



**Verified Carbon
Standard**

VERIFICATION REPORT FOR
CGN HAMI PHASE I 20MWP GRID-
CONNECTED PV POWER PLANT
PROJECT



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Summary:

China Building Material Test and Certification Group Co., Ltd (CTC), commissioned by CGN Carbon Asset Management (Beijing) Co., Ltd., has performed the second periodic verification of the CGN Hami Phase I 20MWp Grid-connected PV Power Plant Project (hereafter referred to as "the Project") covering the monitoring period from 27/12/2012 to 31/12/2016, on the basis of requirements of Verified Carbon Standard (VCS) Version 4.0.

The Project involves the installation and operation of 20.31MWp solar power plant with the solar cell type of YL235P-29b. The project is located Hami City, Xinjiang Uygur Autonomous Regions, People's Republic of China. The Project is expected to export annual electricity of 32,384 MWh to the Northwest China Power Grid (NWCPG) utilizing renewable solar resources. The project activity achieves greenhouse gas (GHG) emissions reductions by displacing electricity from existing fossil fuel-based power plants and likely capacity additions within the given grid.

The Project has been registered as a VCS project (VCS Registration No. 1248) under Verified Carbon Standard (VCS) Version 3.4 using approved CDM methodology ACM0002 "Consolidated methodology for grid-connected electricity generation from renewable sources" (Version 13) with the crediting period from 28/12/2011 to 26/12/2012. And it is applied for the crediting period deviation from 28/12/2011 to 26/12/2012 to 28/12/2011 to 27/12/2021. And it was also registered as a CDM project on 27/12/2012(ref.8194) with the first renewable crediting period from 27/12/2012 to 26/12/2019 and the second crediting period from 27/12/2019 to 26/12/2026. And no Certified Emission Reductions (CERs) have been requested. This is in accordance to the eminent VCS Guidance for projects that are registered in two GHG programs.

The verification process includes three phases:

- 1) Desk review of documents;
- 2) Remote video assessment and follow-up interviews;
- 3) Issuance of the final verification report and opinion.

CTC appointed a qualified verification team in accordance with internal procedures to perform the verification.

In the course of the verification, one Corrective Action Request (CAR) and five Clarification Requests (CLs) were raised.

As a result of this verification, the verification team confirms that:

-All operations of the Project are implemented and installed as planned and described in the validated Project Description;

- The deviation of crediting period is in compliance with the VCS regulations;

-The registered monitoring plan is in accordance with the applied approved CDM methodology, i.e., ACM0002 “Consolidated methodology for grid-connected electricity generation from renewable sources” (Version 13).

-The implementation of monitoring is in compliance with the registered monitoring plan.

-The monitoring system is in place and functional;

-The installed equipment for measuring parameters required for calculating emission reductions are calibrated appropriately.

Based on the information observed and evaluated, the verification team confirms that the emission reductions are correctly calculated in the MR (Version 03 dated 09/12/2021).

In conclusion, it is CTC’s opinion that the project activity “CGN Hami Phase I 20MWp Grid-connected PV Power Plant Project”, as described in the Monitoring Report (Version 03), meets all relevant requirements for VCS and all relevant host Party criteria. Hence, CTC is able to certify that the emission reductions from the Project during the monitoring period from 27/12/2012 to 31/12/2016 amount to 107,239 tCO₂e and requests issuance of the equivalent VCUs. The emission reductions of the Project in the separated years are listed below,

Year	BE _y (tCO ₂ e)	PE _y (tCO ₂ e)	LE _y (tCO ₂ e)	ERs (tCO ₂ e)
2012 (27/12/2012 – 31/12/2012)	313	0	0	313
2013 (01/01/2013 – 31/12/2013)	27,123	0	0	27,123
2014 (01/01/2014 – 31/12/2014)	26,838	0	0	26,838
2015 (01/01/2015 – 31/12/2015)	26,606	0	0	26,606
2016 (01/01/2016 – 31/12/2016)	26,359	0	0	26,359
Total	107,239	0	0	107,239

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1 INTRODUCTION

1.1 Objective

CGN Carbon Asset Management (Beijing) Co., Ltd. has commissioned CTC to verify and provide a verification statement of the emission reductions of the CGN Hami Phase I 20MWp Grid-connected PV Power Plant Project (hereafter referred to as “the Project”) which is located Hami City, Xinjiang Uygur Autonomous Region, People’s Republic of China for the second monitoring period from 27/12/2012 to 31/12/2016. This monitoring period is following the first monitoring period from 28/12/2011 to 26/12/2012, on the basis of requirement of VCS Standard (Version 4.1) /5/ as well as criteria to provide for consistent project operations, monitoring and reporting.

CTC as the validation/verification body (VVB) of the Project has been accredited as a DOE by UNFCCC and also meets the competence requirements as set out in ISO 14065:2013 /10/.

Verification of emission reductions from a project activity is the independent review and ex post determination by VVB of the monitored reductions in GHG emissions during the reported monitoring period. The objectives of verification are to:

- a) Ensure that the project activity has been implemented and operated as per the VCS project description (VCS-PD) /3/ and that all physical features (technology, project equipment, and monitoring and metering equipment) of the project are in place;
- b) Ensure that the monitoring report and other supporting documents provided are complete in accordance with the latest applicable version of Registration and Issuance Process /9/ and in accordance with the additional requirements stated by the VCS Association (VCSA);
- c) Ensure that actual monitoring systems and procedures comply with the monitoring systems and procedures described in the monitoring plan and the approved methodology /6/;
- d) Evaluate the data recorded and stored as per the monitoring methodology /6/.

1.2 Scope and Criteria

The verification scope encompasses an independent and objective review and ex-post determination of the monitored reductions in GHG emissions by the CTC. The verification scope covers the relevant documents (e.g. the VCS-PD /3/, the monitoring plan, the VCS monitoring report (VCS-MR) /1/, the emission reduction calculation spreadsheet /2/, supporting documents available to the verifier and information collected through performing interviews and during the on-site assessment, VCS’s requirements publicly available, relevant rules, including the host country legislation, etc. to be independently reviewed, the Project geographical locations to be

visited on-site, the related project local stakeholders to be interviewed with, and processes that are necessary to acquire objective evidence for the evaluation of the Project compliance to the VCS requirements and associated interpretations.

The above verification activities are conducted according to the VCS requirements. In doing so, the principles of accuracy and completeness, relevance, reliability and credibility were followed.

The verification is not meant to provide any consulting service towards the PPs. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the project.

1.3 Level of Assurance

CTC has undertaken a reasonable assurance engagement in accordance with VCS Standard (Version 4.1) /5/. It requires a reasonable level of assurance in verification that GHG assertions are free of material errors, omissions and misrepresentations. The verification conclusion is based on the VCS-PD /3/, VCS-MR /1/, and supporting evidences made available to the verifier and information collected through performing interviews and during the on-site inspection.

1.4 Summary Description of the Project

The CGN Hami Phase I 20MWp Grid-connected PV Power Plant Project involves the installation of 20.31MWp solar power plant with the solar cell type of YL235P-29b in Hami City, Xinjiang Uygur Autonomous Region, People's Republic of China.

The electricity generated from the Project will be supplied to Northwest China Power Grid (NWCPG), where geographic and system boundaries can be clearly identified and information on the grid and calculation of baseline emissions is published and public available according to China DNA's Guidance which has been provided and verified during the CDM validation /14/.

The NWCPG is dominated by thermal power plants. By exporting expected annual electricity of 32,384MWh to the NWCPG, the project activity achieves greenhouse gas (GHG) emissions reductions by displacing electricity from fossil fuel-based power plants connected to the grid.

According to the VCS website, the Project has been registered as a VCS project (VCS Registration No. 1248) and the current verification has been finalized for the monitoring period from 27/12/2012 to 31/12/2016. This monitoring period is the second monitoring period of first crediting period.

During the monitoring period from 27/12/2012 to 31/12/2016, the total GHG emission reductions generated by the Project are 107,239 tCO₂e.

2 VERIFICATION PROCESS

2.1 Method and Criteria

The overall verification, from Contract Review to Verification Report & Opinion, was conducted using CTC internal procedures.

CTC verified the Project against the requirements set in VCS /5//7//8//9/, and other relevant VCS requirements.

The following sections outline each step in more detail.

2.2 Document Review

A desk review of the monitoring report and verification report of the last monitoring period /4/, and the registered VCS-PD /15/, the applied monitoring methodology /6/, the VCS monitoring report (VCS-MR) /1/ and supporting documents was conducted by the verification team. The aim of the desk review of the documentation was to verify the completeness of the data and the information presented, to carry out the compliance check of the VCS-MR /1/ with respect to the monitoring plan and the applied methodology /6/. Particular attention was given to the quality of the metering equipment including calibration requirements, the monitored data and its evidence, and the emission reduction calculation. The 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 was also conducted.

Appendix A of this report contains a complete list of all documents and proofs reviewed by the verification team.

2.3 Interviews

Due to the COVID-19, it is impossible to conduct on-site audit work. The verification team used network communication channels and information tools, i.e. video and teleconference platforms, telephone and email, to obtain monitoring records, the operation status and the solar power generators and monitoring meters installed at the project site on 08/09/2021.

The verification team verified that the actual implementation of the Project was as described in the VCS-PD /3/ and VCS-MR /1/. This included the review of the project operation based on the evidence of video observation and presented documents.

During the assessment, the verification team has interviewed with key personnel from the Project owner (the project participant), the consultancy, and local stakeholders.

The assessment content and topics/the persons interviewed at the video assessment were provided in the below table.

Date: 08/09/2021	
Interview topics	Interviewed Organizations and persons
--The status of VCS project implementation. -- Any changes of the VCS project. -- The project on-site inspection —The evidences of construction status and operation of key equipment, parameters monitoring and data processing activities, monitor equipment and calibration. -- Monitoring data. --Quality Management; organizational structure, responsibilities and competencies; Internal QA/QC Management procedures and document control. --Compliance with National Laws and Regulations.	CGN Solar Power Development Co., LTD Mr. Wei Yupan
-- Preparation of Monitoring Report. -- Compliance of the monitoring plan with the monitoring methodology --Compliance of monitoring with the monitoring plan -- Assessment of data and calculation of GHG emission reductions	CGN Carbon Asset Management (Beijing) Co., Ltd. Mr. Xu Xiansong
--Compliance with National Laws and Regulations. --The comments of local stakeholder	Local Stakeholders Ms. Zhang Kaili Staff of the local environmental protection department; Mr. Han Xu Local villager Mr. Dou Xiandong Local villager

2.4 Site Inspections

The video assessment involved following activities,

- 1) An assessment of the implementation and operation of the project activity as per the VCS-PD /3/;
- 2) A review of information flows for generating, aggregating and reporting the monitoring parameters;
- 3) Interviews with relevant personnel to confirm that the operational and data collection procedures are implemented in accordance with the approved monitoring plan;
- 4) A cross-check between information provided in the monitoring report /1/ and data from other sources such as operational records or similar data sources;

- 5) A check of the monitoring equipment including calibration performance and observations of monitoring practices against the requirements of the VCS-PD /3/ and the selected methodology /6/;
- 6) A review of calculations and assumptions made in determining the GHG data and emission reductions;
- 7) An identification of quality control and quality assurance procedures in place to prevent or identify and correct any errors or omissions in the reported monitoring parameters.

2.5 Resolution of Findings

During the verification of a project activity, to identify issues that need to be further elaborated upon, researched or added to in order to confirm that the project activity meets the VCS requirements and can achieve credible emission reductions, the verification team will issue a Corrective Action Request (CAR), a Clarification Request (CL) or a Forward Action Request (FAR) depending on different situations.

The objective of this phase of the verification is to resolve issues related to the monitoring, implementation and operations of the registered project activity that could impair the capacity of the registered project activity to achieve emission reductions or influence the monitoring and reporting of emission reductions prior to CTC's positive conclusion on the GHG emission reduction calculation.

Findings established during the verification can either be seen as a non-fulfilment of criteria ensuring the proper implementation of a project or where a risk to deliver high quality emission reductions is identified.

A Corrective Action Request (CAR) will be raised if one of the following occurs:

- (a) Non-compliance with the monitoring plan or methodology are found in monitoring and reporting and has not been sufficiently documented by the project participants, or if the evidence provided to prove conformity is insufficient;
- (b) Modifications to the implementation, operation and monitoring of the registered project activity has not been sufficiently documented by the project participants;
- (c) Mistakes have been made in applying assumptions, data or calculations of emission reductions that will impact the quantity of emission reductions;
- (d) Issues identified in a FAR during validation to be verified during verification or previous verification(s) have not been resolved by the project participants.

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

A Forward Action Request (FAR) will be raised, for actions if the monitoring and reporting require attention and/or adjustment for the next verification period.

Five CLs have been raised during the current 2nd verification.

2.5.1 Forward Action Requests

No Forward Action Requests were raised during the current 2nd verification.

2.6 Eligibility for Validation Activities

The VVB of “China Building Material Test and Certification Group Co., Ltd” commissioned by the project participant is one of eligible VVBs listed on the VCS website (<https://verra.org/project/china-classification-society-certification-company-CTC/>), and it holds the accreditation for validation/verification for the sectoral scope: “1. Energy (renewable/non-renewable)”, to which the project activity belongs. Therefore, CTC is eligible for the validation/verification of the project activity.

3 VALIDATION FINDINGS

3.1 Participation under Other GHG Programs

The verification team has checked the official website of other GHG Programs like CDM, GS VER, CCER and is able to confirm that the Project is not included in any GHG programs or any other mechanisms that include GHG allowance trading except VCS and CDM. The net GHG emission reductions generated by the Project during this monitoring period have not been used for compliance under any emission trading programs or mechanisms. The Project have not sought or received any other form of GHG-related environmental credit during this monitoring period.

According to Interim Provisions on the administration on China Certified Emission Reduction Trading, only projects which haven’t been participated in other GHG programs or emission reductions before registration of other GHG programs or registered under other GHG programs without issuance, could apply for CCER application. The project has been registered as the CDM and VCS project, furthermore, issuance has been approved under VCS. Therefore, the project can’t be registered as a CCER project, and the GHG emission reductions or removals from the project are not used under the China Emissions Trading System.

The project has been registered as CDM project and the registration number is 8194, the first CDM crediting period is from 27/12/2012 to 26/12/2019, and the crediting period has been successfully renewed on 18/12/2020 with the 2nd CDM crediting period from 27/12/2019 to 26/12/2026. The project has been registered as VCS project with Ref. VCS1248 under VCS Standard Version 3.4 and completed validation before 19/03/2020. Furthermore, VCUs of

21,576tCO₂e have been issued for the monitoring period from 28/12/2011- 26/12/2012. It means the gap validation for the project's compliance with the VCS rule has been implemented in the first monitoring period and no further validation is required.

Therefore, the Verification Team confirms that the project is eligible to participate under the VCS Program.

3.2 Methodology Deviations

No deviation from the methodology is needed to be submitted.

3.3 Project Description Deviations

In the registered PD, the crediting period is described as from 28/12/2011 to 26/12/2012. A deviation is requested for the crediting period described in the registered PD. The project is registered under VCS Standard Version 3.4 /5/ and completed validation before 19/03/2020. Thus, it remains eligible to apply the crediting period requirements under VCS Standard Version 3.4 which shall be a maximum of ten years and may be renewed at most twice, so the first renewable crediting period of the project should be updated from 28/12/2011 to 26/12/2012 to 28/12/2011 to 27/12/2021.

However, as the project is also registered as a CDM project with a seven year twice renewable project crediting period and furthermore, the project has the lifetime of 25 years, it is not eligible for VCU issuance beyond 27/12/2036.

However, the project was put into operation on 28/12/2011 with the lifetime of 25 years, therefore, the project couldn't produce emission reductions beyond 27/12/2036. Furthermore, as required by VCS Standard (Version 4.1), where projects have been registered under more than one other GHG program, they are not eligible for VCU issuance after the date that is the earliest end date of all applicable project crediting periods. The project is also registered as a CDM project with a total project crediting periods of 21 years. Thus, with the starting date of the project crediting period under VCS program of 28 December 2011 and the total project crediting period under CDM is 21 years, it is not eligible for VCU issuance beyond 27/12/2032 under VCS program.

The verification team confirmed the deviation of the crediting period is correctly and in compliance with the VCS regulation.

Through interviews and document review, the verification team confirms that there are no project description deviations according to the registered PD except the crediting period /3/.

3.4 Grouped Project

N/A

4 VERIFICATION FINDINGS

4.1 Project Implementation Status

4.1.1 Project Implementation in accordance with the VCS PD

CTC has performed a remote video assessment and found that the Project has been put into operation and the electricity generated is supplied to NWCPG according to the signed Power Purchase Agreement (PPA) /19/. 20.31MWp solar power plant with the solar cell type of YL235P-29b as described in the registered PD have been in operation. The Project is located at the Hami City, Xinjiang Uygur Autonomous Region, People's Republic of China and the geographical coordinates are N43°02'13.64" and E93°38'36.80".

The project was implemented and commissioned on 28/12/2011 when the first solar cell array was put into operation /20/. The actual implementation of the project during this verification period was verified in terms of nameplate capacities of the solar cell and monitoring equipment.

Information provided in the monitoring report is in accordance with that stated in the VCS-PD and CDM-PDD. Further analysis of monitored parameters as reported in the monitoring report compared to those estimated in the CDM-PDD is developed in section 4.4 of this report.

As is shown in the diagram of the power connection system /3//19/, the electricity generated by the project is transmitted to on-site 35k transformers and then delivered to NWCPG.

All the monitoring system in operation period is consistent with the description in the registered PD. The control system at the power plant is automated and assures continuous operation, including monitoring on malfunction of equipment. The verification team confirmed through visual inspection and document review that no serious malfunction happened and the plant was under a normal operation as expected in this monitoring period.

According to the information collected during remote video assessment and the relevant evidence provided by project owner, CTC can confirm that no project design change occurred during the monitoring period and the Project was implemented in accordance the VCS-PD /3/.

4.1.2 Compliance of monitoring with the monitoring plan

The verification team has assessed the implementation of monitoring by the project owner against the registered monitoring plan and found all the parameters have been monitored in compliance with the registered monitoring plan.

A short summary on the verification of every parameter listed in the monitoring plan and used for emission reduction calculation is provided below:

Monitoring Parameter Requirement	Assessment/ Observation by the VVB
Data / Parameter: (as in the monitoring plan of PD):	EG_{facility,y} Quantity of net electricity generation supplied by the Project to the Grid in year y. Calculated based on the measurement results of EG _{export,y} minus EG _{import,y} which were monitored by the electricity meters.
Measuring frequency:	Continuously measurement
Reporting frequency:	Monthly recorded
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
Type of monitoring equipment:	Electricity meters installed at the project site.
Is accuracy of the monitoring equipment as stated in the PD? If the PD does not specify the accuracy of the monitoring equipment, does the monitoring equipment represent good monitoring practise?	Yes. Accuracy level of monitoring meters is as described in the registered VCS- PD /3/. For details see Table 4-1.
Calibration frequency /interval:	Annually as per relevant sectoral standards in China
Is the calibration interval in line with the monitoring plan of the PD? If the PD does not specify the frequency of calibration, does the selected frequency represent good monitoring practise?	Yes.
Company performing the calibration:	See Table 4-1
Did calibration confirm proper functioning of monitoring equipment? (Yes / No):	Yes.
Is(are) calibration(s) valid for the whole reporting period?	Yes. For details see Table 4-1.
If applicable, has the reported data been cross-checked with other available data?	Yes, the reported data has been cross-checked with the electricity electricity transaction notes in line with the registered VCS-PD /3/.
How were the values in the monitoring report verified?	The verification details have been reported in Section 4.4 of this report.
Does the data management (from monitoring equipment to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes.
In case only partial data are available because activity levels or non-activity parameters have not	Not applicable.

been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	
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Monitoring Parameter Requirement	Assessment/ Observation by the VVB
Data / Parameter: (as in monitoring plan of PD):	EG_{export,y} Quantity of electricity supplied to the grid by the Project in year y. Measured by the electricity meters.
Measuring frequency:	Continuously measurement
Reporting frequency:	Monthly recorded
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
Type of monitoring equipment:	Electricity meters installed at the project site.
Is accuracy of the monitoring equipment as stated in the PD? If the PD does not specify the accuracy of the monitoring equipment, does the monitoring equipment represent good monitoring practise?	Yes. Accuracy level of monitoring meters is as described in the registered PD /3/. For details see Table 4-1.
Calibration frequency /interval:	Periodically as per relevant sectoral standards in China
Is the calibration interval in line with the monitoring plan of the PD? If the PD does not specify the frequency of calibration, does the selected frequency represent good monitoring practise?	Yes.
Company performing the calibration:	See Table 4-1
Did calibration confirm proper functioning of monitoring equipment? (Yes / No):	Yes.
Is(are) calibration(s) valid for the whole reporting period?	Yes. For details see Table 4-5.
If applicable, has the reported data been cross-checked with other available data?	Yes, the reported data has been cross-checked with the electricity electricity transaction notes in line with the registered VCS-PD.
How were the values in the monitoring report verified?	The verification details have been reported in Section 4.4 of this report.
Does the data management (from monitoring equipment to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes.

In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	Not applicable.
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Monitoring Parameter Requirement	Assessment/ Observation by the VVB
Data / Parameter: (as in monitoring plan of PD):	EG_{import,y} Quantity of electricity purchased from the grid by the project in year y.
Measuring frequency:	Continuously measurement
Reporting frequency:	Monthly recorded
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
Type of monitoring equipment:	Electricity meters installed at the project site.
Is accuracy of the monitoring equipment as stated in the PD? If the PD does not specify the accuracy of the monitoring equipment, does the monitoring equipment represent good monitoring practise?	Yes. Accuracy level of monitoring meters is as described in the registered PD /3/. For details see Table 4-1.
Calibration frequency /interval:	Periodically as per relevant sectoral standards in China
Is the calibration interval in line with the monitoring plan of the PD? If the PD does not specify the frequency of calibration, does the selected frequency represent good monitoring practise?	Yes.
Company performing the calibration:	See Table 4-1
Did calibration confirm proper functioning of monitoring equipment? (Yes / No):	Yes.
Is(are) calibration(s) valid for the whole reporting period?	Yes. For details see Table 4-1.
If applicable, has the reported data been cross-checked with other available data?	Yes, the reported data has been cross-checked with the electricity electricity transaction notes in line with the registered VCS-PD.
How were the values in the monitoring report verified?	The verification details have been reported in Section 4.4 of this report.
Does the data management (from monitoring equipment to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes.

In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	Not applicable.
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Furthermore, the verification team has verified that the accuracy of measure of the monitoring equipment was set according to the requirements and all calibration procedures were carried out according to the monitoring plan and manufacturer specifications. The calibration information of the Project in this monitoring period has been listed in Table 4-1 below. The monitoring equipment has been installed in the project activity according to registered monitoring plan. In summary, the verification team is able to verify that the accuracy the monitoring equipments were set according to the registered monitoring plan and relevant sectoral standard of China.

Table 4-1 Calibration records of the meters /17/

Meters	Serial No.	Accuracy	Calibration date	Calibration frequency	Validity
Main meter M1	1111091971000004	0.2S	29/10/2012 26/10/2013 22/10/2014	Annually	Yes
Backup meter M2	1111091971000003	0.2S	18/10/2015 13/10/2016		

Calibration Entity: Xinjiang Electric Power Scientific Research Institute with accreditation certificate (Xin) Faji (2008) Qiye 002 with the valid period from 10/04/2008 to 09/04/2013, (Xin) Faji (2013) Qiye 002 with the valid period from 10/04/2013 to 09/04/2018 and (Xin) Faji (2018) Qiye 002 with the valid period from 10/04/2018 to 09/04/2023/18/.

4.1.3 Remaining Issues from Previous Validation or Verification

This is the 2nd verification and the verification team can confirm that there were no any remaining issues from the validation and previous verification report /4/.

4.1.4 Participation under other GHG programs since validation or previous verification

The VCS validation and previous verification was conducted in February 2014, and the project has been registered as VCS project with Ref. VCS1248 and VCU of 21,576 tCO₂e have been issued for the monitoring period from 28/12/2011- 26/12/2012. Before registration as VCS project, the project has been registered as CDM project on 27 December 2012 and the registration number is 8194.

According to Interim Provisions on the administration on China Certified Emission Reduction

Trading, only projects which haven't been participated in other GHG programs or emission reductions before registration of other GHG programs or registered under other GHG programs without issuance, could apply for CCER application. The project has been registered as the CDM and VCS project, furthermore, issuance has been approved under VCS. Therefore, the project can't be registered as a CCER project, and the GHG emission reductions or removals from the project are not used under the China Emissions Trading System.

The verification team confirm that since previous verification, the project hasn't participated or been rejected under any other GHG programs through checking the official website, such as Chinese CCER and GS.

Though checking the official website, the verification team confirm that no GHG emission reductions or removals generated by the project have been claimed in other trading program, and the project hasn't included in China GHG allowance trading according to latest national regulations.

4.1.5 Other form of environmental credit since validation or previous verification

The project hasn't sought or received another form of environmental credits since validation and previous verification.

4.1.6 Events that may impact the GHG emission reductions or removals and monitoring

Through checking the electricity records and electricity sale receipts, the monthly quantity of electricity generation supplied by the project to the Grid are keeping stable. In January each year, the power generation is low due to the short light duration, and in August to October each year, the power generation is high due to the long light duration. By interviewing the PP, the project has a good running, smooth data transfer and grid connection, and no special events happened during this monitoring period.

Therefore, the verification team confirm that no events or situations occurred during the monitoring period, which may impact the GHG emission reductions or removals and monitoring during this monitoring period.

4.2 Safeguards

4.2.1 No Net Harm

The Project using clean renewable energy to generate electricity whose environmental impact comply with relevant laws and regulations in the host country. The environmental impacts of the

Project are not considered as significant.

4.2.2 Local Stakeholder Consultation

This is the 2nd verification of the project activity. During this monitoring period, the project carried out the communication with local stakeholders in line with the mechanism for on-going communication with local stakeholders and the communications with local stakeholders are being carried out at periodic intervals, i.e. village committee's complaint book was quarterly checked by the contact person, and the contact person visited the villages in 2012, 2013, 2014, 2015 and 2016 to communicate with stakeholders. Meanwhile, the local authority has also conducted spot checks on the implementation of the project yearly. There are no negative comments received for the project during this monitoring period. The verification team has interviewed the relevant stakeholders and confirmed the local stakeholder consultation is in line with VCS requirements and all the processed have been implemented to receive comments from local stakeholders as well as communicate with them.

4.3 AFOLU-Specific Safeguards

N/A

4.4 Accuracy of GHG Emission Reduction and Removal Calculations

4.4.1 Parameters and information flow

The parameters required by the monitoring plan and the way CTC has verified the information flow (from data generation, aggregation, to recording, calculation and reporting for these parameters including the values) in the monitoring reports are described below:

Parameters monitored:

$EG_{\text{facility},y}$, Quantity net electricity generation supplied to the grid by the Project in year y

$EG_{\text{export},y}$, Quantity of electricity exported to the grid by the Project in year y

$EG_{\text{import},y}$, Quantity of electricity imported from the grid by the Project in year y

The quantity of net electricity supplied to the grid by the Project is the electricity exported to the grid by the Project ($EG_{\text{export},y}$) minus the electricity imported from the grid to the Project ($EG_{\text{import},y}$) Therefore $EG_{\text{facility},y}$ can be calculated as below:

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

There are two electricity meters installed to monitor the electricity export to and import from the transformer by the Project. The gateway meters (M1 and M2) are installed at the connection point

between the project and the Grid to monitor the electricity supplied to the grid by the project activity. Usually, the main meter (hereafter referred as the meter M1) will be used to monitor the grid-connected electricity supplied to the grid by the project, and when the solar power plant is not in operation and electricity purchased from the grid will be used to ensure the minimum requirement of running the solar power plant, the meter can also be used to monitor the electricity purchased from the grid. M2 refers to the back-up meter.

As described above, the meters have been installed in accordance with the registered PD. The verification team has checked the location of the meters against the diagram of power connection system and found them to be consistent.

The meter readings are continuously monitored and recorded by the PP and the grid company at 24:00 on the 27th of each month /15/ for the calculation of the monthly quantity of net electricity supplied to the grid by the Project. The grid company provided the PP with the electricity transaction notes monthly /16/, which contain the electricity exported to and imported from the grid by the project. For the period 27/12/2012 to 31/21/2012, 28/12/2013 to 31/12/2013, 28/12/2014 to 31/12/2014, 28/12/2015 to 31/12/2015, 28/12/2016 to 31/12/2016, separate electricity transaction notes are issued by the grid company.

The electricity transaction notes /16/ of the project issued by the local Grid Company have been used for cross-check of electricity export and import data.

Data in the monthly reading records were used to the report, through a cross check with the electricity transaction notes, 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.

Parameters determined ex-ante:

$EF_{grid,CM,y}$, baseline emission factor

The baseline emission factor of the crediting period of the Project has been determined ex-ante in the registered PD /3/. The emission factor of 0.8964 tCO₂e/MWh used in the monitoring period has been verified against the registered PD and found consistent.

4.4.2 Assessment Data and Calculation

A complete set of data for the specified monitoring period is available.

The critical parameter used for the determination of the Emission Reductions is the net electricity supplied to the grid by the Project. The data pertaining to the above parameter are maintained in the identified records. All the data are in compliance with that stated in the Monitoring Report version 03.

As per the methodology ACM0002 Version 13 /6/ and the VCS-PD /3/, the emission reductions for the Project are calculated as the baseline emissions minus the project emissions. Hence the emission reduction is determined by the following formula:

$$ER_y = BE_y - PE_y$$

Where,

ER_y : Emission reductions

BE_y : Baseline emissions

PE_y : Project emissions

[Baseline emissions]

The baseline emissions are the baseline emission reductions factor times the net electricity supplied to the grid. Therefore,

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

$EF_{\text{grid, CM, y}}$: GHG emission factor of the NWCPG, calculated ex ante in the registered CDM-PDD and VCS-PD as 0.8964 tCO₂e/MWh

$EG_{\text{facility, y}}$: Quantity net electricity generation supplied by the Project to the grid

The quantity net electricity generation supplied by the Project to the grid ($EG_{\text{facility, y}}$) can be calculated as:

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

Where:

$EG_{\text{export, y}}$: Quantity of electricity supplied to the grid by the project;

$EG_{\text{import, y}}$: Quantity of electricity imported from the grid by the project;

The verification team has cross-checked the values from the monthly reading records (MRRs) /15/ with the electricity transaction notes /16/ for the period from 27/12/2012 to 31/12/2016 and found consistent. The verified values are shown in the following tables.

Table 4-2 Calculation of electricity supplied to the grid by the project ($EG_{\text{export, y}}$)

Period		Quantity of electricity supplied to the grid by the project (MWh)		
Start	End	MRR values	ETN values	Conservative values

27/12/2012	31/12/2012	355.82	355.82	355.82
Subtotal 2012		355.82	355.82	355.82
01/01/2013	27/01/2013	1,698.05	1,698.05	1,698.05
28/01/2013	27/02/2013	2,339.86	2,339.86	2,339.86
28/02/2013	27/03/2013	1,986.19	1,986.19	1,986.19
28/03/2013	27/04/2013	2,560.17	2,560.17	2,560.17
28/04/2013	27/05/2013	2,574.27	2,574.27	2,574.27
28/05/2013	27/06/2013	2,498.42	2,498.42	2,498.42
28/06/2013	27/07/2013	2,448.57	2,448.57	2,448.57
28/07/2013	27/08/2013	2,348.28	2,348.28	2,348.28
28/08/2013	27/09/2013	3,218.41	3,218.41	3,218.41
28/09/2013	27/10/2013	3,060.49	3,060.49	3,060.49
28/10/2013	27/11/2013	3,115.97	3,115.97	3,115.97
28/11/2013	27/12/2013	2,446.15	2,446.15	2,446.15
28/12/2013	31/12/2013	278.56	278.56	278.56
Subtotal 2013		30,573.39	30,573.39	30,573.39
01/01/2014	27/01/2014	1,658.82	1,658.82	1,658.82
28/01/2014	27/02/2014	2,193.94	2,193.94	2,193.94
28/02/2014	27/03/2014	1,955.83	1,955.83	1,955.83
28/03/2014	27/04/2014	2,574.47	2,574.47	2,574.47
28/04/2014	27/05/2014	2,472.30	2,472.30	2,472.30
28/05/2014	27/06/2014	2,543.47	2,543.47	2,543.47
28/06/2014	27/07/2014	2,499.45	2,499.45	2,499.45
28/07/2014	27/08/2014	2,267.65	2,267.65	2,267.65
28/08/2014	27/09/2014	3,191.54	3,191.54	3,191.54
28/09/2014	27/10/2014	3,048.12	3,048.12	3,048.12
28/10/2014	27/11/2014	3,152.68	3,152.68	3,152.68

28/11/2014	27/12/2014	2,422.26	2,422.26	2,422.26
28/12/2014	31/12/2014	305.19	305.19	305.19
Subtotal 2014		30,285.72	30,285.72	30,285.72
01/01/2015	27/01/2015	1,723.70	1,723.70	1,723.70
28/01/2015	27/02/2015	2,105.20	2,105.20	2,105.20
28/02/2015	27/03/2015	2,007.42	2,007.42	2,007.42
28/03/2015	27/04/2015	2,498.05	2,498.05	2,498.05
28/04/2015	27/05/2015	2,390.07	2,390.07	2,390.07
28/05/2015	27/06/2015	2,440.47	2,440.47	2,440.47
28/06/2015	27/07/2015	2,404.59	2,404.59	2,404.59
28/07/2015	27/08/2015	2,168.52	2,168.52	2,168.52
28/08/2015	27/09/2015	3,284.14	3,284.14	3,284.14
28/09/2015	27/10/2015	3,277.10	3,277.10	3,277.10
28/10/2015	27/11/2015	3,155.25	3,155.25	3,155.25
28/11/2015	27/12/2015	2,351.66	2,351.66	2,351.66
28/12/2015	31/12/2015	243.36	243.36	243.36
Subtotal 2015		30,049.53	30,049.53	30,049.53
01/01/2016	27/01/2016	1,718.25	1,718.25	1,718.25
28/01/2016	27/02/2016	2,120.46	2,120.46	2,120.46
28/02/2016	27/03/2016	1,930.33	1,930.33	1,930.33
28/03/2016	27/04/2016	2,548.05	2,548.05	2,548.05
28/04/2016	27/05/2016	2,525.16	2,525.16	2,525.16
28/05/2016	27/06/2016	2,404.43	2,404.43	2,404.43
28/06/2016	27/07/2016	2,318.10	2,318.10	2,318.10
28/07/2016	27/08/2016	2,158.23	2,158.23	2,158.23
28/08/2016	27/09/2016	3,208.87	3,208.87	3,208.87
28/09/2016	27/10/2016	3,229.26	3,229.26	3,229.26

28/10/2016	27/11/2016	3,131.74	3,131.74	3,131.74
28/11/2016	27/12/2016	2,295.01	2,295.01	2,295.01
28/12/2016	31/12/2016	218.48	218.48	218.48
Subtotal 2016		29,806.37	29,806.37	29,806.37
Total		121,070.83	121,070.83	121,070.83

Table 4-3 Calculation of electricity imported from the grid ($EG_{import,y}$)

Period		Quantity of electricity imported from the grid (MWh)		
Start	End	MRR values	ETN values	Conservative values
27/12/2012	31/12/2012	6.15	6.15	6.15
Subtotal 2012		6.15	6.15	6.15
01/01/2013	27/01/2013	15.71	15.71	15.71
28/01/2013	27/02/2013	23.77	23.77	23.77
28/02/2013	27/03/2013	20.51	20.51	20.51
28/03/2013	27/04/2013	27.04	27.04	27.04
28/04/2013	27/05/2013	27.50	27.50	27.50
28/05/2013	27/06/2013	26.65	26.65	26.65
28/06/2013	27/07/2013	23.15	23.15	23.15
28/07/2013	27/08/2013	23.47	23.47	23.47
28/08/2013	27/09/2013	33.25	33.25	33.25
28/09/2013	27/10/2013	32.02	32.02	32.02
28/10/2013	27/11/2013	32.31	32.31	32.31
28/11/2013	27/12/2013	25.77	25.77	25.77
28/12/2013	31/12/2013	4.21	4.21	4.21
Subtotal 2013		315.36	315.36	315.36
01/01/2014	27/01/2014	16.34	16.34	16.34
28/01/2014	27/02/2014	26.10	26.10	26.10

28/02/2014	27/03/2014	22.70	22.70	22.70
28/03/2014	27/04/2014	30.08	30.08	30.08
28/04/2014	27/05/2014	29.19	29.19	29.19
28/05/2014	27/06/2014	28.56	28.56	28.56
28/06/2014	27/07/2014	27.54	27.54	27.54
28/07/2014	27/08/2014	24.83	24.83	24.83
28/08/2014	27/09/2014	37.07	37.07	37.07
28/09/2014	27/10/2014	35.69	35.69	35.69
28/10/2014	27/11/2014	35.37	35.37	35.37
28/11/2014	27/12/2014	28.29	28.29	28.29
28/12/2014	31/12/2014	3.98	3.98	3.98
Subtotal 2014		345.74	345.74	345.74
01/01/2015	27/01/2015	18.21	18.21	18.21
28/01/2015	27/02/2015	27.20	27.20	27.20
28/02/2015	27/03/2015	23.66	23.66	23.66
28/03/2015	27/04/2015	31.20	31.20	31.20
28/04/2015	27/05/2015	31.02	31.02	31.02
28/05/2015	27/06/2015	30.10	30.10	30.10
28/06/2015	27/07/2015	27.52	27.52	27.52
28/07/2015	27/08/2015	25.68	25.68	25.68
28/08/2015	27/09/2015	40.49	40.49	40.49
28/09/2015	27/10/2015	39.08	39.08	39.08
28/10/2015	27/11/2015	37.32	37.32	37.32
28/11/2015	27/12/2015	29.34	29.34	29.34
28/12/2015	31/12/2015	6.85	6.85	6.85
Subtotal 2015		367.67	367.67	367.67
01/01/2016	27/01/2016	20.23	20.23	20.23

28/01/2016	27/02/2016	28.79	28.79	28.79
28/02/2016	27/03/2016	26.69	26.69	26.69
28/03/2016	27/04/2016	34.24	34.24	34.24
28/04/2016	27/05/2016	34.32	34.32	34.32
28/05/2016	27/06/2016	32.65	32.65	32.65
28/06/2016	27/07/2016	29.30	29.30	29.30
28/07/2016	27/08/2016	29.94	29.94	29.94
28/08/2016	27/09/2016	44.15	44.15	44.15
28/09/2016	27/10/2016	42.88	42.88	42.88
28/10/2016	27/11/2016	40.57	40.57	40.57
28/11/2016	27/12/2016	32.21	32.21	32.21
28/12/2016	31/12/2016	4.95	4.95	4.95
Subtotal 2016		400.92	400.92	400.92
Total		1,435.84	1,435.84	1,435.84

Table 4-4 Calculation of baseline emission reductions

Period	EG _{export,y}	EG _{import,y}	EG _{facility,y}	EF _{grid,CM,y}	BE _y
	(MWh)	(MWh)	(MWh)	(tCO ₂ e/MWh)	(tCO ₂ e)
27/12/2012-31/12/2012	355.82	6.15	349.67	0.8964	313
01/01/2013-31/12/2013	30,573.39	315.36	30,258.03	0.8964	27,123
01/01/2014-31/12/2014	30,285.72	345.74	29,939.98	0.8964	26,838
01/01/2015-31/12/2015	30,049.53	367.67	29,681.86	0.8964	26,606
01/01/2016-31/12/2016	29,806.37	400.92	29,405.45	0.8964	26,359
Total	121,070.83	1,435.84	119,634.99	0.8964	107,239

The verification team has confirmed the project emissions are regarded as zero and no leakage would be accounted for the Project according to the methodology ACM0002 Version 13.

The verification team has also confirmed the emission reductions of the project have been conservatively calculated in line with above mentioned Formulas in the emission reduction calculation spreadsheet /2/. The total emission reductions have been summarized in the emission reduction calculation spreadsheet /2/ and checked to be correctly accounted.

Table 4-5 Verified Emission Reductions of the Project

Period	Baseline emissions or removals (tCO ₂ e)	Project emissions or removals (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Net GHG emission reductions or removals (tCO ₂ e)
27/12/2012-31/12/2012	313	0	0	313
01/01/2013-31/12/2013	27,123	0	0	27,123
01/01/2014-31/12/2014	26,838	0	0	26,838
01/01/2015-31/12/2015	26,606	0	0	26,606
01/01/2016-31/12/2016	26,359	0	0	26,359
Total	107,239	0	0	107,239

By cross-check with the ETNs /16/, the verification team confirms that the monitoring results as listed in the Monitoring Report /1/ and emission reductions calculation spread sheet /2/ are conservative. The verification team confirms that the applied spreadsheet formulas and connections are correct and in line with the indicated emission reduction calculation in the monitoring plan contained in the VCS-PD /3/ and the applied methodology /6/.

Comparison of ERs

Based on the above assessment, CTC can conclude that the emission reduction during the monitoring period from 27/12/2012 to 31/12/2016 have been quantified correctly in accordance with the project description and applied methodology /6/, and the emission reduction during the monitoring period is verified as 107,239 tCO₂e. Compared with the estimated emission reductions under the same days of 1,466 from 27/12/2012 to 31/12/2016 in the VCS-PD /3/, $116,593 (= 29,029 \times 1,466 / 365)$ tCO₂e, the verified emission reduction is (8.02%) less than the estimated value.

4.5 Quality of Evidence to Determine GHG Emission Reductions and Removals

The evidences used to determine the GHG emission reductions are assessed as follows:

Assessment of the Evidence Quality	
Parameters monitored	(i) EG _{export,y} (ii) EG _{import,y} (iii) EG _{facility,y}
Monitoring method	The quantity of electricity supplied to the grid (EG _{export,y}) and electricity imported from the grid (EG _{import,y}) by the project are measured by bi-direction meters. The net electricity supplied by the project (EG _{facility,y}) is calculated as EG _{export,y} minus EG _{import,y} .
Measuring/Reading/	The parameters are continuously measured and monthly recorded.

Recording frequency	
Calibration frequency/ interval	See Table 4-5 Verified calibration information of monitoring meters. Through on-site observation and checking the calibration records of meters, the team confirmed that both monitoring meters meet the rated accuracy level and the calibration frequency fulfils the requirement as described in the monitoring plan.
Calibration cover the monitoring period	The verification team confirms that the validity period of all conducted calibrations covers this monitoring period from 27/12/2012 to 31/12/2016.
Data reported	Through cross checking with the ETNs, the monitored data can be confirmed as acceptable to calculate emission reductions.

In summary, all necessary documentation is collected, referenced and is easily accessible in hard-copy or electronic format. The data pertaining to the monitored parameters are maintained in the identified internal records and consistent with the values stated in the Monitoring Report /1/ and ER calculation spreadsheet /2/. Key data have been cross-checked via external sources, such as ETNs.

4.6 Non-Permanence Risk Analysis

The Project has set up a complete data management system to keep safely the record of the data collected during monitoring. The project will perfect the whole monitoring procedure by developing the CDM manual, tracking information from the primary source to the end-data calculations in paper document format. It is the responsibility of the proposed project owner to provide additional necessary data and information for validation and verification requirements of respective DOE. Physical documentation such as paper-based maps, diagrams and environmental assessment are collated in a central place, together with this monitoring plan. All paper-based information is stored by the proposed project owner and kept at least one copy.

At the end of each month, the monitoring data are filed in a spreadsheet, and the paper-based printout are also archived as well. Furthermore, the project owner collects the electricity transaction notes for the electricity supplied to the grid as a cross-check, and compiled the monitoring report including the monitoring data and relevant evidence at the end of each crediting year.

All the monitoring system has been verified during remote video assessment. It was also confirmed during the assessment that all the staff involved in the individual projects has received periodic training on operation and maintenance of the hydropower plant.

In summary, the verification team has ensured that the quality management system for the Project is in place. The documented instructions including the responsibilities have been properly implemented and in line with the monitoring report /1/ and VCS-PD /3/. The internal review at a regular interval ensures the quality assurance of the monitoring procedures.

5 VERIFICATION CONCLUSION

CTC has carried out the 2nd periodic verification of the project “CGN Hami Phase I 20MWp Grid-connected PV Power Plant Project”. The verification was performed based on the requirements set by Voluntary Carbon Standard (VCS) Version 4.0 /5/, as well as criteria given to provide for consistent project operations, monitoring and reporting. This verification covers the period from 27/12/2012 to 31/12/2016 inclusive.

In the course of the verification two Clarification Requests (CL) were raised. The verification is based on the VCS-MR /1/, the VCS-PD /3/, ER calculation spread sheet /2/ and supporting documents available to CTC.

As the result of the verification, CTC confirms that:

- The project activity has been implemented and operated as per the VCS-PD /3/ and that all physical features (technology, project equipment, and monitoring and metering equipment) of the Project are in place;
- The VCS-MR /1/ and other supporting documents provided are complete in accordance with the latest applicable version of the VCS Registration & Issuance Process /9/ and in accordance with the additional requirements stated by the VCS Association (VCSA);
- The actual monitoring systems and procedures comply with the monitoring systems and procedures described in the monitoring plan and the approved methodology i.e. ACM0002 Version 13 /6/;
- The GHG emission reductions are calculated without material misstatements and in a conservative and appropriate manner.

Based on the evidence and information that are considered necessary to guarantee that GHG emission reductions are appropriately calculated, CTC confirms the following statement:

Verification period: From 27/12/2012 to 31/12/2016

Year	Baseline emissions or removals (tCO ₂ e)	Project emissions or removals (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Net GHG emission reductions or removals (tCO ₂ e)
27/12/2012-31/12/2012	313	0	0	313
01/01/2013-31/12/2013	27,123			27,123
01/01/2014-31/12/2014	26,838	0	0	26,838
01/01/2015-31/12/2015	26,606	0	0	26,606

01/01/2016-31/12/2016	26,359	0	0	26,359
Total	107,239	0	0	107,239

APPENDIX A: REFERENCES

Documents provided by the Project Participant and relevant background documents have been reviewed or referenced for the periodic verification conclusions.

Ref no.	Reference Document
/1/	CGN Carbon Asset Management (Beijing) Co., Ltd. , VCS Monitoring report Version 01 dated 01/06/2021 CGN Carbon Asset Management (Beijing) Co., Ltd. , VCS Monitoring report Version 02 dated 17/09/2021 CGN Carbon Asset Management (Beijing) Co., Ltd. , VCS Monitoring report Version 03 dated 09/12/2021
/2/	CGN Carbon Asset Management (Beijing) Co., Ltd., ER calculation spreadsheet
/3/	CGN Carbon Asset Management (Beijing) Co., Ltd., registered VCS-PD dated 22/02/2014
/4/	Shenzhen CTI International Certification Co., Ltd, Verification Report Version 01 dated 23/02/2014
/5/	VCS Association, Voluntary Carbon Standard Version 3.4 and Version 4.1
/6/	CDM Executive Board, ACM0002 Consolidated baseline methodology for grid-connected electricity generation from renewable sources Version 13
/7/	VCS Association, Monitoring Report Template Form Version 4.0
/8/	VCS Board, VCS Program Guide Version 4.0
/9/	VCS Association, Registration & Issuance Process Version 4.0
/10/	International Organization for Standardization, ISO 14064-2:2006, ISO 14064-3:2006 and ISO 14065:2013 (ISO, www.iso.org).
/11/	CDM Executive Board, Tool to calculate the emission factor for an electricity system, Version 02.2.1
/12/	IPCC: Revised 2006 IPCC Guidelines for National Greenhouse Gas Inventories Reference Manual
/13/	China National Economic Trading Commission, Technical Administrative Code of Electric Energy Metering, DL/T 448-2006
/14/	The registered CDM PDD and the validation report

/15/	The electricity monthly monitoring records covering this monitoring period
/16/	The ETNs covering this monitoring period
/17/	Calibration Certificates for Meter Measurement with the validity covering this monitoring period
/18/	Metrological Authorization Certificate of the calibration entity
/19/	Power Purchasing Agreement
/20/	Project commissioning acceptance report
/21/	Photos of project site, meters, central control interface
/22/	Purchase contract of photovoltaic modules

APPENDIX B: RESOLUTION OF CORRECTIVE ACTION REQUESTS AND CLARIFICATION REQUESTS

1 CAR, 5 CLs and 0 FAR were raised in this 2nd verification.

Findings	PP's response	Verification teams conclusion
CAR-1: The project coordinates provided in Section 1.7 do not show the correct project location.	The central geographical coordinates of the project is N43°02 '13.64" and E93°38 '36.80". The coordinates has been corrected in Section 1.7 of the MR.	The verification team checked the revised MR and approved FSR, and confirm that the project coordinates in Section 1.7 of MR is correct. Hence, the CAR is closed.
CL-1: Some information and/or the relevant evidences are not provided, i.e. the Village committee's complaint book, the calibration information of the monitoring meters, the monitoring records and ETNs of 27/12/2012.	The relevant information and evidences have been provided.	The verification team has checked the provided evidences and confirmed all the necessary evidences have been provided and the relevant information has been correctly provided in the revised MR. Hence, this CL is closed.
CL-2: The comparison between the actual emission reductions and the theoretical value during this monitoring period has been provided in the monitoring report. Please confirm the correctness of the description.	The end date of the monitoring period was changed from 27/12/2016 to 31/12/2016. And the relevant information has been revised in the MR and ERs calculation sheet. The relevant evidences have been provided for the verification.	The verification team has checked the provided evidences and confirmed all the necessary evidences of the monitoring records have been provided and the relevant information has been correctly applied in the ER's calculation. Hence, this CL is closed.
CL-3: In Section 1.6 of the MR, it describes a project description deviation to change the project crediting period from fixed period (28 December 2011 to 26 December 2012) to ten years	As the project is also registered as a CDM project with a seven year twice renewable project crediting period and	The verification team has checked the updated MR and confirm that the project with the starting date of the project

(28 December 2011–27 December 2021), and may be twice renewable, for a total of thirty years. However, it describes in Sections 1.1 and 3.1 of the MR that the project has a lifetime of 25 years. Furthermore, according to Section 3.8.7 of the VCS Standard, v4.1, Where projects have been registered under more than one other GHG program, they are not eligible for VCU issuance after the date that is the earliest end date of all applicable project crediting periods. Please clarify the final date under which the project will claim credits for, according to Section 3.8.7 VCS standard v4.1. Please clarify the final date under which the project will claim credits for, according to the actual project lifetime and Section 3.8.7 VCS standard v4.1.	furthermore, the project has the lifetime of 25 years, it is not eligible for VCU issuance beyond 27/12/2032.	crediting period under VCS program of 28 December 2011 and the total project crediting period under CDM is 21 years, it is not eligible for VCU issuance beyond 27/12/2032. The ending date for VCU issuance is within the lifetime of 25years, and consistent with requirements of Section 3.8.7 of the VCS Standard, v4.1. Hence, this CL is closed.
CL-4: Please clarify whether the projects have been participated in other GHG programs, such as CCER, CDM, GS, and whether GHG emission reductions or removals from the project are used under other GHG programs, such as the China Emissions Trading System in Section 1.10 of MR, especially since previous verification.	The project has been registered as CDM project and VCS project, and has not been participated in other GHG programs. The GHG emission reductions or removals from the project has not used under other GHG programs, such as the China Emissions Trading System	The verification team has checked the revised Section 1.10 of MR and relevant documents, and confirm that he project has been registered as CDM project and VCS project, and has not been participated in other GHG programs, emission reductions or removals from the project has not used under other GHG programs, such as the China Emissions Trading System. Hence, this CL is closed.
CL-5: Please include information on events that may impact the GHG emission reductions or removals and	During this monitoring period, the project has a good running, smooth data transfer and grid connection, and no special events happened.	The verification team has checked the revised Section 3.1 of MR and relevant documents, and confirm that no events or situations occurred during the monitoring period, which may

monitoring during this monitoring period in Section 3.1 of MR.	No events or situations occurred during the monitoring period, which may impact the applicability of the methodology. The information has been added in the MR.	impact the GHG emission reductions or removals and monitoring during this monitoring period. Hence, this CL is closed.
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APPENDIX C: CERTIFICATES OF COMPETENCE

 中国建材检验认证集团股份有限公司
China Building Material Test & Certification Group Co., Ltd.

CERTIFICATE OF APPOINTMENT

Ms. Zhao Jinlan

Satisfies the requirements as specified in the CTC CCP and is hereby appointed as

CDM Validator/verifier.

The present appointment will terminate on 31/12/2023.

Date of issue: 01/01/2021



Zhu Lianbin
CTC General Manager

 中国建材检验认证集团股份有限公司
China Building Material Test & Certification Group Co., Ltd.

CERTIFICATE OF APPOINTMENT

Mr. Dou Yonghua (Lucas)

Satisfies the requirements as specified in the CTC CCP and is hereby appointed as

CDM Validator/verifier.

The present appointment will terminate on 31/12/2023.

Date of issue: 01/01/2021.



Zhu Lianbin
CTC General Manager

 中国建材检验认证集团股份有限公司
China Building Material Test & Certification Group Co., Ltd.

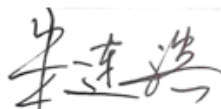
Mr. Liu Tao

Satisfies the requirements as specified in the CTC CCP and is hereby appointed as

CDM Validator/verifier.

The present appointment will terminate on 31/12/2023.

Date of issue: 01/01/2021.



Zhu Lianbin
CTC General Manager