this report for detail assessment. CL 01 is closed.				

CL ID	02	Section no.	2.2	Date : 08/08/2022
Description of CL				
The information of Local Stakeholder Consultation during this monitoring period is not complete due to the target people, time period, participant information, survey questions and results are all not clarified.				
Project participant response				Date : 23/09/2022
The target people, time period, participant information, survey questions and results in the local stakeholder consultation during this monitoring period have been added in the updated MR.				
Documentation provided by project participant				
/1/- version 02 /14/				
VVB assessment				Date: 29/09/2022
The revised MR is checked, CTI confirmed that the information has been added accordingly. Refer to section 4.2 of this report for detail assessment. CL 02 is closed.				

Table 3. CAR from this verification

CAR ID	01	Section no.	1.11	Date : 08/08/2022
Description of CAR				
For table 1 in section 1.11, it is found that the values provided in the columns “Current Project Contribution” and “Contributions Over Project Lifetime” are same, which is not correct due to this monitoring period is the 3 rd periodical time. Revision is requested.				
Project participant response				Date : 23/09/2022
The data in “Current Project Contribution” is correct. The data in “Contributions Over Project Lifetime” has been corrected in the updated MR.				
Documentation provided by project participant				
/1/- version 02				
VVB assessment				Date: 29/09/2022
The revised MR is checked, CTI confirmed that the values in “Contributions Over Project Lifetime” have been updated as the accumulated data for the whole 3 times verification which are verified as correct by checking the previous verification reports and the values assessed for this monitoring period. CAR 01 is closed.				

CAR ID	02	Section no.	4.2	Date : 08/08/2022
Description of CAR				
For monitored parameter $EG_{out,y}$ and $EG_{in,y}$, 1. The cross-check evidence name is not in line with the PD. 2. The cross-check result is missing.				
Project participant response				Date : 23/09/2022
1.The cross-check evidence name is in line with the PD (04-Jingyuan_VCS PD_V02) 2.The cross-check result has been provided in the updated MR.				
Documentation provided by project participant				
/1/- version 02 /8/ /9/				
VVB assessment				Date: 29/09/2022
1. The revised MR is checked, CTI confirmed that cross-check evidence name is updated with the PD. 2. The revised MR is checked, CTI confirmed that cross check results have been provided and verified as correct by checking the meter data/8/ and receipts/9/. CAR 02 is closed.				

Table 4. FAR from this verification

FAR ID	N/A	Section No.	-	Date: -
Description of FAR				
Project participant response				Date: -
Documentation provided by project participant				
VVB assessment				Date: