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VERIFICATION REPORT AND CERTIFICATION STATEMENT

Of

Ulan Phase II 10MWp Solar PV Project

(GS Ref. No. 2679)

Monitoring period #1: 20/12/2013 - 31/10/2015

Report No. A+SH_SYST_03315 Gs

Client: Carbon Invcap International Trading Co., Ltd.

DATE: 20/01/2016

Report No.	Date of first issue	Revision No.	Date of this revision
A+SH_SYST_03315 Gs	13/12/2015	01.2	20/01/2016

Subject	First periodical verification of a GS project
Client	Carbon Invcap International Trading Co., Ltd.
Project Title	Ulan Phase II 10MWp Solar PV Project
Project Participants	Ulan Jinfeng New Energy Photovoltaic Power Generation Co., Ltd. (Project Owner) Carbon Invcap International Trading Co., Ltd. (Buyer)
Project Location	Keke Town, Ulan County, Haixi Mongol and Tibetan Autonomous Prefecture, Qinghai Province, P. R. of China Geographic coordinates: East longitude 98°23'09" and North latitude 36°59'11''
Contact Person	Dr. Zheng Zhaoning
Operational Unit	Ulan Jinfeng New Energy Photovoltaic Power Generation Co., Ltd.

Monitoring period:	20/12/2013 - 31/10/2015
Published Monitoring Report (version/date)	Version 01 / 11/11/2015
Final Monitoring Report (version/date)	Version 03 / 18/01/2016
Published GS SUSTAINABLITY MONITORING REPORT (version/date)	Version 01 / 11/11/2015 (same document with MR)
Final GS Monitoring Report (version/date)	Version 03 / 18/01/2016 (same document with MR)
Applied Methodology/Version	AMS-I.D Version 17.0
Scope	1
Technical Area	1.2
Registered PDD and Passport:	PDD Version 03 / 06/12/2014 Passport Version 03 / 06/12/2014

Summary:

LGAI Technological Center, S.A. (hereafter referred to as Applus+ LGAI) has been contracted by Carbon Invcap International Trading Co., Ltd. to perform the first periodical verification of Ulan Phase II 10MWp Solar PV Project (GS Ref. No. 2679) applying the methodology AMS-I.D Version 17.0. The management of Ulan Jinfeng New Energy Photovoltaic Power Generation Co., Ltd. is responsible for the preparation of the GHG emissions data and the reported GHG emission reductions.

A desk review and a site visit have been conducted to verify the data submitted in the monitoring report. Applus+ LGAI confirms the following has been reviewed:

(a) The registered PDD and Passport, including the monitoring plan and the corresponding validation report;

(b) Monitoring report(s);

(c) Validation Report;
(d) The applied monitoring methodology;
(e) Relevant decisions, clarifications and guidance from the CMP and the CDM Executive Board;
(f) The Gold Standard Toolkit Version 2.2 and related Annex.
(g) All information and references relevant to the project activity's resulting in emission reductions.

The purpose of the project activity is to 41,440 pieces of the polycrystalline silicon solar cell modules with unit capacity of 250Wp to generate clean renewable electricity with zero emissions. The total capacity is 10.36MWp.

Applus+ LGAI confirms that the project is implemented in accordance with the validated and registered PDD and Passport. The monitoring plan complies with the applied methodology AMS-I.D Version 17.0 and the Gold Standard Toolkit Version 2.2, the monitoring has been carried out in accordance with the monitoring plan. The monitoring system is in place and the emission reductions are calculated without material misstatements. Our opinion relates to the projects GHG emissions and the resulting GHG emission reductions reported and related to the valid and registered project baseline and monitoring and its associated documents. Based on the information reviewed and evaluated Applus+ LGAI confirms that the implementation of the project has resulted in **26,249** tCO_2e emission reductions during period 20/12/2013 - 31/10/2015.

Assessment team	**Role**	**Organization**
Hanshen (Denny) Xue	Lead Auditor / Team Leader	Applus+ LGAI, Shanghai

ABBREVIATIONS

ACM	Approved Consolidated Methodology
AM	Approved Methodology
AMS	Approved Methodology Small Scale
Applus+ LGAI	LGAI Technological Center, S.A. (Applus)
BM	Build Margin
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CDM EB	CDM Executive Board
CER	Certified Emission Reduction
CM	Combined Margin
CMP	Conference of the Parties serving as the Meeting of the Parties to the Kyoto Protocol
DNA	Designated National Authority
DOE	Designated Operational Entity
EF	Emission Factor
EIA	Environmental Impact Assessment
ER	Emission Reduction
FAR	Forward Action Request
FSR	Feasibility Study Report
GHG	Greenhouse Gas(es)
GS	Gold Standard
IPCC	Intergovernmental Panel on Climate Change
IRL	Information Reference List
IRR	Internal Rate of Return
KP	Kyoto Protocol
MP	Monitoring Plan
MR	Monitoring Report
NGO	Non Governmental Organisation
NWPG	Northwest China Power Grid
TAC	Gold Standard Technical Advisory Committee
OM	Operational Margin
PDD	Project Design Document
PP	Project Participant
UNFCCC	United Nations Framework Convention for Climate Change
VVS	Validation and Verification Standard

TABLE OF CONTENT

1. INTRODUCTION

1.1.-Objective

LGAI Technological Center, S.A. (hereafter referred to as Applus+ LGAI) has been contracted by Carbon Invcap International Trading Co., Ltd. to perform the first periodical verification of Ulan Phase II 10MWp Solar PV Project (GS Ref. No. 2679) applying the methodology AMS-I.D Version 17.0 /6/ and the Gold Standard Toolkit Version 2.2 /9/. Gold Standard projects must undergo periodic audits and verification of emission reductions as the basis for issuance of Gold Standard VERs.

The objective of the verification work is to comply with the requirements of paragraph 62 of the CDM Modalities and Procedures as well as the Gold Standard Toolkit Version 2.2 /9/. According to this assessment Applus+ LGAI shall:

- ensure that the project activity has been implemented and operated as per the registered PDD version 03, dated 06/12/2014 and Passport "Ulan Phase II 10MWp Solar PV Project " version 03, dated 06/12/2014 /3/ /4/, and that all physical features (technology, project equipment, monitoring and metering equipment) of the project are in place;
- ensure that the published MR and other supporting documents provided are complete, verifiable and in accordance with applicable VVS /8/ and Gold Standard requirements;
- ensure that the actual monitoring systems and procedures comply with the monitoring systems and procedures described in the monitoring plan and the approved methodology;
- evaluate the data recorded and stored as per the Grid connected renewable electricity generation, AMS-I.D Version 17.0 /6/.

1.2.-Scope

The verification scope encompasses an independent and objective review and ex-post determination of the monitored reductions in GHG emissions by the DOE. The verification is based on the submitted monitoring report, the validated and registered PDD and Passport as well as its validation report, the applied monitoring methodology, relevant decisions, clarifications and guidance from the CMP and the EB, The Gold Standard Toolkit Version 2.2 and any other information and references relevant to the project activity's resulting emission reductions. These documents are reviewed against the requirements of the Kyoto Protocol, the CDM Modalities and Procedures, The Gold Standard Toolkit Version 2.2 and related rules and guidance.

Based on the requirements in the VVS version 09.0 /8/ as well as the Gold Standard Toolkit Version 2.2 /9/, Applus+ LGAI has applied a rule-based approach for the verification of the project. The principles of accuracy, completeness, relevance, reliability and credibility were combined with a conservative approach to establish a traceable and transparent verification opinion.

The verification considers both quantitative and qualitative information on emission reductions. The verification also considers the monitoring of sustainable parameters.

The verification is not meant to provide any consultancy towards the client. However, stated requests for clarifications, corrective and/or forward actions may provide input for improvement of the monitoring activities.

1.3.-Description of the Project Activity:

Project activity:	Ulan Phase II 10MWp Solar PV Project
Gold Standard registration number:	2679

Project Participants:	Ulan Jinfeng New Energy Photovoltaic Power Generation Co., Ltd. (Project Owner)
	Carbon Invcap International Trading Co., Ltd. (Buyer)
Location of the project:	Keke Town, Ulan County, Haixi Mongol and Tibetan Autonomous Prefecture, Qinghai Province, P. R. of China
	Geographic coordinates:
	East longitude 98°23′09″ and North latitude 36°59′11′′
Date of registration:	05/12/2014
Starting date of the crediting period:	20/12/2013

Ulan Phase II 10MWp Solar PV Project (hereafter referred to as "the project") is located at Keke Town, Ulan County, Haixi Mongol and Tibetan Autonomous Prefecture, Qinghai Province, P. R. of China.

The purpose of the project activity is to 41,440 pieces of the polycrystalline silicon solar cell modules with unit capacity of 250Wp to generate clean renewable electricity with zero emissions. The total capacity is 10.36MWp.

The project will contribute to the reduction of GHG emission by displacing part of the electricity from Northwest China Power Grid (NWPG) which is dominated by fossil fuel-fired power plants.

2. METHODOLOGY

Applus+ LGAI's approach to the verification is a two-stage process.

In the 1st stage, Applus+ LGAI completed a strategic review and risk assessment of the projects activities and processes in order to gain a full understanding of:

- Activities associated with all the sources contributing to the project emissions and emission reductions, including leakage if relevant;
- Protocols used to estimate or measure GHG emissions from these sources;
- Collection and handling of data;
- Controls on the collection and handling of data;
- Means of verifying reported data; and
- Compilation of the monitoring report.

Applus+ LGAI used a periodical Verification Checklist which, based on the risk-based assessment of the parameters and data collection and handling processes for each of those parameters, describes the verification approach and the sampling plan.

In the 2nd stage, using the Verification Checklist, Applus+ LGAI verified the implementation of the monitoring plan and the data presented in the Monitoring Report for the period in question. This involved a site visit and a desk review of the Monitoring Report. This Verification Report describes the findings of this assessment.

Assessment team

According to the sectoral scopes / technical area and experiences in the sectoral or national business environment, Applus+ LGAI has composed a project assessment team in accordance with the appointment rules in Applus+ LGAI complying with EB's requirements. The composition of assessment team has to be approved by the Applus+ LGAI ensuring that the required skills are covered by the team. The four qualification levels for team members that are assigned by formal appointment rules as below:

- Leader Auditor (LA)
- Auditor (A)
- Auditor Trainee (T)
- Technical Experts (E)

It is required that the sectoral scope / technical area linked to the methodology has to be covered by the assessment team.

Name	**Qualification**	**Coverage of scope**	**Coverage of technical Area**	**Host country experience**	**Attendance to the On-Site Assessment**
Hanshen (Denny) Xue	*LA*	*Y*	*Y*	*Y*	*Y*

Intermediate Technical Reviewer:

- Meng (Simon) Shen

Technical Reviewer:

- Miquel SITJES CABANAS

The curricula vitae of the DOE's validation team members are provided below:

Hanshen (Denny) Xue (Master Degree in Environmental Engineering, Bachelor Degree in Thermal Engineering) is a lead auditor appointed by Applus+ LGAI for the GHG project assessment. He is based on Shanghai. He has 1.5 years of work experiences in CDM project development. Before he joined Applus+ LGAI, he has been worked for Shanghai Chuanji Investment and Management which is a CDM consultancy company as a project manager for CDM project development.

Meng (Simon) Shen (Master Degree in Thermal Energy Engineering, Bachelor Degree in Environmental Engineering) has been appointed as a Technical Reviewer by Applus+ LGAI for the GHG project assessment. He is based in Shanghai. He has several years of work experience in environmental protection field. Before he joined Applus+ LGAI, he had been worked for TÜV SÜD as a GHG Validator/Verifier and ISO 9001/14001 Lead Auditor for 3.5 years.

Miquel SITJES CABANAS (B. Sc. degree in Chemistry 1975, Universidad de Barcelona – Spain). He has 15 years of experience in a Spanish chemical group company specialized in the manufacturing of raw chemical products, where he worked as the Manager of Quality Control, Production Manager and Environmental Manager. He also worked in the Spanish pharmaceutical industry for 7 years as Quality, Manufacturing and Environmental Manager. He has been working in the Applus+ LGAI Technological Centre since 1999: he started working there as an auditor (quality, environment, CDM, VCS, greenhouse gas verification and others) and since 2006 he has been the Systems Certification Technical Manager.

2.1.-Review of Documentation

The Monitoring Report version 01 /1/ was submitted to DOE before the verification activities started. The MR was assessed based on all the relevant documents. The aim of the assessment in the desk review was to:

- verify the completeness of the data and the information presented in the MR;
- check the compliance of the MR with respect to the monitoring plan depicted in the registered PDD and Passport, verify that the applied methodology was carried out. Particular attention to the frequency of measurements, the quality of the metering equipment including calibration requirements, and the quality assurance and quality control procedures was paid;
- evaluate the data management and the quality assurance and quality control system in the context of their influence on the generation and reporting of emission reductions.

A complete list of documents reviewed is available in chapter 6 of this report.

2.2.-On-site Assessment and follow-up Interviews

As a part of the verification, the on-site inspection has been performed by the assessment team.

Location: Keke Town, Ulan County, Haixi Mongol and Tibetan Autonomous Prefecture, Qinghai Province, P. R. of China		
Date: 09/12/2015 - 10/12/2015		
Suo Shenyang	Project Manager	Ulan Jinfeng New Energy Photovoltaic Power Generation Co., Ltd.
Yang Yuanlin	Engineer	Ulan Jinfeng New Energy Photovoltaic Power Generation Co., Ltd.
Dou Pengtao	Engineer	Ulan Jinfeng New Energy Photovoltaic Power Generation Co., Ltd.

Ma Jinlong	Villager	Keke Town
Zhao Guifen	Villager	Keke Town
Xia Yue	Project Manager	Goldchina Consultancy International Co., Ltd.

The objective of the on-site assessment is to:

- confirm the implementation and operation of the project;
- review the data flow for generating, aggregating and reporting the monitoring parameters;
- confirm the correct implementation of procedures for operations and data collection;
- cross-check the information provided in the MR documentation with other sources;
- check the monitoring equipment against the requirements of the PDD, Passport and the approved methodology, including calibrations, maintenance, etc.;
- review the calculations and assumptions used to obtain the GHG data and ER;
- indentify if the quality control and quality assurance procedures are in place to prevent or correct errors or omissions in the reported parameters.

2.3.-Quality of Evidences

Sufficient evidence covering the full verification period in the required frequency is available to verify the figures stated in the final MR. The source of the evidences will be discussed in section 3 of this report. Specific cross-checks have been done in cases that further sources were available. The monitoring report's figures were checked by the assessment team against the raw data. The data collection system meets the requirements of the monitoring plan as per the methodology.

2.4.-Reporting of Findings

As an outcome of the verification process, the assessment team can raise different types of findings.

Where a non-conformance arises the assessment team shall raise a Corrective Action Request (CAR). A CAR is issued, where:

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.

The assessment team shall raise a Clarification Request (CR) if information is insufficient or not clear enough to determine whether the applicable GS requirements have been met.

All CARs and CRs raised during verification shall be resolved prior to submitting a request for issuance.

Forward Action Requests (FARs) may be raised during verification for actions where the monitoring and reporting require attention and/or adjustment for the next verification period.

All CARs, CRs and FARs for this verification period are included in Section 5 of the verification checklist in the annex 1 of the report.

2.5.-Internal Quality Control

As a final step of verification, the final documentation including the verification report have to undergo an internal quality control by the Technical Reviewer. Each report has to be finally approved either by the DOE's Technical Manager or the Deputy. In case one of these two persons is part of the assessment team, the approval can only be given by the person who is not a part of the assessment team. If the documents have been satisfactorily approved, the Request for Issuance is submitted to the GS Registry along with the relevant documents.

3. VERIFICATION FINDINGS

In the following sections, the results of the verification are stated. The verification results related to the project performance as documented and described in the registered PDD (dated 06/12/2014, version 03) /3/, registered Passport (dated 06/12/2014, version 03) and Monitoring Report (dated 18/01/2016, version 03) /1/. The verification findings for each verification subject are presented below.

3.1.-FARs from Validation / Previous Verification

As this is the first periodical verification, after checking validation report /5/, there is no FARs requested.

3.2.-Project Implementation in accordance with the registered Project Design Document

The project activity was fully implemented according to the description presented in the registered PDD and Passport. The assessment team confirms, through the visual inspection that all physical features of the proposed project activity including data collecting systems and storage have been implemented in accordance with the registered PDD.

The technical features of the equipments have been verified by the assessment team during site visit by checking nameplate of main equipment /10/ which is detailed listed below:

Item		Unit	Project
Solar cell module	Type		JKM250P-60
	Number		41,440
	Rated Max. Power	Wp	250
	Optimum Voltage	V	30.4
	Optimum Current	A	8.23
	Open Circuit voltage	V	37.6
	Short Circuit current	A	8.81
	Lifetime	Year	25
Inverter	Type		DS 500 KTL
	Number		20
	Max. Output power	kW	500
	Rated frequency	HZ	50/60

The project activity was in normal operational and the same has been confirmed on-site by checking operation log /20/. The project activity started construction on 18/07/2013 and was put into fully operation since 20/12/2013. All this information has been confirmed by checking validation report /5/ and operation log /20/.

The project was registered at 05/12/2014 as confirmed by the mail sent by Gold Standard, according to the Gold Standard Toolkit Version 2.2 /9/, for retroactive project, the start date of the crediting period could be extend to two years before the date for the registration, therefore, as the project started operation on 20/12/2013, then the crediting period of the project started at 20/12/2013.

By comparing the actual ER claimed in this monitoring period with the estimate in the registered PDD, the actual emission reductions (26,249 tCO_2e) are 1.96% higher than what is stated in the PDD (i.e. 25,743 tCO_2e) which will not lead to a substantial increment of the ER in this period as considered as in the normal variation.

Applus+ LGAI confirms that none of the data affects the additionality, scale or applicability of the project. There's no post registration change has been occurred during this monitoring period.

3.3.-Compliance of the Monitoring Plan with the Monitoring Methodology

The monitoring plan is in accordance with the approved methodology AMS-I.D Version 17.0 /6/, applied by the proposed GS project activity. No deviation, correction or permanent change to the monitoring plan has been requested.

3.4.-Completeness of Monitoring

The monitoring has been carried out in accordance with the monitoring plan contained in the registered PDD. All parameters were monitored and determined as per the monitoring plan which is listed in below table:

Meth/tool	PDD	MR	Compliance?
$EG_{facility,y}$	$EG_{facility,y}$	$EG_{facility,y}$	Yes

The verification of the parameters required by the monitoring plan is provided as follows:

Data / Parameter:	$EG_{facility,y}$
Data unit:	MWh
Description:	Quantity of net electricity generation supplied to the grid in year y
Purpose of the data:	Calculation of baseline emissions
Parameter value:	30,644.231
Source of data used:	Monthly Reading Record /15/ based on M1 and M2, ETNs /16/ issued by the grid company are used for the calculation.
Information flow:	There is one meter installed at the 35 kV line of the Project (M1) and another meter installed at the auxiliary power line (M2). M1 is used to monitor electricity exported to the grid. Both M1 and M2 are used to monitor electricity imported from the grid. Net electricity supplied to the grid is the difference of electricity exported to the grid and electricity imported from the grids which are continuous measurement and at least monthly recording. At 24:00 of the last day of every month, the raw data of meter reading of M1 and M2 are recorded by the project owner as well as the power grid company and the project will form Monthly Reading Record /15/, the power grid company will issue ETNs /16/ then sent to project owner for confirmation. Then the conservative value between the Monthly Reading Record (MRR) /15/ and ETNs /16/ issued by the power grid company would be used for ER calculation. All these have been confirmed by site visit.
Monitoring method, frequency and equipments:	The parameter was measured continuously, hourly measurement and at least monthly recording by electricity meter (M1 and M2). All information of M1 and M2 are listed and verified by site visit and checking calibration certificate, see below:

Meter	Model	Serial Number	Accuracy
M1	DTSD341	351751654462410098013006 51	0.2s

<table>
<tr><td></td><td>
<table>
<tr><td>M2</td><td>DSSD331</td><td>860341854282510098060113 69</td><td>0.5s</td></tr>
</table>
</td></tr>
<tr><td>Calibration:</td><td>
<table>
<tr><th>Meters</th><th>Calibration date</th><th>Valid until</th><th>Certification Institution</th></tr>
<tr><td rowspan="2">M1 /17/</td><td>12/12/2013</td><td>11/12/2014</td><td rowspan="4">Electricity Metering and Verification Center of Qinghai Province /18/</td></tr>
<tr><td>10/12/2014</td><td>09/12/2015</td></tr>
<tr><td rowspan="2">M2 /17/</td><td>12/12/2013</td><td>11/12/2014</td></tr>
<tr><td>10/12/2014</td><td>09/12/2015</td></tr>
</table>
Electricity Metering and Verification Center of Qinghai Province /18/ : (Qing)Faji(2004) No.0016 Valid since 25/07/2011 to 24/07/2014
Electricity Metering and Verification Center of Qinghai Province /18/ : (Qing)Faji(2014) No.0016 Valid since 20/08/2014 to 19/08/2017
</td></tr>
<tr><td>QA/QC procedure:</td><td>Electronic and paper records will be kept for a minimum of two years after the end of the crediting period.</td></tr>
<tr><td>Means of verification:</td><td>Data of the parameter was verified by checking Monthly Reading Record /15/ based on main meters and ETNs /16/. All data is in line with Monthly Reading Record /15/ based on main meters and ETNs /16/;
Information flow was verified by checking Monthly Reading Record /15/ based on main meters and ETNs /16/. All information are consistent;
Monitoring method was verified by site visit, checking calibration certificate /17/, all monitoring method meets the description in the PDD;
Calibration was verified by checking calibration certificate /17/ and Accreditation certificate /18/, all monitoring equipment meets the requirement indicated in the PDD.</td></tr>
<tr><td>Cross-check:</td><td>Monthly Reading Record /15/ based on raw data is crosschecked with ETNs /16/.
All data are logically consistent and conservative data are used to in the ER calculation.</td></tr>
</table>

3.5.-Parameter not monitored

Below data has been verified against the data sources and the PDD.

Parameter title	Data	Source
$EF_{grid,CM,y}$	0.856875	Chinese Regional Grid Baseline Emission Factors 2013 /11/

Applus+ LGAI has verified the defaulted figures which are not monitored in crediting period and confirmed that the figures are consistent with their sources.

3.6.-Assessment of Data and Calculation of Greenhouse Gas Emission Reductions

As a result of verification of the ER calculation process, the assessment team confirmed that all the parameters required for the determination of the emission reductions have been included in the Monitoring report Version 03 /1/ and ER calculation spreadsheet /2/ and are consistent with the applied methodology AMS-I.D Version 17.0 /6/, Tool to calculate the emission factor for an electricity system Version 04.0 /7/ and the monitoring plan contained in the registered PDD /3/. The parameters are complete in this monitoring period.

After verifying the reported figures with the raw data sources, it's confirmed that the values of the parameters from the raw data sources are consistent with those quoted in the Monitoring report Version 03 /1/ and ER calculation spreadsheet /2/. The verification process for the same has been clearly described in section 3.4 of the report. See below for the detailed data:

Baseline emissions:

The quantity of the grid electricity export

Period	The quantity of the grid electricity export (MWh)			
	Measured by Electricity meter M1		Records of electricity sales	**Verified data**
	Meter reading	A	B	**C=MIN(A,B)**
20/12/2013-31/12/2013	4.733	331.310	331.3100	331.310
2013 SUM		**331.310**	**331.3100**	**331.310**
01/01/2014-31/01/2014	23.700	1,327.690	1,325.7320	1,325.732
01/02/2014-28/02/2014	41.439	1,241.730	1,199.1380	1,199.138
01/03/2014-31/03/2014	67.966	1,856.890	3,511.8400	3,511.840
01/04/2014-30/04/2014	92.187	1,695.470		
01/05/2014-31/05/2014	110.912	1,310.750	1,291.4300	1,291.430
01/06/2014-30/06/2014	130.502	1,371.300	2,950.8500	2,950.850
01/07/2014-31/07/2014	153.125	1,583.610		
01/08/2014-31/08/2014	174.036	1,463.770	1,446.8100	1,446.810
01/09/2014-30/09/2014	195.609	1,510.110	1,486.5200	1,486.520
01/10/2014-31/10/2014	217.832	1,555.610	1,541.6500	1,541.650
01/11/2014-30/11/2014	237.512	1,377.600	1,353.7200	1,353.720
01/12/2014-31/12/2014	256.878	1,355.620	1,333.6900	1,333.690
2014 SUM		**17,650.150**	**17,441.3800**	**17,441.380**
01/01/2015-31/01/2015	276.037	1,341.130	1,333.7800	1,333.780
01/02/2015-28/02/2015	293.932	1,252.650	1,211.7900	1,211.790
01/03/2015-31/03/2015	317.166	1,626.380	1,561.3800	1,561.380
01/04/2015-30/04/2015	341.286	1,688.400	1,674.6300	1,674.630
01/05/2015-31/05/2015	364.778	1,644.440	1,628.4600	1,628.460
01/06/2015-30/06/2015	383.791	1,330.910	1,303.7300	1,303.730
01/07/2015-31/07/2015	405.609	1,527.260	1,349.6000	1,349.600
01/08/2015-31/08/2015	425.916	1,421.490	1,412.5700	1,412.570
01/09/2015-30/09/2015	443.191	1,209.250	1,170.0100	1,170.010
01/10/2015-31/10/2015	465.237	1,543.220	1,454.7100	1,454.710
2015 SUM		**14,585.130**	**14,100.660**	**14,100.660**
SUM		**32,566.590**	**31,873.3500**	**31,873.350**

The quantity of the grid electricity import

Period	The quantity of the grid electricity import (MWh)								$EG_{facility,y}$ (MWh)
	Measured by Electricity meter M1		Records of electricity purchase	Verified data	Measured by Electricity meter M2		Records of electricity purchase	Verified data	
	Meter reading	D1	E1	**F1=MAX(D1,E1)**	Meter reading	D2	E2	**F2=MAX(D2,E2)**	**G=C-F1-F2**
20/12/2013-31/12/2013	0.024	1.680	15.840	15.840	860.346	*26.024*	26.024	26.024	289.446
2013 SUM		**1.680**	**15.840**	**15.840**		**26.024**	**26.024**	**26.024**	**289.446**
01/01/2014-31/01/2014	0.117	6.510	42.240	42.240	935.394	30.019	30.019	30.019	1,253.473
01/02/2014-28/02/2014	0.210	6.510	36.520	36.520	977.568	16.870	16.870	16.870	1,145.748
01/03/2014-31/03/2014	0.303	6.510	40.920	40.920	1,057.191	31.849	31.849	31.849	3,389.496
01/04/2014-30/04/2014	0.384	5.670	34.760	34.760	1,094.228	14.815	14.815	14.815	
01/05/2014-31/05/2014	0.454	4.900	33.000	33.000	1,101.282	2.822	2.822	2.822	1,255.608
01/06/2014-30/06/2014	0.528	5.180	31.680	31.680	1,105.783	1.800	1.800	1.800	2,869.773
01/07/2014-31/07/2014	0.604	5.320	42.680	42.680	1,118.074	4.916	4.916	4.916	
01/08/2014-31/08/2014	0.682	5.460	45.760	45.760	1,135.408	6.934	6.934	6.934	1,394.116
01/09/2014-30/09/2014	0.770	6.160	40.920	40.920	1,140.404	1.998	1.998	1.998	1,443.602
01/10/2014-31/10/2014	0.870	7.000	58.080	58.080	1,145.582	2.071	2.071	2.071	1,481.499
01/11/2014-30/11/2014	0.973	7.210	57.640	57.640	1,152.548	2.786	2.786	2.786	1,293.294
01/12/2014-31/12/2014	1.082	7.630	56.760	56.760	1,165.695	5.259	5.259	5.259	1,271.671
2014 SUM		**74.060**	**520.960**	**520.960**		**122.140**	**122.140**	**122.140**	**16,798.280**
01/01/2015-31/01/2015	1.191	7.630	48.840	48.840	1,227.794	24.840	24.840	24.840	1,260.100
01/02/2015-28/02/2015	1.283	6.440	46.200	46.200	1,282.990	22.078	22.078	22.078	1,143.512
01/03/2015-31/03/2015	1.377	6.580	43.560	43.560	1,328.294	18.122	18.122	18.122	1,499.698
01/04/2015-30/04/2015	1.460	5.810	48.400	48.400	1,355.669	10.950	10.950	10.950	1,615.280
01/05/2015-31/05/2015	1.540	5.600	42.680	42.680	1,386.546	12.351	12.351	12.351	1,573.429
01/06/2015-30/06/2015	1.614	5.180	34.320	34.320	1,410.642	9.638	9.638	9.638	1,259.772
01/07/2015-31/07/2015	1.689	5.250	37.400	37.400	1,419.538	3.558	3.558	3.558	1,308.642
01/08/2015-31/08/2015	1.771	5.740	37.840	37.840	1,424.324	1.914	1.914	1.914	1,372.816
01/09/2015-30/09/2015	1.844	5.110	42.240	42.240	1,439.282	5.983	5.983	5.983	1,121.787
01/10/2015-31/10/2015	1.926	5.740	51.920	51.920	1,442.584	1.321	1.321	1.321	1,401.469
2015 SUM		**59.080**	**433.400**	**433.400**		**110.756**	**110.756**	**110.756**	**13,556.504**
SUM		**134.820**	**970.200**	**970.200**		**258.919**	**258.919**	**258.919**	**30,644.231**

Therefore, the net electricity generation supplied of the project is determined as 30,644.231 MWh. As $EF_{grid,CM,y}$ is fix as 0.856875 tCO_2e/MWh, then:

Then, BE_y = 30,644.231 * 0.856875 = 26,249 tCO_2e

Project emissions:

The project is a solar power project, no fossil fuel will be consumed according to the methodology AMS-I.D /6/, then, according to registered PDD, PE_y = 0 tCO_2e

Leakage:

According to AMS-I.D Version 17.0 /6/, if energy generating equipment is transferred from another activity, leakage is to be considered. As a newly built project, the equipments of the project are all new but the equipment transfer from other activities. Then this part of leakage should be considered as zero.

In summary, LE_y = 0 tCO_2e

Emission reductions:

ER = BE_y - PE_y - LE_y = 26,249 tCO_2e – 0 tCO_2e – 0 tCO_2e = 26,249 tCO_2e

The calculation tool, i.e. the ER calculation spreadsheet /2/ clearly and transparently describes the calculation of emission reductions. The ER calculation spreadsheet /2/ is indicated with the issuing date and revision number. The assessment team re-produced the calculation process and confirmed that the methods and formulae used to obtain the baseline, project and leakage emissions are appropriate. The calculation has been done in accordance with the methods and formulae described in the registered monitoring plan and applicable methodology.

The reported data have been cross-checked against other sources available as explained above in section 3.4 of the report.

Applus+ LGAI checked all registries including VCS (http://www.vcsprojectdatabase.org/) and REC (http://www.epa.gov/greenpower/gpmarket/tracking.htm), there are no double counting for this monitor period for the project. Also in the MR, the project owner made a declaration that states no RECs are been issued.

The assessment team confirms that all the assumptions, emission factors and default values (ex-ante values) from PDD have been correctly justified. All the emission factors and default values are explicitly mentioned in the monitoring report.

3.7.- Management and Operational System

The responsibilities of data measurement, collection, verifying, archiving etc. have been clearly defined in the Project Operation Manual /12/. The data related to ER calculation as well as data monitoring, collection process etc. have been internally reviewed by the management of the Monitoring team regularly. The responsibility of each function is consistent with the monitoring plan in the registered PDD.

- Ms. Wang Hongye as Office director is full charge of issues related to GS VER project.
- Mr. Suo Shenyang is charge of the GS sustainable development indicators monitoring;
- Mr. Yang Yuanlin is in charge of equipment maintenance, data checking, archiving and managing;
- Mr. Dou Pengtao is in charge of collecting data required by the checking activity, including meter readings records, electricity sales records and purchase records;
- Ms. Xia Yue from the Goldchina Consultancy International Co., Ltd. is responsible for preparing the Monitoring Report and ER calculation.

The information flow of each parameter has been verified by the assessment team via interviewing with responsible personnel and checking with the Project Operation Manual /12/. The details of information flow of each parameter are described in annex 1 of the verification report.

It's verified during the on-site verification, the monitoring procedure as well as the internal quality management and control procedures are stipulated in the Project Operation Manual /12/. The procedure are issued and approved by the top management. The monitoring personnel have been interviewed by the assessment team and it's confirmed that the monitoring is implemented as per the procedure. Also the training record /13/ has been checked by the assessment team and it is confirmed that the monitoring personnel are get sufficient train to perform the monitoring.

All the data and documents, either hard copies or electric copies, will be kept for two years after the end of the last crediting period or the last issuance of GS VERs for this Project, whichever occurs later.

3.8.-Assessment of Sustainable Monitoring

In the Registered Passport Version 03 /4/, 5 indicators are chosen for the monitoring of sustainable monitoring for the project:

Meth/tool	Passport	MR	Compliance?
Air Quality	Air Quality	Air Quality	Yes

Meth/tool	Passport	MR	Compliance?
Water quality and quantity	Water quality and quantity	Water quality and quantity	Yes
Other pollutants	Other pollutants	Other pollutants	Yes
Quality of employment	Quality of employment	Quality of employment	Yes
Quantitative employment and income generation	Quantitative employment and income generation	Quantitative employment and income generation	Yes

The verification of the parameters required by the monitoring plan is provided as follows:

Indicator:	Air Quality
Chosen parameter:	Indirect parameter of "Total clean and renewable electricity supplied by the Project" is measured in order to calculate the concentrations of SO_2 and NO_x, as multiplied by default national emission factor from the Chinese government
Parameter value:	30,644.231 MWh
Mitigation Measures:	Spraying water at construction sites, transporting material under tarpaulins.
Data Source:	Monthly Reading Record /15/ based on M1, ETNs /16/ issued by the grid company, Spraying water logging /21/ and Interview record with local residents /22/
Original situation of parameter:	Equivalent electricity supplied by NWPG which is generated by the operation of grid-connected power plants and by the addition of new generation sources into the grid.
Baseline situation of parameter:	In the baseline, equivalent electricity supplied by NWPG which is generated by the operation of grid-connected power plants and by the addition of new generation sources into the grid.
Target achieved?	During the monitoring period, 30,644.231 MWh was supplied by the project to the grid; therefore bases on online data, the SO_2 and NO_x that could be generated in the baseline scenario are calculated as 70,487kg and 79,681kg respectively. The air quality in the operation quality was effectively improved against the baseline scenario. After checking spraying water logging and interview record with local residents, it is confirmed during the construction period, below measurement were taken: Spraying water at construction sites, transporting material under tarpaulins.
Procedure of monitoring:	The net electricity supplied by the project will be continuously measured by electricity meters. Please refer to table in the 3.4.
Means of verification:	Monthly Reading Record /15/ based on M1 and M2, ETNs /16/ issued by the grid company are checked to determine the net electricity generated by the project activity. Spraying water logging /21/ and Interview record with local residents /22/ have been checked as well as interview with local residents to confirm that during the construction period, the mitigation measure (spraying water at construction site) has been implemented.
Cross-check:	Not applicable

Indicator:	Water quality and quantity
Chosen parameter:	Not applicable

Parameter value:	Not applicable
Mitigation Measures:	Wastewater is treated through septic-tank, or used as greening water.
Data Source:	Interview record with local residents /22/
Original situation of parameter:	Not applicable
Baseline situation of parameter:	Not applicable
Target achieved?	Yes, all waste water from the project will be treated then used as greening water
Procedure of monitoring:	Check the septic-tank and interview with local residential.
Means of verification:	By checking septic-tank, it is confirmed all waste water from the project will be treated then used as greening water. Also by checking Record for interview with local resident /22/ as well as interview with local residents, it is confirmed that the impact of the Project to local water quality and quantity is negligible.
Cross-check:	Not applicable

Indicator:	Other pollutants
Chosen parameter:	Not applicable
Parameter value:	Not applicable
Mitigation Measures:	Domestic solid waste will be collected together and periodically transferred to the local waste disposal plant for further treatment. The wasted equipment, such as the solar cell panel, will be collected together and transferred to the manufacturer.
Data Source:	Interview record with local residents /22/ and Solid waste treatment record /23/
Original situation of parameter:	Not applicable
Baseline situation of parameter:	Not applicable
Target achieved?	Yes, after checking solid waste treatment record /23/, record for interview with local resident /22/ as well interview, it is confirmed for solid waste are collected together and periodically transferred to the local waste disposal plant for further treatment according to the requirement in the GS passport.
Procedure of monitoring:	Check the solid waste treatment record and interview with local residents.
Means of verification:	By checking solid waste treatment record /23/ and record for interview with local resident /22/ as well as interview with local residents, it is confirmed for solid waste are collected together and periodically transferred to the local waste disposal plant for further treatment according to the requirement in the GS passport.
Cross-check:	Not applicable

Indicator:	Quality of employment

Chosen parameter:	Training of staff
Parameter value:	Not applicable
Data Source:	Training Record /13/
Mitigation Measures:	Not applicable as indicator scored positive
Original situation of parameter:	Without the project, local people have no such opportunities to be trained on the technology and the monitoring of the plant operation, and the emergency and safety procedures.
Baseline situation of parameter:	In the baseline, local people have no such opportunities to be trained on the technology and the monitoring of the plant operation, and the emergency and safety procedures.
Target achieved?	Yes, the staffs have accepted a series of training on the technology and the monitoring of the plant operation, and the emergency and safety procedures.
Procedure of monitoring:	Checking training record /13/
Means of verification:	By checking all the training records /13/, it is confirmed that the project owner provide sufficient training for the employee for skill and safety training. Also some interviews were made with employee and confirmed that they are receiving a lot of trainings.
Cross-check:	Not applicable

Indicator:	Quantitative employment and income generation
Chosen parameter:	Number of jobs created in the operations of the Project and their salary levels.
Data Source:	HR report for salary issued by the project owner /14/
Parameter value:	6 long-term work positions for local people have been created with 60,000 RMB yearly salaries for every employee
Mitigation Measures:	Not applicable as indicator scored positive
Original situation of parameter:	Without the project, local people have no such job opportunities from the project, and their income has no increase.
Baseline situation of parameter:	In the baseline, local people have no such job opportunities from the project, and their income has no increase.
Target achieved?	Yes. 6 long-term work positions for local people have been created with 60,000 RMB yearly salaries for every employee.
Procedure of monitoring:	The project owner records the quantity of the work position and salary. Salary and number of position would be once for each monitoring period.
Means of verification:	After checking HR report for salary issued by the project owner /14/, it is confirmed that 6 long-term work positions for local people have been created with 60,000 RMB yearly salaries for every employee. Also some interview with employee and general manager of the project owner was made to confirm the authentic of the information. Also, after checking China Statistical Yearbook 2014 /19/, it is found the average salary of the project activity is higher than the value of Qinghai province.
Cross-check:	Not applicable

Also during the site visit, Applus+ LGAI conducted an interview with the project owner and local stakeholders please find the summary of the interview as below:

Sections	**Debriefing**

Topic 1. Staff of Project owner	**Ulan Jinfeng New Energy Photovoltaic Power Generation Co., Ltd.**
Have you ever accepted any training regarding the operation of the project?	The staffs of the project were trained on the PV power generation technology, the plant operation, the emergency and safety procedures, and Electricity safe. The training not only improves the operation level of the Project, and also enhances the technical skill of the staff.
Topic 2. Local residents	**Keke Town**
What is the impact of the project construction do you think on local air quality? Any negative impact?	The air quality in the operation period was effectively improved against the baseline scenario. The impact of the Project to local air quality is negligible. The sprinkling truck was used to spray water to avoid the dust.
What is the impact of the project do you think on local water environment? Any negative impact?	The waste water is treated though waste water treatment system, after treatment, the waste water was used as greening water, so the impact of the Project to local water environment is negligible.
What is the impact of the solid waste do you think on local environment? Any negative impact?	The solid waste is collected by the solid waste collecting device then transferred to the local waste disposal plant for further treatment, and not discharged directly, so the impact of the solid waste to local environment is very small.

In Summary, it is Applus+ LGAI's opinion that the monitoring of the project owner regarding to sustainability is in line with requirement of the Gold Standard Toolkit Version 2.2 /9/

4. SUMMARY OF FINDINGS

The assessment team can confirm that the published MR and related documents are complete and verifiable in accordance with the GS requirements. All the findings that were raised by the assessment team, the responses by the PPs and the conclusion from the team are presented in section 5 of Annex 1. The means of verification and resulting changes in the MR or related documents are identified in the following tables:

Findings
CR#1: Please provide the information of accreditation of calibration institution in the MR.
Means of verification
Accreditation information of calibration institution, it is confirmed correct information has been included in the MR.
Changes in the MR or related documents
Accreditation information has been included in the updated MR.

Findings
CR#2: Please clarify how quantity of net electricity supplied of the project activity to the grid in year y is monitored and the information flow of the data.
Means of verification
After interview during the site visit, it is confirmed the description of monitoring and information flow of the data indicated in the MR is in line with the real situation.
Changes in the MR or related documents
More information has been included in the updated MR.

5. REFERENCE

/1/ Monitoring Report Version 01 dated 11/11/2015 and Monitoring Report Version 03 dated 18/01/2016

/2/ ER calculation spreadsheet

/3/ Registered PDD Version 03 dated 06/12/2014

/4/ Registered Passport Version 03 dated 06/12/2014

/5/ Gs Validation Report issued by TÜV Rheinland dated 12/12/2014 Version 03.0 Report No. 01 997 9105077912

/6/ AMS-I.D Version 17.0 - Grid connected renewable electricity generation

/7/ Tool to calculate the emission factor for an electricity system Version 04.0

/8/ Validation and Verification Standard Version 09.0

/9/ The Gold Standard Toolkit Version 2.2

/10/ Nameplate of main equipment

/11/ Chinese Regional Grid Baseline Emission Factors 2013

/12/ Project Operation Manual issued by project owner for project

/13/ Training record

/14/ HR report for salary issued by the project owner

/15/ Monthly Reading Record of M1 and M2 covering the monitoring period

/16/ ETNs covering the monitoring period for both electricity exported and imported for both project

/17/ Calibration Certificate for M1 and M2 covering the monitoring period issued by Sichuan Power Science Research Institution

/18/ Accreditation of Electricity Metering and Verification Center of Qinghai Province valid from 25/07/2011 to 24/07/2014 and from 20/08/2014 to 19/08/2017

/19/ China Statistical Yearbook 2014

/20/ Operation log

/21/ Spraying water logging

/22/ Interview record with local residents

/23/ Solid waste treatment record

6. VERIFICATION STATEMENT

Applus+ LGAI has been engaged by Carbon Invcap International Trading Co., Ltd. to perform the first periodical verification of the Ulan Phase II 10MWp Solar PV Project (GS Ref. No. 2679).

The management of Ulan Jinfeng New Energy Photovoltaic Power Generation Co., Ltd. is responsible for the preparation of the GHG emissions data and the reported GHG emissions reductions on the basis set out within the project's Monitoring Plan in the registered PDD version 03 completed on 06/12/2014, registered Passport version 03 completed on 06/12/2014 and the applied methodology AMS-I.D Version 17.0.

Our verification approach was based on the requirements as defined under the Kyoto Protocol, Marrakesh accord, as well as those defined by the CDM Executive Board and Gold Standard. Our approach is risk-based, drawing on an understanding of the risks associated with reporting GHG emissions data and the controls in place to mitigate these. The verification can confirm that:

- *the project is operated as planned and described in the project design document and passport approved by the EB and GS;*
- *the monitoring plan is as per the applied methodology;*
- *the monitoring in Monitoring Report is as per the PDD and Passport and the monitoring plan approved by the EB and GS;*
- *the development and maintenance of records and reporting procedures are in accordance with the registered monitoring plan;*
- *the installed equipment being essential for generating emission reduction runs reliably and is calibrated appropriately;*
- *the monitoring system is in place and generates GHG emission reductions data;*
- *the GHG emission reductions are calculated without material misstatements.*

In our opinion, the GHG emission reductions for Ulan Phase II 10MWp Solar PV Project for the monitoring period 20/12/2013 - 31/10/2015 as reported in Monitoring Report, prepared on the basis of the project's Monitoring Plan are fairly stated.

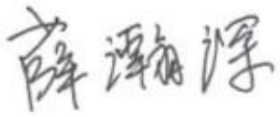
Based on the information we have seen and evaluated, we confirm the following statement:

Reporting period:	*From 20/12/2013 to 31/10/2015*
Verified emissions in the above reporting period:	
Leakage emissions	*0 tCO_2 equivalents*
Project emissions	*0 tCO_2 equivalents*
Baseline emissions	*26,249 tCO_2 equivalents*
Emission reductions in 2013	*248 tCO_2 equivalents*
Emission reductions in 2014	*14,389 tCO_2 equivalents*
Emission reductions in 2015	*11,612 tCO_2 equivalents*
Emission reductions	*26,249 tCO_2 equivalents*

Signature

Date: 20/01/2016

Assessment team: Hanshen (Denny) Xue (Team Leader / Leader Auditor)



DOE Representative: Miquel Sitjes Cabanas (CDM Technical Manager)

B.U. Systems Certification Area Manager: Juan Sendín Caballero

Annex 1:

VERIFICATION CHECKLIST
for GS PROJECT ACTIVITY

PROJECT TITLE:	**Ulan Phase II 10MWp Solar PV Project**
REFERENCE NO:	**A+SH_SYST_03315**
VERSION NO.	**01.1**
CLIENT NAME:	**Carbon Invcap International Trading Co., Ltd.**

ASSESSMENT TEAM:

Lead Auditor:	**Hanshen (Denny) Xue**
Technical Expert:	**Hanshen (Denny) Xue**

1. Compliance of Project Activity Implementation

1.1. Basic information

<table>
<tr><td colspan="5">Location</td></tr>
<tr><td></td><td>Real situation</td><td>Consistency of PDD/Passport</td><td>Consistency of MR</td><td>Conclusion</td></tr>
<tr><td>Address:</td><td>Keke Town, Ulan County, Haixi Mongol and Tibetan Autonomous Prefecture, Qinghai Province, P. R. of China</td><td>Keke Town, Ulan County, Haixi Mongol and Tibetan Autonomous Prefecture, Qinghai Province, P. R. of China</td><td>Keke Town, Ulan County, Haixi Mongol and Tibetan Autonomous Prefecture, Qinghai Province, P. R. of China</td><td>OK</td></tr>
<tr><td>GPS coordinates:</td><td>East longitude 98°23′09′′ and North latitude 36°59′11′′</td><td>East longitude 98°23′09′′ and North latitude 36°59′11′′</td><td>East longitude 98°23′09′′ and North latitude 36°59′11′′</td><td>OK</td></tr>
<tr><td colspan="5">Technical specification of main Equipment</td></tr>
<tr><td></td><td>Real situation</td><td>Consistency of PDD/Passport</td><td>Consistency of MR</td><td>Conclusion</td></tr>
<tr><td>Description</td><td>The purpose of the project activity is to 41,440 pieces of the polycrystalline silicon solar cell modules with unit capacity of 250Wp to generate clean renewable electricity with zero emissions. The total capacity is 10.36MWp.</td><td>The purpose of the project activity is to 41,440 pieces of the polycrystalline silicon solar cell modules with unit capacity of 250Wp to generate clean renewable electricity with zero emissions. The total capacity is 10.36MWp.</td><td>The purpose of the project activity is to 41,440 pieces of the polycrystalline silicon solar cell modules with unit capacity of 250Wp to generate clean renewable electricity with zero emissions. The total capacity is 10.36MWp.</td><td>OK</td></tr>
<tr><td>Component 1: Polycrystalline silicon solar cell modules</td>
<td><table><tr><td>Type</td><td></td><td>JKM250P-60</td></tr><tr><td>Number</td><td></td><td>41,440</td></tr><tr><td>Rated Max. Power</td><td>Wp</td><td>250</td></tr><tr><td>Optimum Voltage</td><td>V</td><td>30.4</td></tr><tr><td>Optimum</td><td>A</td><td>8.23</td></tr></table></td>
<td><table><tr><td>Type</td><td></td><td>JKM250P-60</td></tr><tr><td>Number</td><td></td><td>41,440</td></tr><tr><td>Rated Max. Power</td><td>Wp</td><td>250</td></tr><tr><td>Optimum Voltage</td><td>V</td><td>30.4</td></tr><tr><td>Optimum</td><td>A</td><td>8.23</td></tr></table></td>
<td><table><tr><td>Type</td><td></td><td>JKM250P-60</td></tr><tr><td>Number</td><td></td><td>41,440</td></tr><tr><td>Rated Max. Power</td><td>Wp</td><td>250</td></tr><tr><td>Optimum Voltage</td><td>V</td><td>30.4</td></tr><tr><td>Optimum</td><td>A</td><td>8.23</td></tr></table></td>
<td>OK</td></tr>
</table>

	Current			Current			Current			
	Open Circuit voltage	V	37.6	Open Circuit voltage	V	37.6	Open Circuit voltage	V	37.6	
	Short Circuit current	A	8.81	Short Circuit current	A	8.81	Short Circuit current	A	8.81	
	Lifetime	year	25	Lifetime	year	25	Lifetime	year	25	
Component 2: Inventor	Type		DS 500 KTL	Type		DS 500 KTL	Type		DS 500 KTL	OK
	Number		20	Number		20	Number		20	
	Max. Output power	kW	500	Max. Output power	kW	500	Max. Output power	kW	500	
	Rated frequency	HZ	50/60	Rated frequency	HZ	50/60	Rated frequency	HZ	50/60	

Operation Status during verification				
	Real situation	Consistency of PDD/PASSPORT	Consistency of MR	Conclusion
Actual Operation Status	The project construction was commenced on 18/07/2013, and the operation was started on 20/12/2013, during this monitoring period; the project is under normal operation.	The project construction was commenced on 18/07/2013, and the operation was started on 20/12/2013, during this monitoring period; the project is under normal operation.	The project construction was commenced on 18/07/2013, and the operation was started on 20/12/2013, during this monitoring period; the project is under normal operation.	OK

1.2. Organization

Project Participant (s)		
	Verified Situation	Conclusion
Entity / Responsible person:	Through site visit, the verification team confirms Ms. Wang Hongye, Office director is responsible for supervising the whole issues in the project activity.	OK

Project management:	- Ms. Wang Hongye as Office director is full charge of issues related to GS VER project. - Mr. Suo Shenyang is charge of the GS sustainable development indicators monitoring; - Mr. Yang Yuanlin is in charge of equipment maintenance, data checking, archiving and managing; - Mr. Dou Pengtao is in charge of collecting data required by the checking activity, including meter readings records, electricity sales records and purchase records; - Ms. Xia Yue from the Goldchina Consultancy International Co., Ltd. is responsible for preparing the Monitoring Report and ER calculation.	OK

1.3. Quality Management System

General aspects of the Quality Management System		
	Verified Situation	Conclusion
Quality Management Manual:	After site visit, it is confirmed that Project Operation Manual is well followed.	OK
Responsibilities:	- Ms. Wang Hongye as Office director is full charge of issues related to GS VER project. - Mr. Suo Shenyang is charge of the GS sustainable development indicators monitoring; - Mr. Yang Yuanlin is in charge of equipment maintenance, data checking, archiving and managing; - Mr. Dou Pengtao is in charge of collecting data required by the checking activity, including meter readings records, electricity sales records and purchase records; - Ms. Xia Yue from the Goldchina Consultancy International Co., Ltd. is responsible for preparing the Monitoring Report and ER calculation.	OK
Qualification and Training:	After checking training record, it is confirmed that training are appropriated held by the project owner	OK
Implementation of QM-system	After site visit, it is confirmed that Project Operation Manual is well followed.	OK

1.4. Remaining FARs from previous Verifications (or forwarded issues of validation report)

Remaining Requests from Previous Verifications	Summary of project owner response	Assessment team Conclusion
Forward action request No. 1: None	N.A	OK

2. Monitoring Plan of Parameters

2.1. Parameters

Parameters					
Meth/tool	PDD	MR	Included in below table	Compliance	Conclusion
Quantity of net electricity generation supplied to the grid in year y	Quantity of net electricity generation supplied to the grid in year y	Quantity of net electricity generation supplied to the grid in year y	Section 2.2 Table 1	Fully consistent	OK

2.2. Parameters measured directly with instruments

Table 1: Quantity of net electricity supplied of Magang project to the grid in year y

Parameter and instrumentation Information					
	PDD	Meth/Tool	MR	Verified	Conclusion
Parameter title:	Quantity of net electricity generation supplied to the grid in year y	Quantity of net electricity generation supplied to the grid in year y	Quantity of net electricity generation supplied to the grid in year y	Fully consistent	OK
Parameter ID (if available):	$EG_{facility,y}$	$EG_{facility,y}$	$EG_{facility,y}$	Fully consistent	OK
Data Unit:	MWh/yr	MWh	MWh	Fully consistent	OK
Monitoring frequency (read-	Continuously monitored	Continuously monitored	Continuously monitored	Fully consistent	OK

<table>
<tr><td>ing):</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Monitoring frequency (recording):</td><td>Monthly Record</td><td>Monthly Record</td><td>Monthly Record</td><td>Fully consistent</td><td>OK</td></tr>
<tr><td>Calibration requirements:</td><td>Technical administrative code of electric energy metering (DL/T 448-2000)</td><td>N.A</td><td>Technical administrative code of electric energy metering (DL/T 448-2000)</td><td>Although not mentioned in the methodology, it is assumed that the calibration should be at least once a year</td><td>OK</td></tr>
<tr><td>Uncertainty level:</td><td>N.A</td><td>N.A</td><td>N.A</td><td>Fully consistent</td><td>OK</td></tr>
<tr><td>Measurement Principle (if applicable):</td><td>N.A</td><td>N.A</td><td>N.A</td><td>Fully consistent</td><td>OK</td></tr>
<tr><td></td><td colspan="4">Technical aspects</td><td>Conclusion</td></tr>
<tr><td>Instrument Type:</td><td colspan="4">Electricity Meter: M1 and M2</td><td>OK</td></tr>
<tr><td>Serial Number:</td><td colspan="4">M1: 351751654462410098013006 51, M2: 860341854282510098060113 69</td><td>OK</td></tr>
<tr><td>Manufacturer Model Nr.:</td><td colspan="4">M1: DTSD341, M2: DSSD331</td><td>OK</td></tr>
<tr><td>Specific Location:</td><td colspan="4">M1 is installed at the 35 kV line of the Project
M2 is installed at the auxiliary power line</td><td>OK</td></tr>
<tr><td>Measurement Range:</td><td colspan="4">M1: 0.2s, M2: 0.5s</td><td>OK</td></tr>
<tr><td>Calibration of the instrument:</td><td colspan="4"><table><tr><th>Meter</th><th>Calibration Date</th><th>Valid Date</th></tr><tr><td rowspan="2">M1</td><td>12/12/2013</td><td>11/12/2014</td></tr><tr><td>10/12/2014</td><td>09/12/2015</td></tr><tr><td rowspan="2">M2</td><td>12/12/2013</td><td>11/12/2014</td></tr><tr><td>10/12/2014</td><td>09/12/2015</td></tr></table></td><td>OK</td></tr>
<tr><td>Accreditation of the calibration institute:</td><td colspan="4">CR#1: Please provide the information of accreditation of calibration institution in the MR.</td><td><s>CR#1</s>
OK</td></tr>
<tr><td>Gaps in operating time of</td><td colspan="4">Period: N.A</td><td>OK</td></tr>
</table>

instrument:	Default value used: N.A	OK
	Justification: N.A	OK
	QA/QC aspects	Conclusion
Source of data:	Source: The conservative value between the MRR and ETNs. CR#2: Please clarify how quantity of net electricity supplied of the project activity to the grid in year y is monitored and the information flow of the data.	~~CR#2~~ OK
	Procedures: Project operation manual	OK
	Implementation of procedure: By site visit, the verification team confirms Project operation manual has been corrected performed for the project activity.	OK
	Responsibility: The project owner and power grid company is responsible for collecting the raw data	OK
Archiving of raw data and protection measures:	All the data will be kept until two years after the end of credit period.	OK
Data transfer and protection of input data for calculations:	CR#2: Please clarify how quantity of net electricity supplied of the project activity to the grid in year y is monitored and the information flow of the data.	~~CR#2~~ OK
	Quality of evidence	Conclusion
Completeness of data:	The MRRs and statement are checked to verify the completeness of the data.	OK
Data verification:	Consistency of raw data with calculation tool: Yes	OK
	Consistency of calculation tool with monitoring report: Yes	OK
Crosscheck (if available):	MRRs based on raw data is crosschecked with ETNs. All data are logically consistent.	OK

2.3. Other parameters not included in the methodology/tool but included in the PDD

N.A

2.4. Data and parameter not monitored in the monitoring period but available at validation

Data and parameter not monitored in the monitoring period but available at validation					
	Meth/Tool	PDD or approved MP	MR	Verified	Conclusion
Parameter title	$EF_{grid,CM,y}$	$EF_{grid,CM,y}$	$EF_{grid,CM,y}$	Fully consistent	OK
Data Unit	tCO_2/MWh	tCO_2/MWh	tCO_2/MWh	Fully consistent	OK
Parameter Description	CM Emission factor	CM Emission factor of NWPG	CM Emission factor of NWPG	Fully consistent	OK
Source of data	N.A.	Public data from Chinese NDRC	Registered PDD	Fully consistent	OK
Value	N.A.	0.856875	0.856875	Fully consistent	OK

3. Sustainability Monitoring Plan

3.1. Indicators

Indicators					
GS requirements	Passport	MR	Included in below table	Compliance	Conclusion
Air Quality	Air Quality	Air Quality	Section 3.2 Table 1	Yes, all information are compliance	OK
Water quality and quantity	Water quality and quantity	Water quality and quantity	Section 3.2 Table 2	Yes, all information are compliance	OK
Other pollutants	Other pollutants	Other pollutants	Section 3.2 Table 3	Yes, all information are compliance	OK
Quality of employment	Quality of employment	Quality of employment	Section 3.2 Table 4	Yes, all information are compliance	OK

Indicators					
GS requirements	Passport	MR	Included in below table	Compliance	Conclusion
Quantitative employment and income generation	Quantitative employment and income generation	Quantitative employment and income generation	Section 3.2 Table 5	Yes, all information are compliance	OK

3.2. Indicators monitored

Table 1 Air Quality

Indicators Information					
	Passport	GS requirements	MR	Verified	Conclusion
Indicator title:	Air Quality	Air Quality	Air Quality	Fully consistent	OK
Indicator Nr. (if available):	1	N.A	1	Fully consistent	OK
Chosen parameter:	Indirect parameter of "Total clean and renewable electricity supplied by the project" is measured in order to calculate the concentrations of SO_2 and NO_x, as multiplied by default national emission factor from the Chinese government	N.A	Indirect parameter of "Total clean and renewable electricity supplied by the project" is measured in order to calculate the concentrations of SO_2 and NO_x, as multiplied by default national emission factor from the Chinese government	Fully consistent	OK
Monitoring measures (how):	Check the spraying water logging and interview with the local residents; and the net electricity supplied by the Project will be continuously measured by electricity	N.A	Check the spraying water logging and interview with the local residents; and the net electricity supplied by the Project will be continuously measured by electricity	Fully consistent	OK

	meters		meters		
Monitoring frequency (when):	The monitoring of the mitigation measure will be done once during the first verification; and the net electricity supplied by the Project will be continuously measured and monthly recorded.	N.A	The monitoring of the mitigation measure will be done once during the first verification; and the net electricity supplied by the Project will be continuously measured and monthly recorded.	Fully consistent	OK
Responsibility (by who):	Project Owner	N.A	Project Owner	Fully consistent	OK
	Technical aspects				Conclusion and IRL
Original situation of parameter:	In the baseline, equivalent electricity supplied by NWPG which is generated by the operation of grid-connected power plants and by the addition of new generation sources into the grid.				OK
Baseline situation of parameter:	In the baseline, equivalent electricity supplied by NWPG which is generated by the operation of grid-connected power plants and by the addition of new generation sources into the grid.				OK
Mitigation measures:	Spraying water at construction sites, transporting material under tarpaulins.				OK
The situation of the parameter at the stage of verification:	During the monitoring period, 30,644.231 MWh was supplied by the project to the grid; therefore bases on online data, the SO_2 and NO_x that could be generated in the baseline scenario are calculated as 70,487kg and 79,681kg respectively. The air quality in the operation quality was effectively improved against the baseline scenario. After checking spraying water logging and interview record with local residents, it is confirmed during the construction period, below measurement were taken: Spraying water at construction sites, transporting material under tarpaulins.				OK
Target achieved?	Yes, bases on online data, the SO_2 and NO_x that could be generated in the baseline scenario are calculated as 70,487kg and 79,681kg respectively. The air quality in the operation quality was effectively improved against the baseline scenario.				OK
	QA/QC aspects				Conclusion
Procedure of monitoring:	The net electricity supplied by the project will be continuously measured by electricity meters. Refer to the 2.2.1.				OK

Archiving of documents and protection measures:	All the data will be kept until two years after the end of credit period.	OK
	Quality of evidence	Conclusion
Means of verification:	Document Review and Interview	OK
Documents verified:	MRR and ETNs http://www.cpnn.com.cn/zdyw/201403/t20140307_660042.html http://news.bjx.com.cn/html/20120606/364987.shtml. Spraying water logging and Interview record with local residents	OK
Practice witnessed:	N.A	OK
Person interviewed:	The general manager of the project and local villagers	OK
Crosscheck (if available):	N.A	OK

Table 2 Water quality and quantity

Indicators Information					
	Passport	GS requirements	MR	Verified	Conclusion
Indicator title:	Water quality and quantity	Water quality and quantity	Water quality and quantity	Fully consistent	OK
Indicator Nr. (if available):	2	N.A	2	Fully consistent	OK
Chosen parameter:	N.A	N.A	N.A	Fully consistent	OK
Monitoring measures (how):	Check the septic-tank and interview with the local residents.	N.A	Check the septic-tank and interview with the local residents.	Fully consistent	OK
Monitoring frequency (when):	Once for each monitoring period	N.A	Once for each monitoring period	Fully consistent	OK
Responsibility (by who):	The project owner	N.A	The project owner	Fully consistent	OK

	Technical aspects	Conclusion
Original situation of parameter:	Not applicable	OK
Baseline situation of parameter:	Not applicable	OK
Mitigation measures:	Wastewater is treated through septic-tank, or used as greening water.	OK
The situation of the parameter at the stage of verification:	By checking septic-tank, it is confirmed that water are treated before discharged. Also by checking Record for interview with local resident, it is confirmed that the impact of the Project to local water quality and quantity is negligible.	OK
Target achieved?	Yes	OK
	QA/QC aspects	Conclusion
Procedure of monitoring:	Check septic-tank and Record for interview with local resident, to verify if the waste water was treated before discharge.	OK
Archiving of documents and protection measures:	All the data will be kept until two years after the end of credit period.	OK
	Quality of evidence	Conclusion
Means of verification:	Interview, Document Review and Site visit	OK
Documents verified:	Record for interview with local resident	OK
Practice witnessed:	Septic-tank	OK
Person interviewed:	The general manager of the project and local resident	OK
Crosscheck (if available):	N.A	OK

Table 3 Other pollutants

Indicators Information					
	Passport	GS requirements	MR	Verified	Conclusion

Indicator title:	Other pollutants	Other pollutants	Other pollutants	Fully consistent	OK
Indicator Nr. (if available):	3	N.A	3	Fully consistent	OK
Chosen parameter:	N.A	N.A	N.A	Fully consistent	OK
Monitoring measures (how):	Check the solid waste collecting device and interview with local residents.	N.A	Check the solid waste collecting device and interview with local residents.	Fully consistent	OK
Monitoring frequency (when):	Once for each monitoring period	N.A	Once for each monitoring period	Fully consistent	OK
Responsibility (by who):	The project owner	N.A	The project owner	Fully consistent	OK
	Technical aspects				Conclusion
Original situation of parameter:	N.A				OK
Baseline situation of parameter:	N.A				OK
Mitigation measures:	Domestic solid waste will be collected together and periodically transferred to the local waste disposal plant for further treatment. The wasted equipment, such as the solar cell panel, will be collected together and transferred to the manufacturer.				OK
The situation of the parameter at the stage of verification:	After checking domestic solid waste collecting device, Solid waste treatment record, Record for interview with local resident as well interview, it is confirmed for solid waste are collected together and periodically transferred to the local waste disposal plant for further treatment according to the requirement in the GS passport.				OK
Target achieved?	Yes				OK
	QA/QC aspects				Conclusion
Procedure of monitoring:	Solid waste collecting device, Solid waste treatment record, Record for interview with local resident are checked, local resident are interviewed				OK
Archiving of documents and protection measures:	All the data will be kept until two years after the end of credit period.				OK

	Quality of evidence	Conclusion
Means of verification:	Document Review, Interview and Site visit	OK
Documents verified:	Record for interview with local residents and Solid waste treatment record	OK
Practice witnessed:	Solid waste collecting device	OK
Person interviewed:	The general manager of the project and Local Resident	OK
Crosscheck (if available):	N.A	OK

Table 4 Quality of employment

Indicators Information					
	Passport	GS requirements	MR	Verified	Conclusion and IRL
Indicator title:	Quality of employment	Quality of employment	Quality of employment	Fully consistent	OK
Indicator Nr. (if available):	4	N.A	4	Fully consistent	OK
Chosen parameter:	Training of staff	N.A	Training of staff	Fully consistent	OK
Monitoring measures (how):	The training records for all the employees	N.A	The training records for all the employees	Fully consistent	OK
Monitoring frequency (when):	Once for each monitoring period	N.A	Once for each monitoring period	Fully consistent	OK
Responsibility (by who):	Project owner	N.A	Project owner	Fully consistent	OK
	Technical aspects				Conclusion
Original situation of parameter:	Without the project, local people have no such opportunities to be trained on the technology and the monitoring of the plant operation, and the emergency and safety procedures.				OK
Baseline situation of parameter:	In the baseline, local people have no such opportunities to be trained on the technology and the monitoring of the plant operation, and the emergency and safety procedures.				OK

Mitigation measures:	N/A as indicator scored positive.	OK
The situation of the parameter at the stage of verification:	The staffs have accepted a series of training on the technology and the monitoring of the plant operation, and the emergency and safety procedures.	OK
Target achieved?	Yes	OK
	QA/QC aspects	Conclusion
Procedure of monitoring:	Checking training record	OK
Archiving of documents and protection measures:	All the data will be kept until two years after the end of credit period.	OK
	Quality of evidence	Conclusion
Means of verification:	Document Review, Interview and site visit	OK
Documents verified:	Training Record	OK
Practice witnessed:	Staffs are well trained on the technology and the monitoring of the plant operation, and the emergency and safety procedures.	OK
Person interviewed:	The general manager of the project and employees	OK
Crosscheck (if available):	N.A	OK

Table 5 Quantitative employment and income generation

Indicators Information					
	Passport	GS requirements	MR	Verified	Conclusion
Indicator title:	Quantitative employment and income generation	Quantitative employment and income generation	Quantitative employment and income generation	Fully consistent	OK
Indicator Nr. (if available):	5	N.A	5	Fully consistent	OK
Chosen parameter:	Number of jobs created in the operations of the	N.A	Number of jobs created in the operations of the	Fully consistent	OK

	project and their salary levels.		project and their salary levels.		
Monitoring measures (how):	HR records or report	N.A	HR records or report	Fully consistent	OK
Monitoring frequency (when):	Once for each monitoring period	N.A	Once for each monitoring period	Fully consistent	OK
Responsibility (by who):	Project owner	N.A	Project owner	Fully consistent	OK
	Technical aspects				Conclusion
Original situation of parameter:	Without the project, local people have no such job opportunities from the project, and their income has no increase.				OK
Baseline situation of parameter:	In the baseline, local people have no such job opportunities from the project, and their income has no increase.				OK
Mitigation measures:	Not applicable as indicator scored positive				OK
The situation of the parameter at the stage of verification:	6 long-term work positions for local people have been created with 60,000 yearly salaries for every employee. The salary is much higher than the local level.				OK
Target achieved?	Yes				OK
	QA/QC aspects				Conclusion
Procedure of monitoring:	Salary and number of position would be checked once for each monitoring period.				OK
Archiving of documents and protection measures:	All the data will be kept until two years after the end of credit period.				OK
	Quality of evidence				Conclusion
Means of verification:	Document Review and Interview				OK
Documents verified:	HR report for salary				OK
Practice witnessed:	N.A				OK
Person interviewed:	The general manager of the project and employees				OK

Crosscheck (if available):	N.A	OK

4. Data Processing and ER calculation

Description of data processing from transferred data to final results in the calculation tool		
Step	Description	Conclusion
Consistency	All abbreviations and units are consistent with PDD, Passport or approved monitoring plan and Methodology and traceable to the raw data.	OK
Calculation Tool description	The calculation tool is clearly described and transparent. The issuing date and revision number is indicated. All formulae, intermediate steps and constants are described transparently including correct units and in compliance with the methodology and the PDD, Passport or approved monitoring plan.	OK
Elimination of not plausible data (if applicable)	N.A.	OK
Transformation from useable data to input data for further calculation (if applicable)	N.A.	OK
Ex-ante data	Ex-ante data are in compliance with the PDD, Passport or approved monitoring plan and methodology/tool.	OK
Default parameter	Default parameter is in compliance with the PDD, Passport or approved monitoring plan and methodology/tool.	OK
Formulae check	All formulae included in the calculation tool are in compliance with the PDD or approved monitoring plan and methodology/tool.	OK
Rounding functions	Included rounding functions are correctly and conservatively applied.	OK
Calculation tool changes and protection measures	The tool is delivered to the verification team directly from people in charge of GS matters of the PPs and consulting company which ensure there are no unauthorized change happened. As this is the first periodic verification, no modification is done against last periodic verification.	OK
Reported data	The result of the calculation tool is consistent with the value in the MR.	OK

5. Additional assessment

5.1. Internal Review

Description and performance of internal review		
	Description	Conclusion
Procedure	N.A	OK
Documentation	N.A	OK
Responsibilities	N.A	OK

5.2. Peculiarities

Description of Peculiarities and unexpected Daily Events during the verification period		
	Description	Conclusion
Performance	The verification confirms there are no peculiarities occur during this monitoring period by checking archived data and site visit.	OK
Documentation	The verification confirms there are no peculiarities occur during this monitoring period by checking archived data and site visit.	OK
Measures	The verification confirms there are no peculiarities occur during this monitoring period by checking archived data and site visit.	OK

5.3. Further additional requirements

Description of additional requirements to be checked		
	Description	Conclusion
Compliance Environ-mental requirements	By interview with the local stakeholders, it is confirmed that the project meet the requirement for environment.	OK

5.4. Data Reporting

Description of the Monitoring Report		
	Comments and Results	Conclusion
Compliance with regulations	The monitoring report version 02 dated 11/12/2015 covering period from 20/12/2013 to 31/10/2015 considers all related regulations (e.g. requirements of the methodology and the monitoring report).	OK
Completeness and Transparency	The monitoring report version 02 dated 11/12/2015 covering period from 20/12/2013 to 31/10/2015 considers all related regulations (e.g. requirements of the methodology and the monitoring report).	OK
Correctness	All of the provided values are correctly transferred from the related and assessed sources (e.g. calculation tool).	OK

6. Compilation and Resolutions of CARs, CL/CRs and FARs

Type:	☐ CAR ☒ CL/CR ☐ FAR	Number:	#1
Raised by:	Denny (Hanshen) Xue	Ref. to checklist in above tables:	Table 2.2.1
Description of the audit finding		Date:	10/12/2015
Please provide the information of accreditation of calibration institution in the MR.			
Project Participant's response		Project Participant's response	Project Participant's response
The information of accreditation of calibration institution was specified in the revised MR.			
Documentation provided as evidence by Project Participant			
The revised MR			
Auditor's assessment comment		Auditor's assessment comment	Auditor's assessment comment
After checking the accreditation of calibration institution and revised MR, it is confirmed that correct information has been included in the MR.			
Conclusion by Lead Auditor		Conclusion by Lead Auditor	Conclusion by Lead Auditor
CR#1 is closed out.			

Type:	☐ CAR ☒ CL/CR ☐ FAR	Number:	#2
Raised by:	Denny (Hanshen) Xue	Ref. to checklist in above tables:	Table 2.2.1
Description of the audit finding		Date:	10/12/2015
Please clarify how quantity of net electricity supplied of the project activity to the grid in year y is monitored and the information flow of the data.			
Project Participant's response		Date:	10/12/2015
The quantity of net electricity generation supplied to the grid was continuous measured by electricity meter. The readings of the meters start from 0:00 of the first day of every month and end at 24:00 of the last day of every month were recorded in the meter reading records by the shift monitoring staffs, then the measured result was cross checked by the records for sold/purchased electricity, the conservative value was used. The meter reading records will be achieved in written form and kept for two years after the end of the last crediting period.			
Documentation provided as evidence by Project Participant			
The revised MR			
Auditor's assessment comment		Date:	11/12/2015

After checking revised MR and site visit, it is confirmed correct information for monitoring quantity of net electricity supplied of the project activity to the grid in year y including the process and information flow has been included.		
Conclusion by Lead Auditor	Date:	11/12/2015
CR#2 is closed out.		