



VERIFICATION REPORT

for the GS-VER Project Activity

The CDQ Project in Tranvic Group

in

P. R. China

Report No. 01 997 9105076540

Version 02.1, 18 Dec. 2014

Designated Operational Entity (DOE)

TÜV Rheinland (China) Ltd.

*Unit 707, AVIC Building, No. 10B, Central Road, East 3rd Ring Road,
Chaoyang District, Beijing 100022,
People's Republic of China.*

Tel.: +86 10 65 66 66 60 (ext.169)

FAX: +86 1065 66 66 67

E-mail: doe@chn.tuv.com

I. Project data:

Project title:	The CDQ Project in Tranvic Group		Report No.: 01 997 9105076540
Registration No. / Date:	GS2460/ 10 Mar. 2014		Current revision No.: 02.1
Monitoring period:	from 13 May 2013-9 March 2014 (including both the first day and last day)		Date of current revision: 18 Dec 2014
Methodology:	ACM0012 (version 04.0.0), "Consolidated baseline methodology for GHG emission reductions from waste energy recovery projects"		Date of first issue: 2014-05-15
Publication of MR:	The monitoring report (Version 01, 15 Apr. 2014) was published at the GS registry on 15 April. 2014.		
Emission reductions:	Estimated:	126,525 tCO ₂ e It is estimated based on 126,525tCO ₂ e of annual emission reductions as indicated in the registered PDD (Version 04, 20 Mar. 2014), and the monitoring period from 13 May 2013-9 March 2014, including both days.	Verified: 98,664 tCO ₂ e of this monitoring period from 13 May 2013-9 March 2014, totally 301days, including both days
GHG reducing measure/technology:	Displace electricity generated from fossil fuel with electricity generated from waste heat		

Party	Project participants	Party considered a project participant(Yes/No)	Contract Project Participant
P. R. China(Host)	Neijiang Bowei Xinyu Chemical Industry Co., Ltd.	No	☐
United Kingdom of Great Britain and Northern Ireland	Carbon Invcap International Trading Co., Ltd	No	☒

II. Verification Team:

Verification Team			Role									
Full name	Affiliation TÜV Rheinland	Appointed for Sectoral Scopes (Technical Areas)	Team leader	Acting Team Leader	Local Expert	Team Member (Auditor)	Technical Expert	Acting Tech. Expert	Trainee Auditor	Technical Reviewer	Expert to TR	Trainee TR
MA Jiandong	China	1.1, 1.2, 4.5	X									
WU Ze	China	1.2, 4.3, 4.5, 9.1, 13.1				X						
ZHU Jiang	China	1.1, 1.2, 4.5								X		

Verification Phases Verification Status:

☒ Desk Review Requested
 ☒ Follow up interviews
 ☒ Corrective Actions / Clarifications
☒ Resolution of outstanding issues
 ☐ Full Approval and Submission for Issuance
 ☐ Rejected

III. Verification Report:

Final approval	Released	Distribution
☒	By: Mr. Henri Phan	☐ No distribution without permission from the Client or

Date: 2014-12-18		responsible organizational unit ☒ Unrestricted distribution
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Abbreviations

ACM	Approved Consolidated Methodology
BE	Baseline emissions
BM	Build Margin
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER(s)	Certified Emission Reduction(s)
CR	Clarification request
CO ₂	Carbon dioxide
CO _{2e}	Carbon dioxide equivalent
DOE	Designated Operational Entity
DR	Document Review
EF	Emission Factor
ESRs	Electricity Sales Receipts
GHG	Greenhouse Gas(es)
MP	Monitoring Plan
MR	Monitoring Report
NC	Non-Conformity
CCPG	Central China Power Grid
PDD	Project Design Document
PP	Project Participant
QA/QC	Quality Assurance & Quality Control
TUVR	TUV Rheinland (China) Ltd.
UNFCCC	United Nations Framework Convention on Climate Change
VVS	Validation And Verification Standard
GS	Gold Standard
VER	Voluntary Emission reduction

Verification opinion — summary

The Verification Team assigned by the DOE (TÜV Rheinland (China) Ltd.) concludes that the Project Activity “The CDQ Project in Tranvic Group” in P. R. China, as described in the registered GS-PDD (Version 04, 20 Mar. 2014), and the Monitoring Report (Ver.02, Date 12 Sept 2014), meets all relevant requirements of Gold Standard project activity. The verification is concluded in line with the GS requirements.

Verification methodology and process

The verification has been performed in line with the relevant GS requirements and constitutes the following steps:

- Publication of the MR on the GS registry (starting from 15 April. 2014);
- Desk review of the MR of Version 01, 15 Apr. 2014;
- On-site assessment (22 Apr. 2014);
- Issue of checklist with corrective action requests (CARs) and clarification requests (CRs) and the draft verification report & protocol;
- Desk review of the revised MR and relevant evidence;
- Issuance of Verification Report;

The project activity was correctly implemented according to selected monitoring methodology and monitoring plan contained in the registered PDD and Passport. The monitoring system has been set up in a proper manner. The monitored data followed the survey and sampling guideline appropriately, quality control and quality assurance measures are implemented in the monitoring system properly. The collected monitoring data allowed verifying the amount of achieved GHG emission reductions and impact on sustainable development. The DOE therefore is pleased to issue a positive verification opinion expressed in the attached Certification statement.

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1. Introduction

The Carbon Invcap International Trading Co., Ltd. has commissioned the DOE TÜV Rheinland (China) Ltd. to perform a GS verification of the retroactive VER Project Activity “The CDQ Project in Tranvic Group” in P. R. China (hereafter referred to as “project activity”). This report summarises the findings of the verification of the project, performed on the basis of requirements of GS project activities. This report contains the findings from the verification and a certification statement for the certified GS VERs.

1.1 Objective

Verification is the periodic independent review and *ex post* determination of both quantitative and qualitative information by a Designated Operational Entity (DOE) of the monitored reductions in GHG emissions that have occurred as a result of the registered GS project activity during a defined monitoring period and the impact of the project on sustainable development.

Certification is the written assurance by a DOE that, during a specific period in time, a project activity achieved the voluntary emission reductions as verified and the project contributed to the sustainable development.

The objective of this verification was to verify and certify GS voluntary emission reductions reported for the “The CDQ Project in Tranvic Group” in country “P. R. China” for the period from 13 May 2013-9 March 2014 and the impact of the project on sustainable development.

The purpose of verification is to review the monitoring results and verify that monitoring methodology was implemented according to monitoring plan and monitoring data, used to confirm the reductions in anthropogenic emissions by sources and the impact of the project on sustainable development is sufficient, definitive and presented in a concise and transparent manner.

In particular, the monitoring plan, monitoring report and the project’s compliance with relevant UNFCCC, host Party, and GS criteria are verified in order to confirm that the project has been implemented in accordance with previously registered designand conservative assumptions, as documented.

1.2 Scope

The scope of the verification is:

- To verify that actual monitoring systems and procedures are in compliance with the monitoring systems and procedures described in the monitoring plan.
- To evaluate the GHG emission reduction data and express a conclusion with a reasonable level of assurance about whether the reported GHG emission reduction data is free from material misstatement.
- To verify that reported GHG emission data is sufficiently supported by evidence.

The verification shall ensure that reported emission reductions are complete and accurate in order to be certified.

2. Methodology

The verification consists of the following four phases:

- 1) Completeness check of the monitoring report;
- 2) Desk review of the monitoring plan, monitoring report, monitoring methodology, project design document, passport, applicable tools in particular attention to the frequency of measurements, quality of metering equipment including calibration requirements, QA/QC procedures and other relevant documents;
- 3) On-site visit (including follow-up interviews with project stakeholders, when deemed necessary). The on-site assessment includes the following;
 - An assessment of implementation and operation of project activity with respect to registered GS-PDD and Passport;
 - Review of information flows for generating, aggregating, calculating and reporting the monitoring parameters;
 - Interview with relevant personals to determine whether the operational and data collection procedures are implemented and in accordance with monitoring plan of theregistered GS-PDD and Passport;
 - Review of assumptions made in calculating the emission reduction;
 - Implementation of QA/QC procedure inline with theregistered GS-PDD and Passport and methodology requirement.
- 4) Resolution of outstanding issues and the issuance of the final Verification Report and Certification Statement.

The following sections outline each step in more detail.

2.1 Desk review

The following table outlines the documentation reviewed during the verification:

MR,PDD,VR, Methodologies and Tools, etc.

- /1/. Monitoring Report of Version 01, 15 Apr. 2014.
- /2/. Revised monitoring report of Version 02.1, 17 Dec. 2014
- /3/. Registered PDD of Version 04, 20 Mar. 2014 for the proposed project.
- /4/. Registered Passport of Version 04, 20 March, 2014 for the proposed project
- /5/. Validation Report of Version 03.0, 20 Mar. 2014 for the proposed project.
- /6/. CDM Executive Board, ACM0012 (Version 04.0.0) Consolidated baseline methodology for GHG emission reductions from waste energy recovery projects
- /7/. CDM Executive Board, Tool to calculate the emission factor for an electricity system, Version 03.0.0.
- /8/. The Gold Standard Requirements Version 2.2, 1st June 2012;
- /9/. The Gold Standard Toolkit Version 2.2, 1st June 2012;
- /10/. The Gold Standard Annexes;
- /11/. CDM Executive Board, Clean Development Mechanism Validation and Verification Standard, Version 05.0.

- /12/. CDM Executive Board, Guideline on the application of materiality in verifications, Version 01.0.

Emission Reductions Calculation

- /13/. Goldchina Consultancy International Co., Ltd., Emission Reduction Calculation Spreadsheet.
- /14/. Neijiang Bowei Xinyu Chemical Industry Co., Ltd., Meter Readings (M1: No.D1165647) from 13/05/2013 to 09/03/2014.
- /15/. Neijiang Bowei Xinyu Chemical Industry Co., Ltd., Meter Readings (M2: No.12040254) from 13/05/2013 to 09/03/2014.
- /16/. Neijiang Bowei Xinyu Chemical Industry Co., Ltd., Meter Readings (M3: No.12070107) from 13/05/2013 to 09/03/2014.

QA/QC Monitoring Training

- /17/. Technical Administrative Code of Electric Energy Metering(DL/T448-2000).
- /18/. Neijiang Bowei Xinyu Chemical Industry Co., Ltd., Management Structure and Responsibility of the Monitoring Team.
- /19/. Neijiang Bowei Xinyu Chemical Industry Co., Ltd., Staff Training Records.
- /20/. Neijiang Bowei Xinyu Chemical Industry Co., Ltd., Operation and Maintenance Procedure for Boiler and Steam Turbine, and worker's Certificates for Operating the Project Power Plant
- /21/. Neijiang Bowei Xinyu Chemical Industry Co., Ltd., GS-VER Project Monitoring Manual.
- /22/. Sichuan Provincial Neijiang Quality and Technology Supervision Bureau, Certificate of Metrological Authorization for Special Items to the "Chengyu Vanadium Titanium Science and Technology Co., Ltd.", issued on 11th June, 2012, valid until 10th June 2013, and issued on 11th June 2013, valid until 10th June 2014
- /23/. Calibration certificate of the Electricity Meter (M1: D1165647), issued on 10th Apr. 2013, valid until 9th Apr. 2014.
- /24/. Calibration certificate of the Electricity Meter (M2: 12040254), issued on 10th Apr. 2013, valid until 9th Apr. 2014.
- /25/. Calibration certificate of the Electricity Meter (M2: 12070107), issued on 10th Apr. 2013, valid until 9th Apr. 2014.
- /26/. Neijiang Bowei Xinyu Chemical Industry Co., Ltd., the dust remove system operation log, from 13th May 2013 until 9th March 2014.
- /27/. Neijiang Bowei Xinyu Chemical Industry Co., Ltd., Records of the quantity that coke quenched
- /28/. Neijiang Bowei Xinyu Chemical Industry Co., Ltd., Records of the water sprinkling.

Project Implementation

- /29/. Neijiang Bowei Xinyu Chemical Industry Co., Ltd., The questionnaire of impact on Environment and community.
- /30/. Neijiang Bowei Xinyu Chemical Industry Co., Ltd., Staff Salary Payslip Sheet.
- /31/. Neijiang Bowei Xinyu Chemical Industry Co., Ltd., Dust Transportation

Records.

- /32/. Neijiang Bowei Xinyu Chemical Industry Co., Ltd., Daily operation logs of the power plant.
- /33/. The Debugging Center of the First Shanxi Branch of China Energy Construction Group, Steam Turbine-Generator Power Generation System Debugging Report, 12th March. 2013.
- /34/. Neijiang Bowei Xinyu Chemical Industry Co., Ltd., Daily Handing Over Record, 13th May. 2013.
- /35/. China Electricity Council, The compilation of statistics of electric power industry in 2011, issued in July 2012.
- /36/. Sichuan Provincial Electricity Supply Co., Ltd., Grid connection approval for the proposed project activity, 18 June 2010
- /37/. The photos and the nameplate of steam turbine and generator
- /38/. The EPC Contract signed between Neijiang Bowei Xinyu Chemical Industry Co., Ltd. and Beijing Shougang International Engineering Technology Co., Ltd. , 1st June 2012;
- /39/. Neijiang Bowei Xinyu Chemical Industry Co., Ltd., Monitoring training plan and records
- /40/. Employee contract of Neijiang Bowei Xinyu Chemical Industry Co., Ltd.
- /41/. The statement for the lifetime of the project signed by Sichuan Metallurgical Design & Research Institute on 16 October 2013.

2.2 On-site visit and follow-up interviews with project stakeholders

TÜV Rheinland Verification Team carried out an on-site visit on 22 Apr. 2014 and performed interviews with the project representatives and stakeholders. Prior to the interview salient points to be discussed were planned. Date of interview, interviewee and points discussed are given in the following table:

	Date	Name	Organization	Topic
/i/	2014-04-22	Mr. XU Guihui	Neijiang Bowei Xinyu Chemical Industry Co., Ltd./ Project Manager	- Project implementation - Organization structure and responsibility;
/ii/	2014-04-22	Mr. ZHAO Bin	Technology Center of Tranvic Group	- Installation location of meters and monitoring system - Calibration of equipment - Staff operation training - QA/QC procedures
/iii/	2014-04-22	Mr. ZHEN Zhaoning	Goldchina Consultancy International Co., Ltd	- Monitoring plan - Monitoring training

			¹ /Technical Director	- Emission reduction calculation
/iv/	2014-04-22	LUO Wenlong GONG Junli LIN Xiaoyan ZHOU Bin	local residents	- Job opportunities - Air quality - Water quantity - Dust collection calculation

Agenda

Time : 10:00 to 11:30 a.m, 22/04/2014

Location : Meeting room of Neijiang Bowei Xinyu Chemical Industry Co., Ltd.

Participants : Neijiang Bowei Xinyu Chemical Industry Co., Ltd., Technology Center of Tranvic Group, the local residential, Goldchina Consultancy International Co., Ltd .

Language used in the meeting : Official language of R.P.C- Mandarin (All the participants can understand this language proficiently)

Detailed agenda

1) Before 10:00	Participants signed in.
2) 10:00-10:10	Mr. XU Guihui, the project manager of Neijiang Bowei Xinyu Chemical Industry Co., Ltd. started the meeting, introduced participants, the agenda and the objective of the meeting.
3) 10:10—10:50	The Verification Team discussed with project owner and the consultant about monitoring management, data monitored, monitoring report and emission reduction calculation.
4) 10:50—11: 25	The Verification Team asked project owner, the consultant participants and local stakeholders about the impact of the project on air quality, access to affordable and clean energy, quality of the employment, quantitative employment and income generation, and other pollutant.
5) 11:25—11:30	The project owner thanked all the participants and made the meeting summary.

Summary about the onsite interview result on SD

Question:	Answered by:	Answers
1. Water had been sprayed during the construction period?	XU Guihui	Yes. Water had been sprayed during the whole construction period. Frequency was about 2 to 4 times a month. Record of spray water was prepared and achieved.
	GONG Junli ZHOU Bin	Yes. No impacts on local air quality.

¹ It is the consulting company commissioned by the project owner.

2. if the air quality is better?	LUO Wenlong GONG Junli LIN Xiaoyan ZHOU bin	Yes. The air quality around the production area become better, the dust in the air has been reduced greatly, the coking odor was mitigated significantly.
	XU Guihui ZHao Bin	Yes Dust remove system was effectively operated, which significant reduce the dust emission.what's more, CDQ system did not emission those chemical pollutant emission incurred by wet coke quenching,such as benzene,pyrene and phenol etc, so the the coking odor was mitigated significantly.
3. water quantity have been reduced against the CWQ	XU Guihui ZHao Bin	Yes With the implementation of the project, more than 400kt water were effectively saved,
	LUO Wenlong GONG Junli LIN Xiaoyan ZHOU bin	Yes. No impacts on local water quantity. The fog due to CWQ was disappeared.
5. Sufficient trainings have been provided to the staff?	XU Guihui	Yes. The staffs have accepted a series of training on the plant operation, safety, monitoring, environment protection, emergency, maintenance, which contributes to the quality of employment. The training records was prepared and achieved.
6. How many jobs has been created?	XU Guihui	Yes. Creating 57 long term work positions for local people during operational period.
	LUO Wenlong GONG Junli LIN Xiaoyan ZHOU Bin	Yes. All workers of the project are from local residents. And half of workers were graduated from Tranvic technical school.
7. The income of the staff?	XU Guihui	The average salary of employees is about 37000CNY/y.
	LUO Wenlong GONG Junli LIN Xiaoyan ZHOU Bin	The salary level is much higher than local average level.
8. How to deal with the dust collected from the CDQ project?	XU Guihui ZHao Bin	The dust collected was sent for comprehensive utilization such as using as the raw material for sintering. No secondary pollution occurred.

Verification Team along with onsite observation, objective evidence collections, data generation and recording analysis also considered the views obtained in these interviews while arriving at Verification Opinion.

2.3 Resolution of outstanding issues

The objective of this phase of the verification is to resolve any outstanding issues (issues that require further elaboration, research or expansion) which have to be clarified prior to final DOE's conclusions on the project implementation, monitoring practices and achieved emission reductions. In order to ensure transparency a verification protocol is completed for the project activity. The protocol shows in transparent manner criteria (requirements), means of verification and resulting statements on verification actual project activity against identified criteria.

The verification protocol serves the following purposes:

- It organises in a table form, details and clarifies the requirements, which project is expected to meet GS requirements;
- It ensures a transparent verification process where the DOE will document how a particular requirement has been verified and the result of the verification.
- It ensures that the issues are accurately identified, formulated, discussed and concluded in the verification report.
- It ensures the determination of achieving credible emission reductions from the project activity.

The verification protocol consists of three tables. Table 1 reflects the verification requirements and reference to the materials used to verify the project activity against those requirements, as well as means of verification, reference to Table 2 and preliminary and final opinion of the DOE on every particular requirement. The completed verification protocol for this project is enclosed in Appendix A to this report.

Findings during the verification can be interpreted as a non-compliance with GS criteria or a risk to the compliance. Corrective action requests (CARs) are raised, in case:

- (a) Non-conformities 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 which will impair the estimate of emission reductions;

Requests for clarification (CRs) are raised, if information is insufficient or not clear enough to determine whether the applicable GS requirements have been met.

2.4 Internal quality control

The final verification report will pass a technical review before being submitted for request for issuance. The technical review will be performed by a technical reviewer qualified in accordance with TÜV Rheinland's qualification scheme for CDM/GS validation and verification that meets the criteria of EB guidelines for qualification.

2.5 Verification Team

Before the assessment begins, members of the verification team are ensured to cover the technical area(s), sectoral scope(s) and relevant host country experience including local language ability for evaluating the GS verification activity.

Verification Team			Type of Involvement							
Full name	Affiliation TÜV Rheinland	Appointed for Sectoral Scopes (Technical Areas)	Supervising the work	Desk review	Site Visit + Interview	Report and protocol Writing	Technical Expert Input	Reporting Support	Trainee Technical Review	Technical Review
MA Jiandong	China	1.1, 1.2, 4.5	X	X	X	X		X		
Wu Ze	China	1.2, 4.3, 4.5, 9.1, 13.1	X	X	X	X		X		
ZHU Jiang	China	1.1, 1.2, 4.5								x

3. Verification findings

The findings of the verification are described in the following sections. The verification criteria (requirements), the means of verification and the results of verification are documented in detail in the verification protocol in Appendix A.

3.1 Project implementation

3.1.1 The implementation of the project activity

This is the retroactive verification for the project activity. The verification of the project implementation was carried out by means of onsite physical inspection, stakeholders interview and document review.

The project was registered as a GS-VER project on 10 Mar 2014 with the registration number of GS2460. According to the registered PDD, the project participant has opted for the fixed crediting period of 10 years with the start date 13/05/2013. The monitoring period for this retroactive period is from 13 May 2013-9 March 2014(including both the days).

Through on-site physical inspection, the Verification Team is able to confirm that the project activity consists of one site only, located within the production area of Tranvic Group, Lianjie town, Weiyuan county, Neijiang city, Sichuan province, P.R. of China,. The Verification Team has assessed the geographical coordinate of the project activity and confirms that the project activity is actually located at the geographical coordinates of 104°29'05" East Longitude and 29°43'11" North Latitude, which is consistent with the registered PDD. Therefore the Verification Team is able to confirm that the location of the project activity is consistent with the registered PDD.

During on-site assessment, the Verification Team has physically observed that the project activity involves the installation one set of 170t/h CDQ system with a capacity of 30MW steam turbine/generator unit to recover the waste heat, which is consistent

with the registered PDD. The Verification Team has checked the nameplate of steam turbine and generator and document review/37/, and is able to confirm that the key technical specifications of steam turbine and generator employed by the project activity are fully consistent with the relevant information described in the registered PDD.

The electricity power generated by the project activity is for captive use. Moreover, the Verification Team has verified the location of the installed equipment and also checked the metering system, found that the installed equipment and metering system are in place and fully consistent with the registered PDD.

As per the MR, the project construction starting date is 1 June 2012, which has been confirmed in the registered Validation Report/5/; the project was put into commissioning since 13 May 2013.

As part of the site visit the Verification Team was able to confirm that the project implementation is in accordance with the project description contained in the registered PDD.

3.1.2 The actual operation of the CDM project activity

The Verification Team has verified during the onsite assessment and by the document review/3/ that the project activity has been continuously operated as per the registered PDD during the monitoring period from 13 May 2013-9 March 2014 (including both the days).

After having reviewed the "Operational logs"/32/, the Verification Team is able to confirm that there was no event occurred to affect the operation of the project activity and no monitoring equipment replaced during the monitoring period from 13 May 2013-9 March 2014 (including both the days).

During the monitoring period from 13 May 2013-9 March 2014 (including both the days), the project activity has supplied a net electricity of 147,487.15MWh of electricity to Tranvic Group for captive use and thus leads to CO₂ emission reduction of 98,644 tCO₂e. For year of 2013 the emission reduction amount is 76,338tCO₂e and for year of 2014 the emission reduction amount is 22,326tCO₂e.

The trainings for the employees were conducted in various topics as per the registered PDD. The Verification Team has checked the training records/19//20/, which ensures that the monitoring staffs have received sufficient trainings for proper monitoring, operation and maintenance of the project.

Moreover, the Verification Team confirms that the main equipment employed by the project activity is consistent with the registered PDD. Please refer to the table below:

Table 1

Equipment	Type	Consistent with registered PDD?
Steam Turbine	N30-8.83	☒ Yes ☐ No
Electricity Generator	QF2W-30-2, rated capacity of 30MW	☒ Yes ☐ No

The project design of the project activity is consistent with the registered PDD, please refer to the table below:

Table 2

Any Project Design Change been sought?	☐ Yes ☒ No	Through onsite visit and document review/3//37/, the Verification Team confirms that the project design is consistent with the registered PDD.
Any Revision in Monitoring plan is sought ?	☐ Yes ☒ No	There is no change related with project monitoring system and equipment.
Does the monitoring report provide line diagram showing all relevant monitoring equipments?	☒ Yes ☐ No	The Verification Team verified the same on the site visit and confirms that the monitoring points are implemented in accordance to the diagram and is adequate to ensure the actual emission reduction.

In summary, the monitoring period is reasonable and the actual implementation of the project activity is appropriate to its GS-VER development.

3.2 Compliance of the monitoring plan with the monitoring methodology including applicable tool(s)

According the registered PDD, the baseline emission of the project activity is calculated as follows:

$$BE_{Elec,y} = f_{cap} \times f_{wcm} \times \sum_j \sum_i (EG_{i,j,y} \times EF_{Elec,i,j,y}) \quad (1)$$

$$f_{cap} = \frac{Q_{OE,BL}}{Q_{OE,y}} \quad (2)$$

As per the registered PDD, f_{wcm} Fraction of total electricity generated by the project activity using waste energy. This fraction is 1 if the electricity generation is purely from use of waste energy. As per the registered PDD, $f_{cap} = 1$ is set as per the methodology.

According to the registered PDD, $EF_{grid,CM,y}$ is determined ex-ante and remains fixed as 0.7338 tCO₂/MWh for the fixed crediting period.

According to the registered PDD, the project emission of the project activity is calculated as follows:

$$PE_{EL,y} = \sum_j EC_{PJ,j,y} \times EF_{EL,j,y} \times (1 + TDL_{j,y}) \quad (3)$$

As per the methodology ACM0012 (version 04.0.0), no leakage needs to be considered in the project, $LE_y = 0$ tCO₂e.

The Verification Team has checked the registered PDD and confirmed that the parameters to be monitored for the calculation of emission reductions include $EG_{PJ,y}$, $EC_{PJ,j,y}$, $Q_{OE,y}$ and $TDL_{j,y}$, which have been clearly indicated in the registered monitoring plan.

The Verification Team is able to confirm that the registered monitoring plan under implementation is in accordance with ACM0012 (version 04.0.0), the approved methodology applied by the registered PDD/3/.

3.3 Compliance of the Actual monitoring with monitoring plan in the PDD

The monitoring has been carried out in accordance with the monitoring plan contained in the registered PDD.

The Verification Team determined against all the information provided in the MR to check if the actual monitoring plan is in line with the applied monitoring methodology.

Table 3

Determination Requirements	Criteria fulfilled	Determination and reporting by the verification team
Has any MP revision or deviation been sought?	☐ Yes ☒ No	All the monitoring equipment, monitoring arrangement is in place as planned.
Is complete set of data for the specified monitoring period available?	☒ Yes ☐ No	The electricity meter readings/14//15//16/ are complete for the chosen monitoring period.
Has the required information provided in the monitoring report been cross-checked with other sources (ex – plant logbooks, inventories, purchase records, laboratory analysis)?	☒ Yes ☐ No	The required information provided in the monitoring report has been checked with daily operation logs/32/ and daily handing over log/34/during on-site assessment.
All the calculation of baseline emissions and project activity emissions and leakage in accordance with the formule and methods described in monitoring plan and the applied methodology.	☒ Yes ☐ No	The calculation of baseline emissions, project emissions and leakage is in accordance with the monitoring plan contained in the registered PDD.
Have all assumptions used for emission calculation been justified?	☒ Yes ☐ No	The baseline emission factor ($EF_{grid,CM,y} = 0.7338 \text{ tCO}_2\text{e/MWh}$) has been checked and confirmed it is consistent with the registered PDD/3/.
Have appropriate emission factors, IPCC default values and other reference values been correctly applied?	☒ Yes ☐ No	The emission factors, IPCC default values and other reference values have been correctly applied.

3.3.1 Monitored parameters

The following table summarizes the comparison of actual monitoring against with registered monitoring plan.

- Baseline Emission (BE_y)

Table 4

Monitoring Parameter Requirement	Assessment/ Observation by the DOE
----------------------------------	------------------------------------

1. Data / Parameter: (as in monitoring plan of PDD):	EG _{PJ,y} : Quantity of net electricity generation supplied by the project for captive use
2. Type of Monitoring equipment	Directly measured by the electricity meter(M2).
3. Measuring frequency/Time Interval:	Continuous measurement
4. Reporting frequency:	At least monthly recording
5. Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, it is in line with registered PDD and monitoring methodology ACM0012 (version 04.0.0).
6. Is accuracy of the monitoring equipment as stated in the PDD? If the PDD does not specify the accuracy of the monitoring equipment, does the monitoring equipment represent good monitoring practise?	The accuracy level of M2 is 0.5%, which is consistent with the registered PDD.
7. If applicable, has the reported data been cross-checked with other available data?	Yes, the reported data has been checked with the "Daily operational logs"/32/.
8. How were the values in the monitoring report verified?	The values provided in the monitoring report have been verified with the "Meter Readings (M2)"/15/, and checked with the "Daily operational logs"/32/.
9. 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, the data management including QA/QC /17//18//19//20//21//22//23//24//25//26//27//28/ is sufficient to ensure correct transfer of data and reporting of emission reductions.
10. 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

Table 5

Monitoring Parameter Requirement	Assessment/ Observation by the DOE
1. Data / Parameter: (as in monitoring plan of PDD):	Q _{OE,y} : Quantity of actual output energy during year y, i.e. the total power generation of the power plant
2. Type of Monitoring equipment	Electricity meter (M1)
3. Measuring frequency/Time Interval:	Continuously measured
4. Reporting frequency:	At least monthly recorded
5. Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, it is in line with registered PDD and monitoring methodology ACM0012 (version 04.0.0).

6. Is accuracy of the monitoring equipment as stated in the PDD? If the PDD does not specify the accuracy of the monitoring equipment, does the monitoring equipment represent good monitoring practise?	The accuracy level of the electricity meter (M1) is 0.2s, which is consistent with the registered PDD.
7. If applicable, has the reported data been cross-checked with other available data?	Yes, the reported data has been cross-checked with the "Daily operational logs"/32/,
8. How were the values in the monitoring report verified?	The values provided in the monitoring report have been verified with the "Meter Readings (M1)"/14/, and checked with the "Daily operational logs"/32/.
9. 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, the data management including QA/QC /17//18//19//20//21//22//23//24//25//26//27//28/ is sufficient to ensure correct transfer of data and reporting of emission reductions.
10. 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

- Project Emission (PE_y)

Table 6

Monitoring Parameter Requirement	Assessment/ Observation by the DOE
1. Data / Parameter: (as in monitoring plan of PDD):	EC _{PJ,j,y} : The additional power consumed in year y as a result of the implementation of the project activity source j
2. Type of Monitoring equipment	Directly measured by the electricity meter(M3) in the 10KV Backup line.
3. Measuring frequency/Time Interval:	Continuously measured.
4. Reporting frequency:	At least monthly recorded.
5. Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, it is in line with registered PDD and monitoring methodology ACM0012 (version 04.0.0).
6. Is accuracy of the monitoring equipment as stated in the PDD? If the PDD does not specify the accuracy of the monitoring equipment, does the monitoring equipment represent good monitoring practise?	The accuracy level of the electricity meter (M3) is 0.5%, which is consistent with the registered PDD.
7. If applicable, has the reported data	Yes, the reported data has been cross-checked with

been cross-checked with other available data?	the “Daily operational logs”/32/,
8. How were the values in the monitoring report verified?	The values provided in the monitoring report have been verified with the “Meter Readings (M3)”/15/, and checked with the “Daily operational logs”/32/.
9. 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, the data management including QA/QC /17//18//19//20//21//22//23//24//25//26//27//28/ is sufficient to ensure correct transfer of data and reporting of emission reductions.
10. 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

Table 7

Monitoring Parameter Requirement	Assessment/ Observation by the DOE
1. Data / Parameter: (as in monitoring plan of PDD):	$TDL_{j,y}$: Average technical transmission and distribution losses for providing electricity to source j in year y .
2. Type of Monitoring equipment	Not available. Check the most recent available Statistics Collections for Power Sector issued by China Electricity Council
3. Measuring frequency/Time Interval:	Annually.
4. Reporting frequency:	Annually. In the absence of data from the relevant year, most recent figures should be used, but not older than 5 years.
5. Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, it is in line with registered PDD and monitoring methodology ACM0012 (version 04.0.0).
6. Is accuracy of the monitoring equipment as stated in the PDD? If the PDD does not specify the accuracy of the monitoring equipment, does the monitoring equipment represent good monitoring practise?	Not applicable.
7. If applicable, has the reported data been cross-checked with other available data?	Not applicable.
8. How were the values in the monitoring report verified?	Not applicable.
9. Does the data management (from monitoring equipment to emission reduction calculation) ensure correct transfer of data and reporting of	Not applicable

emission reductions and are necessary QA/QC processes in place?	
10. 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

Abnormal operation of the project facility includes emergencies and shutting down. It is to record the abnormal operation of project facility via plant accident log, including accident and machine halt. During this monitoring period, there is no abnormal operation.

- **Leakage (L_y)**

The project activity is not required to monitor leakage, which is in compliance with the registered PDD.

- **Ex-ante parameters**

The ex-ante parameter is summarized in the below Table:

Table 8

Default values used:	Baseline Emission Factor ($EF_{grid,CM,y}$): 0.7338 tCO ₂ e/MWh
Source and Verification of the source	It is consistent with the registered PDD.

In summary, the Verification Team confirms that all the ex-ante and ex-post parameters are monitored in accordance with the revised monitoring plan and applied methodology.

3.3.2 Monitoring responsibility

By interviewing Mr. XU Guihui/i/, the Project Manager, the Verification Team understood that he is responsible for the project monitoring process and understood that daily and monthly monitored electricity will be recorded by project engineer and verified by the project manager. What's more, the Verification Team understood that he is responsible for net electricity balance statistics verification.

Before starting commercial operation, the operation staffs had received intensive trainings. This can be confirmed by reviewing all the relevant training records/19/, including machinery, electrical, transformers starting, transmission line commissioning steam turbine's commissioning and monitoring. Operation and Maintenance Procedure for Boiler and Steam Turbine and work licenses for operating the project power plant/20/ are also available and can prove the operation staffs of the project activity are capable of their assigned tasks.

By reviewing the "Management Structure and Responsibility of the Monitoring Team"/18/, the Verification Team understood that the responsibilities and authorities for monitoring and reporting are in accordance with the responsibilities and authorities

stated in the monitoring plan and the responsible personnel is clearly aware of procedures and is able to carry on the responsibility.

3.3.3 Accuracy of equipment and calibration frequency

The monitoring equipments have been installed in the project activity according to registered monitoring plan. The table below summarizes relevant specifications of monitoring equipments:

Table 9

Monitoring Equipment:	Electricity meter (M1)	Electricity meter (M2)	Electricity meter (M3)
Function:	Quantity of actual output energy during year y, i.e. the total power generation of the power plant	Measuring quantity of net electricity generation supplied by the project for captive use.	The additional power consumed in year y as a result of implementation of the project activity.
Serial number:	D1165647	12040254	12070107
Accuracy:	0.2s	0.5%	0.5%
Last calibration date	10/04/2013	10/04/2013	10/04/2013
Expiration date of last calibration:	09/04/2014	09/04/2014	09/04/2014
Current calibration date:	The monitoring period falls into the valid period of last calibration.	The monitoring period falls into the valid period of last calibration.	The monitoring period falls into the valid period of last calibration.
Expiration date of current calibration:	10/04/2014	10/04/2014	10/04/2014
Name of the certifier	Chengyu Vanadium Titanium Science and Technology Co., Ltd."	Chengyu Vanadium Titanium Science and Technology Co., Ltd."	Chengyu Vanadium Titanium Science and Technology Co., Ltd."
Authority of the certifier and validity of certifier	Sichuan Provincial Neijiang Quality and Technology Supervision Bureau	Sichuan Provincial Neijiang Quality and Technology Supervision Bureau	Sichuan Provincial Neijiang Quality and Technology Supervision Bureau
Frequency of calibration:	Annually	Annually	Annually
Relevant sectoral standard:	Technical Administrative Code of Electric Energy Metering DL/T448-2000/17/		

Through document review and onsite physical inspection, the Verification Team confirms that the actual installation locations of the above-mentioned three meters are fully consistent with the registered PDD.

As shown in the table above, the accuracy level of the above-mentioned meters is consistent with the registered PDD and in line with the power sector standard "Technical administrative code DL/T448-2000"/17/. In addition, these magnifications of the meters (i.e. equal to PT coefficient times CT coefficient) have been checked during on-site physical assessment and confirmed consistent with the one applied in the emission reduction calculation spreadsheet/13/.

The Verification Team confirms that the Meter's serial numbers described on the Calibration Certificates/23//24//25/ are consistent with the MR. As shown in the table above, the calibration certificates are valid covering this whole monitoring period from 13 May 2013-9 March 2014.

After having reviewed the Calibration Certificates/23//24//25/, the Verification Team confirms that the above-mentioned electricity meters were calibrated by “Chengyu Vanadium Titanium Science and Technology Co., Ltd.”, which is a credible qualified calibration entity accredited by Sichuan Provincial Neijiang Quality and Technology Supervision Bureau/22/. Therefore the Verification Team confirms that the calibration certificates issued for the above-mentioned meters are valid and thus the monitored data are effective.

In summary, the Verification Team is able to verify that the accuracy of the monitoring equipments were set according to the registered PDD and relevant sectoral standard of China’s Technical Administrative Code of Electric Energy Metering DL/T448-2000. Further, all calibration procedures were carried out according to the monitoring plan of the registered PDD. Therefore, accuracy of monitoring equipments is assured.

3.3.4 Deviation from and/or Revision of the registered monitoring plan

Through on-site physical check and relevant document review/3//37//36/, the Verification Team confirms that there is no change in the monitoring plan arrangement; no change related to monitoring equipment; hence monitoring plan deviation or revision is definitely not involved in this monitoring period.

3.4 Assessment of data and calculation of greenhouse gas emission reductions

The Verification Team confirms that the emission reduction formula applied in the monitoring report is correctly referred from the monitoring methodology ACM0012 (version 04.0.0). The Emission reduction calculation Spreadsheet/13/ is available to the Verification Team.

3.4.1 Baseline Emissions (BE_y)

A complete set of data was presented to the Verification Team during onsite visit. The Verification Team has verified the data in the ER spreadsheet/13/ against the raw data/14//15//16/ and all related documents, such as operation log/32/.The Verification Team is able to confirm the consistency between the documents. Risk assessment was undertaken by the Verification Team and no material errors, omissions or misstatements were detected. The Verification Team confirms that all reported data are authentic and traceable. The Verification Team confirms that no overlapped reading within this monitoring period is count thus no overestimation of the total emission reductions is achieved by the project; calculation has been carried out according to the formulas in the monitoring plan.

According to the Guidelines on the Application of Materiality in Verifications, Version 01.0, the verification team further assessed the materiality in verification on the project activity and interpreted as follows:

Table 10

Reference	Requirement	Verification Team’s assessment
Para. 10	The CMP materiality decision prescribes the thresholds for the application of materiality in verifications, by defining that information is material if it might lead, at an aggregated level, to	As per the registered PDD of Version 04, 20 Mar. 2014, the estimated VERs of the project activity is 153,428 tCO ₂ e annually, thus meets the item (c) of the para 10 in the Materiality guideline/12/. Therefore, the threshold for the

	an overestimation of the total emission reductions or removals achieved by a CDM project activity equal to or higher than: c) 2 per cent of the emission reductions or removals for large-scale project activities achieving a total emission reduction or removal of 300,000 tons of carbon dioxide equivalent per year or less;	application of materiality in this verification is 2 per cent as per guideline/12/.
Para. 24	The DOE should describe in its verification/certification report the risks, the risk assessment undertaken and how the verification and sampling plans were designed to respond to these risks and ensure that all material errors, omissions or misstatements were detected.	The risk assessment has been undertaken by the Verification Team by means of onsite physical inspection, stakeholders' interview and document review to all the raw data/14//15/. check data with the operation log/32/. For details please refer to section 3.3 of this report. No sampling plan is required in the registered monitoring plan/3/ and the Verification Team is able to confirm that all parameters are properly monitored by the electricity meters automatically, the accuracy and the calibration of the meters is assured, all the data reported in the ER spread sheet/13/ has been completely verified against the raw data/14//15/ and check with the operational log/32/ the data management system and QA/QC process is carried out appropriately. Thus no material errors, omissions or misstatements were detected by the Verification Team during the risk assessment.
Para 25	The DOE should also describe whether and how the verification and sampling plans were revised to take into account the need for further audit procedures due to the nature/type of errors, omissions or misstatements detected.	N/A, no sampling plan is required in the registered monitoring plan/3/.
Para 26	The DOE should also document how materiality was applied in determining whether a detected error, omission or misstatement was material or immaterial either individually or in aggregate	N/A, as verified before, no material errors, omissions or misstatements were detected by the Verification Team during the risk assessment.
Para. 27	The DOE should state in its	Refer to Certification statement of this

	certification/certification opinion that the claimed emission reductions or removals are free from material errors, omissions or misstatements, with a reasonable level of assurance.	report.
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According to the registered PDD, the formula to be used for the calculation of baseline emissions is:

$$BE_{Elec,y} = f_{cap} \times f_{wcm} \times EG_{PJ,y} \times EF_{grid,CM,y}$$

- ✓ For determination of parameter of f_{cap} : it is identified as 1 according to the applied monitoring methodology.
- ✓ For parameter f_{wcm} : it is defined as 1 because the electricity generation by the Project is purely from use of waste heat according to the registered Validation Report/5/.
- ✓ For parameter of $EF_{grid,CM,y}$, it is determined ex-ante to be 0.7338tCO₂e/MWh and the Verification Team confirms that $EF_{grid,CM,y}$ value applied in the Monitoring Report is consistent with the registered PDD.
- ✓ For parameter of $EG_{PJ,y}$, it is measured by M₂.

The baseline emissions are calculated as below:

Table11

Period	$EG_{PJ,y}$ measured by M2 (MWh)	$EF_{grid,CM,y}$ (tCO ₂ /MWh)	BE_y (tCO ₂)
13/05/2013-16/05/2013	760.6	0.7338	558.13
17/05/2013-23/05/2013	1688.4	0.7338	1238.95
24/05/2013-30/05/2013	1882.1	0.7338	1381.08
31/05/2013-06/06/2013	2254.5	0.7338	1654.35
07/06/2013-13/06/2013	1942.5	0.7338	1425.41
14/06/2013-20/06/2013	2416.9	0.7338	1773.52
21/06/2013-27/06/2013	3841.1	0.7338	2818.6
28/06/2013-04/07/2013	2421.8	0.7338	1777.12
05/07/2013-11/07/2013	3188.1	0.7338	2339.43
12/07/2013-18/07/2013	3738.2	0.7338	2743.09
19/07/2013-25/07/2013	4158.7	0.7338	3051.65
26/11/2013-01/08/2013	2954.8	0.7338	2168.23
02/08/2013-08/08/2013	2627.1	0.7338	1927.77
09/08/2013-15/08/2013	2949.9	0.7338	2164.64
16/08/2013-22/08/2013	4273.1	0.7338	3135.6
23/08/2013-29/08/2013	3670.4	0.7338	2693.34
30/08/2013-05/09/2013	4106.1	0.7338	3013.06
06/09/2013-12/09/2013	3853.8	0.7338	2827.92
13/09/2013-19/09/2013	4124.5	0.7338	3026.56
20/09/2013-26/09/2013	4328.3	0.7338	3176.11
27/09/2013-03/10/2013	3216.75	0.7338	2360.45
04/10/2013-10/10/2013	4216.85	0.7338	3094.32
11/10/2013-17/10/2013	4183	0.7338	3069.49

18/10/2013-24/10/2013	4077.35	0.7338	2991.96
25/10/2013-31/10/2013	3739.8	0.7338	2744.27
01/11/2013-07/11/2013	3377.15	0.7338	2478.15
08/11/2013-14/11/2013	4147.8	0.7338	3043.66
15/11/2013-21/11/2013	2709.8	0.7338	1988.45
22/11/2013-28/11/2013	4094.95	0.7338	3004.87
29/11/2013-05/12/2013	3994.8	0.7338	2931.38
06/12/2013-12/12/2013	3873.1	0.7338	2842.08
13/12/2013-19/12/2013	3652.45	0.7338	2680.17
20/12/2013-26/12/2013	3956.75	0.7338	2903.46
27/12/2013-31/12/2013	3189.7	0.7338	2340.68
Total in 2013	113611.15	0.7338	83367
01/01/2014-09/01/2014	3691.85	0.7338	2709.08
10/01/2014-16/01/2014	3338.85	0.7338	2450.05
17/01/2014-23/01/2014	4082.75	0.7338	2995.92
24/01/2014-30/01/2014	2879.25	0.7338	2112.79
31/01/2014-06/02/2014	0	0.7338	0
07/02/2014-13/02/2014	6195.45	0.7338	4546.22
14/02/2014-20/02/2014	4060.95	0.7338	2979.93
21/02/2014-27/02/2014	4171.4	0.7338	3060.97
28/02/2014-06/03/2014	3856.45	0.7338	2829.86
07/03/2014-09/03/2014	1599.05	0.7338	1173.38
Total in 2014	33,876	0.7338	24858

Thus the BE_y is to be 83,367 tCO₂ in year of 2013 and 24,858 tCO₂ in year of 2014 during this monitoring period.

3.4.2 Project Emissions (PE_y)

According to the registered PDD, the project emissions by the project activity is calculated as follows:

$$PE_{EL,y} = \sum_j EC_{PJ,j,y} \times EF_{EL,j,y} \times (1 + TDL_{j,y})$$

- ✓ As per discussion above, the $EC_{PJ,j,y}$ is monitored by M3;
- ✓ $EF_{EL,j,y}$, the emission factor for power generation of source j in year y (tCO₂/MWh), in this case it is the grid emission factor of CCPG;
- ✓ For parameter $TDL_{j,y}$: according to the MR, it is determined as 9.36%, which is consistent with the “2011 Statistics Collections for Power Sector issued by China Electricity Council”, issued in July 2012.

Table 12

Period	$EC_{PJ,j,y}$ measured by M3 (MWh)	$TDL_{j,y}$	PE_y
13/05/2013-16/05/2013	19.668	9.36%	15.78
17/05/2013-23/05/2013	50.259	9.36%	40.33
24/05/2013-30/05/2013	75.661	9.36%	60.72
31/05/2013-06/06/2013	76.132	9.36%	61.09
07/06/2013-13/06/2013	101.359	9.36%	81.34

14/06/2013-20/06/2013	97.776	9.36%	78.46
21/06/2013-27/06/2013	110.6	9.36%	88.75
28/06/2013-04/07/2013	76.659	9.36%	61.52
05/07/2013-11/07/2013	86.347	9.36%	69.29
12/07/2013-18/07/2013	128.912	9.36%	103.45
19/07/2013-25/07/2013	120.683	9.36%	96.85
26/11/2013-01/08/2013	90.996	9.36%	73.02
02/08/2013-08/08/2013	90.438	9.36%	72.58
09/08/2013-15/08/2013	90.444	9.36%	72.58
16/08/2013-22/08/2013	510.185	9.36%	409.42
23/08/2013-29/08/2013	345.274	9.36%	277.08
30/08/2013-05/09/2013	427.984	9.36%	343.45
06/09/2013-12/09/2013	302.818	9.36%	243.01
13/09/2013-19/09/2013	377.984	9.36%	303.33
20/09/2013-26/09/2013	374.679	9.36%	300.67
27/09/2013-03/10/2013	279.497	9.36%	224.29
04/10/2013-10/10/2013	438.259	9.36%	351.7
11/10/2013-17/10/2013	355.996	9.36%	285.68
18/10/2013-24/10/2013	377.297	9.36%	302.77
25/10/2013-31/10/2013	430.574	9.36%	345.53
01/11/2013-07/11/2013	413.78	9.36%	332.05
08/11/2013-14/11/2013	419.313	9.36%	336.49
15/11/2013-21/11/2013	283.72	9.36%	227.68
22/11/2013-28/11/2013	435.392	9.36%	349.39
29/11/2013-05/12/2013	427.33	9.36%	342.93
06/12/2013-12/12/2013	386.96	9.36%	310.53
13/12/2013-19/12/2013	339.997	9.36%	272.84
20/12/2013-26/12/2013	310.287	9.36%	249
27/12/2013-31/12/2013	305.407	9.36%	245.08
Total in 2013	8758.667	9.36%	7029
01/01/2014-09/01/2014	275.437	9.36%	221.03
10/01/2014-16/01/2014	286.212	9.36%	229.68
17/01/2014-23/01/2014	376.998	9.36%	302.53
24/01/2014-30/01/2014	310.445	9.36%	249.13
31/01/2014-06/02/2014	0	9.36%	0
07/02/2014-13/02/2014	478.503	9.36%	383.99
14/02/2014-20/02/2014	395.049	9.36%	317.02
21/02/2014-27/02/2014	451.242	9.36%	362.11
28/02/2014-06/03/2014	389.476	9.36%	312.55
07/03/2014-09/03/2014	191.220	9.36%	153.45
Total in 2014	3154.582	9.36%	2532

Thus the PE_y is to be 7,029 tCO₂ in year of 2013 and 2,532 tCO₂ in year of 2014 during this monitoring period.

3.4.3 Leakage (L_y)

As discussed in Section 3.3.1, leakage is excluded from consideration for this project.

3.4.4 Emission Reduction

Consequently, the Emission Reductions (ER_y) of the project for this monitoring period is confirmed to be:

$$ER_y = BE_y - PE_y - L_y = 83,367 \text{ tCO}_2\text{e} - 7,029 \text{ tCO}_2\text{e} - 0 = 76,338 \text{ tCO}_2\text{e} \text{ in year of 2013}$$

and

$$ER_y = BE_y - PE_y - L_y = 24,858 \text{ tCO}_2\text{e} - 2,532 \text{ tCO}_2\text{e} - 0 = 22,326 \text{ tCO}_2\text{e} \text{ in year of 2014.}$$

The total emission reductions are $76,338 + 22,326 = 98,664 \text{ tCO}_2\text{e}$ during this monitoring period.

3.4.5 Assessment of actual emission reductions with the estimate emission reductions in PDD

The emission reduction comparison between estimation of the registered PDD and the actual one of this monitoring period is summarized in the table below:

Table 13

Estimated Emission Reduction as per Registered/Approved PDD:	126,525 tCO ₂ e from 13 May 2013-9 March 2014 including both days and it is based on annual emission reductions as indicated in the registered PDD (Version 04, 20 Mar. 2014)
Actual Emission Reduction for the Monitoring Period	98,664 tCO ₂ e during this monitoring period.
Is any increase of CER's occurred?	No

As shown in the Table 13 above, the actual achieved emission reduction by the project activity during this monitoring period is lower than the estimated value as per the registered PDD.

In conclusion, it is the Verification Team's opinion that the monitored data for this monitoring period is complete, the formulas and default values are applied correct and all results are verifiable and transparent. The Verification Team confirms that the total emission reductions by the project activity for this monitoring period are 98,664 tCO₂e.

3.5 Sustainability monitoring check

The monitoring of the contribution to sustainable development during this monitoring period according to the sustainability monitoring plan in GS registered Passport is verified as follows:

Table 13

Sustainable development indicator	Chosen parameter	Frequency	Assessment by verification team
Air Quality	The water sprinkling record, The local residential comments through interviewing, Dust	Regularly monitoring and aggregated for each monitoring period.	According to the registered passport, there is water sprinkling in the construction period. Through checking the water sprinkling record in the construction period, the verification team confirms that the project owner sprinkled the water to reduce the dust pollution. In the absence of the project, the hot red

	remove system operation log		coke would be quenched by CWQ system, which would result in much pollutants emission. The CDQ system will recover waste heat from red-hot coke to reduce the energy loss, additionally, the dust remove system is installed. Through checking the dust remove system operation log and interviewing with local residential/29/, the verification team confirms that the project owner collected the dust to reduce the dust pollution. Thus the verification team is convinced that 'air quantity' is positively improved compared to the baseline.
Water Quantity	Water consumption reduction against to the CWQ system	Continuously measured and aggregated for each monitoring period	Before the implementation of the project, the hot red coke is quenched with industrial water, and the water consumption rate is 0.443 ton per ton of coke. With the implementation of the project, 396,399t of industrial water is saved. Thus the verification team is convinced that 'Water quantity' is positively improved compared to the baseline.
Quality of the employment	Training of staff	Recorded monthly and aggregated for each monitoring period	According to the registered Passport, 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 in the baseline. Through document review/19//20/ and on-site interview with relevant staff, the verification team confirms that the PP together with technology supplier organized training for the staff on the technology and the monitoring of the plant operation, and the emergency and safety procedures, which meets the future target for this parameter defined in the registered Passport. Therefore the verification team is convinced that the 'Quality of employment' is positively improved compared to the baseline.
Quantitative employment and income	Number of jobs created in the	Recorded monthly and aggregated	According to the registered Passport, local people have no such job opportunities from the project, and their

generation	operations of the Project and their salary levels.	for each monitoring period	income has no increase in the baseline. Through document review/30/ and on-site interview with staff, it is confirmed that 57 people was employed in the monitoring period. This work can bring them additional income. The pay slip/30/ provided indicated that the average annual salary is 37,800 CNY, which meets the future target for this parameter defined in the registered Passport and 19.45% higher than local average salary level. Thus the verification team is convinced that the 'Quantitative employment and income generation' is positively improved compared to the baseline.
Other pollutants	Solid waste treatment	Continuously measured and aggregated for each monitoring period	According to the registered Passport, the dust will be emitted into the air in the baseline. Through document review/31/ and on-site physical assessment, totally 14997.43 tons of the dust collected by the project regularly transported for comprehensive use, which meets the future target for this parameter defined in the registered Passport. Thus the verification team is convinced that 'Other pollutants' is positively improved compared to the baseline.

In summary, the verification team confirms that the project under the Gold Standard results in a positive contribution to local sustainable development.

Appendix A

GS Verification Protocol

The CDQ Project in Tranvic Group in P. R. China

to Report No. 01 997 9105076540

Table 1: Verification requirements

Checklist question	Ref.	MoV ²	Findings, comments, references, data sources	Draft conclusion	Final conclusion
1. Implementation					
1.1 Have all physical features proposed in the registered PDD been implemented at the project site?	/1//3//8/ /9//11/ /18/	DR OSV I	Yes, during onsite visit the Verification Team has observed that all the physical features (technology, project equipment, installation location of electricity meters, monitoring and metering equipment) proposed in the registered PDD are in place and the project activity has been operated in line with the registered PDD.		OK
1.2 Has the project activity been operated in accordance with the project scenario described in the registered PDD and relevant guidance?	/1//3//8/ /9//11/ /18/	DR OSV I	Yes, the Verification Team has observed during onsite visit that the project has been operated in line with the project scenario as described in the registered PDD.		OK
1.3 If the project activity is implemented on a number of different locations, has the Monitoring report provided the verifiable starting dates for each site?	/1//3//5/ /8/ /9//11/	DR OSV	Not applicable as the project activity is implemented on one location only.		OK
1.4 Is the start date of monitoring period consistent?	/1//3//5/ /8/ /9//11/	DR	Yes. The start date of monitoring period is consistent.		OK
1.5 Does the ER's obtained for the monitoring period within the limit of estimate in the registered PDD? Is the	/1//3//8/ /9//11/	DR	Yes, the achieved emission reduction is justified within the limit of estimate in the registered PDD		OK

²MoV = Means of Verification, DR= Document Review, I= Interview, OSV = Onsite Visit, www = internet search.

Checklist question	Ref.	MoV ²	Findings, comments, references, data sources	Draft conclusion	Final conclusion
claimed CER's justifiable?	/14/ 15/ 16/				
1.6 Is the monitoring system provided in line diagrams showing all relevant monitoring points?	/1//3//8/ /9//11/	DR OSV	Yes, the monitoring system includes all relevant monitoring points.		OK
2. Monitoring plan and methodology					
2.1 Is the monitoring plan established in accordance with the monitoring methodology?	/1//3//8/ /9//11/ /6/	DR	Yes, the monitoring plan as described in the section B.7 of the registered PDD is in accordance with the applied monitoring methodology.		OK
3. Monitoring and the monitoring plan					
3.1 Is monitoring established in full compliance with the monitoring plan, contained in the registered PDD?	/1//3//6/ /8/ /9//11//18// 19//20/	DR OSV	Yes, the monitoring has been established in full compliance with the registered monitoring plan.		OK
3.2 Are all baseline emission parameters monitored and updated in accordance with monitoring plan, monitoring methodology?	/1//3//8/ /9//11/ /14/ 16/	DR OSV I	Yes, this has been verified to be consistent with the registered monitoring plan by the Verification Team during the onsite inspection.		OK
3.2.1 Was the monitoring equipment for baseline emission parameters controlled and monitoring results recorded as per approved frequency?	/1//3//8/ /9//11/ /14/ 15/ 16/	DR OSV I	Yes, the net electricity is continuously monitored and recorded monthly, which has been verified to be consistent with the approved monitoring plan.		OK
3.2.2 Was the monitoring equipment for baseline emission parameters calibrated in accordance with QA&QC procedures described in the registered	/1//3//8/ /9//11/ /22//23//24	DR OSV I	Yes, the monitoring equipment for baseline emission parameters has been calibrated in accordance with the registered monitoring plan.		OK

Checklist question	Ref.	MoV ²	Findings, comments, references, data sources	Draft conclusion	Final conclusion
monitoring plan?	//25/				
3.3 Are all project emission parameters monitored and updated in accordance with monitoring plan, monitoring methodology?	/1//3//6//8/ /9//11/	DR	Yes, the amount of electricity consumed by the project activity has been monitored and updated in line with the monitoring plan.		OK
3.3.1 Was the monitoring equipment for project emission parameters controlled and monitoring results recorded as per approved frequency?	/1//3//6//8/ /9//11/	DR	Yes, the monitoring meters have been controlled and monitoring results recorded as per approved frequency.		OK
3.3.2 Was the monitoring equipment for project emission parameters calibrated in accordance with QA&QC procedures described in the registered monitoring plan?	/1//3//6//8/ /9//11//26// 27//28/	DR	Yes, the monitoring meters have been calibrated in accordance with QA/QC procedures described in the registered monitoring plan.		OK
3.4 Are all leakage emission parameters monitored and updated in accordance with monitoring plan, monitoring methodology?	/1//3//6//8/ /9//11/	DR	Not applicable		OK
3.4.1 Was the monitoring equipment for leakage emission parameters controlled and monitoring results recorded as per approved frequency?	/1//3//6//8/ /9//11/	DR	Idem		Ok
3.4.2 Was the monitoring equipment for leakage emission parameters calibrated in accordance with QA&QC procedures described in the registered monitoring plan?	/1//3//6//8/ /9//11/	DR	Idem		OK

Checklist question	Ref.	MoV ²	Findings, comments, references, data sources	Draft conclusion	Final conclusion
3.5 Were all monitoring parameters available and verifiable through the whole monitoring period?	/14//14/	DR	Yes, all monitoring parameters were available and verifiable through the whole monitoring period.		OK
3.5.1 In case, only partial monitoring data is available and PP(s) provide estimations or assumptions for the rest of data, was it possible to verify those estimations and assumptions?	/14//14/	DR	Not applicable as all the monitoring data is available through the whole monitoring period.		OK
3.6 Was management and operation system established and operated in accordance with the monitoring plan?	/1//3//6//8/ /9//11//18// 19//20/	DR	Yes, the management and operation system has been established and operated in accordance with the monitoring plan.		OK
3.7 Was it possible to verify that involved management and operation personal is fully aware of the responsibilities and perform all operations according to the registered monitoring plan and internally developed manuals?	/1//3//6//8/ /9//11/ /18//19//20/	DR	Yes, the involved management and operation personal are fully aware of the responsibilities and fully capable of performing all operations according to the registered monitoring plan and internally developed manuals.		OK
3.8 Does the monitoring system provide organizational structure, role and responsibilities, emergency procedures?	/1//3//6//8/ /9//11/ /18//21/	DR	Yes, the actual monitoring system includes organizational structure, role and responsibilities, emergency procedures.		OK
3.9 Does any uncertainties identified and addressed?	/1//3//6//8/ /9//11/	DR	Not applicable		OK
4. Parameters					
4.1 GHG emission parameters					

Checklist question	Ref.	MoV ²	Findings, comments, references, data sources	Draft conclusion	Final conclusion
4.1.1 Monitored parameter Title: <i>Net Electricity supplied by the project activity.</i> Indication: $EG_{PJ,y}$, $EC_{PJ,j,y}$ Units: <i>MWh</i> Estimated value (<i>ex-ante</i>): <i>209,088MWh for $EG_{PJ,y}$</i> <i>0 for $EC_{PJ,j,y}$</i> Measured value (<i>ex-post</i>): <i>For $EG_{PJ,y}$</i> <i>113,611.15 MWh in year of 2013 of this monitoring period</i> <i>33,876 MWh in year of 2014 of this monitoring period</i> <i>For $EC_{PJ,j,y}$</i> <i>8,758.667 MWh in year of 2013 of this monitoring period</i> <i>3,154.582 MWh in year of 2014 of this monitoring period</i>	<i>/1//3//6//8/ /9//11/ /14//14/</i>	DR	The $EG_{PJ,y}$ is continuously monitored by meter M2 and the $EC_{PJ,j,y}$ is continuously monitored by meter M3.		OK
4.1.2 Default parameter Title: Combined margin CO ₂ emission factor of Central China Power Grid (CCPG) for the first crediting period. Indication: $EF_{grid,CM,y}$ Units: tCO ₂ e/MWh Default/Used value: 0.7338	<i>/3//5//7/</i>	DR	The Verification Team confirms that the $EF_{grid,CM,y}$ applied in the Monitoring Report is consistent with the registered PDD/3/.		OK
4.1.3 Default parameter	<i>/3//5//7/</i>	DR	CAR1		

Checklist question	Ref.	MoV ²	Findings, comments, references, data sources	Draft conclusion	Final conclusion
Title: Average technical transmission and distribution losses for providing electricity to source j in year y. Indication: $TDL_{j,y}$ Units: % Default/Used value: 9.36%	/35/		In the section E.2 of the MR, it is said a default value of 20% is adopted. However, it is inconsistent with that adopt in the subsequent calculation.		
4.2 Sustainability indicators					
4.2.1 Indicator: Air quality - Are there any changes to this development indicator after implementation of this project activity? - How and with what is frequency to monitor the parameters and associated indicators on a quantitative and /or qualitative basis? - Were mitigation/compensation measures achieved and implemented according to the success indicators as established in the sustainability monitoring plan(s)? - Have the social and economic impact of the project been investigated and an assessment made of its contribution, positive or otherwise, to sustainable development in the area?	/1//3//4//6//8/ /9//11/ /1//3//4/	DR	OK. The Verification Team checked the implementation of the record and is able to confirm the Air Quality is monitored by water sprinkling activity during the construction period and also the dust remove system during the project operation.		OK
4.2.2 Indicator: Quality of employment - Are there any changes to this development indicator after	/1//3//4//6//8/ /9//11//11/	DR	OK, the Verification Team checked that by implementing the project activity, the quality of employment has been monitored and meet the		OK

Checklist question	Ref.	MoV ²	Findings, comments, references, data sources	Draft conclusion	Final conclusion
<i>implementation of this project activity?</i> - <i>How and with what is frequency to monitor the parameters and associated indicators on a quantitative and /or qualitative basis?</i> - <i>Were mitigation/compensation measures achieved and implemented according to the success indicators as established in the sustainability monitoring plan(s)?</i> - <i>Have the social and economic impact of the project been investigated and an assessment made of its contribution, positive or otherwise, to sustainable development in the area?</i>			future target for the parameter of “training of staff” indicated in the registered Passport.		
4.2.3 Indicator: Quatitative employment and income generation - <i>Are there any changes to this development indicator after implementation of this project activity?</i> - <i>How and with what is frequency to monitor the parameters and associated indicators on a quantitative and /or qualitative basis?</i> - <i>Were mitigation/compensation measures achieved and implemented according to the success indicators as established in the sustainability monitoring plan(s)?</i> - <i>Have the social and economic impact</i>	/1//3//4//6//8//9//11//11/	DR	OK, the Verification Team checked that by implementing the project activity, the quantitative employment and income generation have been monitored and met the future target for the parameter of “number of jobs created in the operations of the project and their salary levels” indicated in the registered Passport.		OK

Checklist question	Ref.	MoV ²	Findings, comments, references, data sources	Draft conclusion	Final conclusion
<i>of the project been investigated and an assessment made of its contribution, positive or otherwise, to sustainable development in the area?</i>					
4.2.4 Indicator: Water quantity - <i>Are there any changes to this development indicator after implementation of this project activity?</i> - <i>How and with what is frequency to monitor the parameters and associated indicators on a quantitative and /or qualitative basis?</i> - <i>Were mitigation/compensation measures achieved and implemented according to the success indicators as established in the sustainability monitoring plan(s)?</i> - <i>Have the social and economic impact of the project been investigated and an assessment made of its contribution, positive or otherwise, to sustainable development in the area?</i>	/1//3//4//6// 8/ /9//11//11/	DR	OK, the Verification Team checked that by implementing the project activity, the water quality and quantity have been monitored and meet the future target for the parameter of “water consumption reduction against to the CWQ system” indicated in the registered Passport.		OK
4.2.5 Indicator: Other pollutants - <i>Are there any changes to this development indicator after implementation of this project activity?</i> - <i>How and with what is frequency to monitor the parameters and associated indicators on a quantitative and /or qualitative basis?</i>	/1//3//4//6// 8/ /9//11//11/	DR	OK, the Verification Team checked that by implementing the project activity, the indicator of “Other pollutants” has been monitored and meets the future target for the parameter of “Solid waste treatment” indicated in the registered Passport.		OK

Checklist question	Ref.	MoV ²	Findings, comments, references, data sources	Draft conclusion	Final conclusion
- Were mitigation/compensation measures achieved and implemented according to the success indicators as established in the sustainability monitoring plan(s)? - Have the social and economic impact of the project been investigated and an assessment made of its contribution, positive or otherwise, to sustainable development in the area?					
5. Calculations					
5.1 Have all the calculations related to the baseline emissions been carried according to the formulae and methods described in the registered PDD and applied methodology?	/1//3//6//8/ /9//11/ /3//6//8/	DR I	Yes, all the calculations related to the baseline emissions have been carried in line with the registered PDD and applied methodology.		OK
5.2 Have all the calculations related to the project emissions been carried according to the formulae and methods described in the registered PDD and applied methodology?	/1//3//6//8/ /9//11/ /3//6//8/	DR	Yes, the calculations related to the project emissions have been carried in line with the registered PDD and applied methodology.		OK
5.3 Have all the calculations related to the leakage emissions been carried according to the formulae and methods described in the registered PDD and applied methodology?	/1//3//6//8/ /9//11/ /3//6//8/	DR	Not applicable.		OK

Table 2: List of Requests for Corrective Action (CAR) and Clarification (CL)				
No.	Observation (CAR/CL)	Reference (Table 1)	Summary of project owner response	Verification team conclusion
1.	CAR1 In the section E.2 of the MR, it is said a default value of 20% is adopted. However, it is inconsistent with that adopt in the subsequent calculation.	1.4	The value is 9.36%, adopted from 2011 Statistics Collections for Power Sector issued by China Electricity Council issued in 07/2012, the MR was corrected..	OK, the value 9.36% from 2011 Statistics Collections for Power Sector issued by China Electricity Council issued in 07/2012 was adopted, As per the registered PDD, in the absence of data from the relevant year, most recent figures should be used, but not older than 5 years. The data was not older than 5 years. Therefore CAR1 is closed.

Appendix B

Certification Statement
to the Verification Report 01 996 9105076540

Certification Statement

TÜV Rheinland (China) Ltd., the DOE, has performed the verification of the registered GS project activity "Gold standard ID no. 2460", "The CDQ Project in Tranvic Group" in P. R. China. The project activity is designed to generate emission reductions by displacing electricity generation from fossil fuel with electricity generated from waste heat.

The project participants are responsible for the collection of data in accordance with the monitoring plan and the reporting of GHG emissions reductions from the project and sustainable development indicators. It is DOE's responsibility to express an independent verification statement on the reported GHG emission reductions and impact on sustainable development from the project. The DOE does not express any opinion on the selected baseline scenario or on the validated and registered PDD. The verification is carried out in line with the GS requirements.

The verification was performed to identify the compliance of the project activity with implementation and monitoring requirements, and to verify the actual amount of achieved emission reductions and the impact of the project on sustainable development, through obtaining evidence and information on-site that included i) checking whether the provisions of the monitoring methodology and the monitoring plan were consistently and appropriately applied and ii) the collection of evidence supporting the reported data and iii) emission reductions that are claimed is free from material errors, omissions or misstatements.

The verification is based on:

- Registered GS PDD;
- Registered Passport;
- Approved monitoring methodology ACM0012 (version 04.0.0), "Consolidated baseline methodology for GHG emission reductions from waste energy recovery projects";
- Approved Validation Report;
- Monitoring Report;

This statement covers verification period of 301 days from 13 May 2013-9 March 2014.

The DOE has raised 1 corrective action request, all of which have been successfully resolved by PPs.

The DOE considers necessary to give reasonable assurance that reported GHG emission reductions were calculated correctly on the basis of the approved baseline and monitoring methodology and the monitoring plan contained in the Monitoring Report are fairly stated.

The DOE hereby certifies that the project activity, achieved emission reductions by sources of GHG equal to 98,664 tCO₂e and all monitoring requirements have been fulfilled.

The DOE also states that the claimed emission reductions are free from material errors, omissions and misstatements, with a reasonable level of assurance.

2014-12-18

Date



Mr. Henri Phan
DOE Manager
TÜV Rheinland (China) Ltd.

2014-12-18

Date



Mr. MA Jiandong
Team Leader
TÜV Rheinland (Shanghai)
Co., Ltd.

Appendix C

Certificates of Competence

Qualification

Ma, Jiandong /

Emission Trading

United Nations Framework Convention on Climate Change

Auditor No.:

(AuditorenRegNr)

Appointed:

(Zugelassen)

☒ ja

Qualification Level:

(Qualifikationsstufe)

Lead Auditor

External:

(Externer)

☐ ja

Add. reviewer:

(Zusätzlicher Prüfer)

☒ yes

EAC Scopes:

(EAC Branchen)

CDM 01 - Energy industries (renewable - / non-renewable sources)

CDM 04 - Manufacturing industries

Add. qualification:

(zus. Qualifikation)

First Appointment:

(Erstberufung)

2009/07/06

Valid to:

(Gültig bis)

2015/05/05

Remarks:

CDM 01: valid for TA 1.1, 1.2

CDM 04: valid for TA 4.5 - Other WHR and Fuel Switch

Languages:

Experience Exchange

Date

Location

Remarks

Accreditation(s)

2010-12-21 Beijing

United Nations Framework Convention on Climate Change

GC CDM Auditor Experience Exchange, Beijing, 2010-12-21to23

Monitoring

Latest Monitoring:

(letzte Beurteilung)

Next Monitoring:

(nächste Beurteilung)

Remarks:

History of scope allocation

Date: 2009-07-07
Change: EAC CDM added
By: Manfred Brinkmann
Reason: Role as team leader for DNV confirmed for:
- China tumuxi small hydropower project
- Fujian jinjiang LNG power generation project
Other validation reports are either not (yet) available or show different role (GHG auditor: Henan sanmenxia, Lufeng;
Trainee: Heilongjiang Hengdaishan).
Explanation for inconsistent information requested 2009-07-07.
M. Brinkmann

History

Created:	2009/06/15 14:39:04	Jiandong Ma/Shg/Chn/TUV
Modified:	2013/07/31 14:21:33	Henri Phan/Chn/TUV
	2013/07/31 14:21:01	Henri Phan/Chn/TUV
	2012/06/10 13:23:22	Jiandong Ma/Shg/Chn/TUV
	2012/05/11 14:37:01	
	2011/02/28 21:43:09	
	2011/02/28 21:42:13	
	2011/01/13 15:31:21 ZE9	
	2011/01/13 15:31:13 ZE9	
	2011/01/13 15:31:00 ZE9	
	2011/01/13 15:29:02 ZE9	
	2011/01/10 20:21:19	
	2009/10/23 22:23:33 ZE9	

Export to ICMS

Last Export:

Qualification

WU, Ze /

Emission Trading

United Nations Framework Convention on Climate Change

Auditor No.:

(AuditorenRegNr)

Appointed:

(Zugelassen)

☒ ja

Qualification Level:

(Qualifikationsstufe)

Lead Auditor

External:

(Externer)

☐ ja

Add. reviewer:

(Zusätzlicher Prüfer)

☐ yes

EAC Scopes:

(EAC Branchen)

CDM 01 - Energy industries (renewable - / non-renewable sources)

CDM 04 - Manufacturing industries

CDM 09 - Metal production

CDM 13 - Waste handling and disposal

Add. qualification:

(zus. Qualifikation)

First Appointment:

(Erstberufung)

2013/04/25

Valid to:

(Gültig bis)

2016/04/24

Remarks:

TA 1.2, TA 4.3, TA 4.5, TA 9.1, TA 13.1

Languages:

Chinese

Chinese/English

Experience Exchange

Date

Location

Remarks

Accreditation(s)

Monitoring

Latest Monitoring:

(letzte Beurteilung)

Next Monitoring:

(nächste Beurteilung)

Remarks:

History of scope allocation

Date: 2013-04-26
Change: EAC CDM, CDM, CDM, CDM added
By: Henri Phan
Reason:

History

Created:	2013/04/22 17:09:44	Ze Wu/Shg/Chn/TUV
Modified:	2013/04/26 12:29:33	Henri Phan/Chn/TUV
	2013/04/26 12:27:59	Henri Phan/Chn/TUV
	2013/04/23 11:30:13	Ze Wu/Shg/Chn/TUV
	2013/04/22 17:10:18	

Export to ICMS

Last Export:

Qualification

Zhu, Jiang /

Emission Trading

United Nations Framework Convention on Climate Change

Auditor No.:

(AuditorenRegNr)

Appointed:

(Zugelassen)

☒ ja

Qualification Level:

(Qualifikationsstufe)

Lead Auditor

External:

(Externer)

☐ ja

Add. reviewer:

(Zusätzlicher Prüfer)

☒ yes

EAC Scopes:

(EAC Branchen)

CDM 01 - Energy industries (renewable - / non-renewable sources)

CDM 04 - Manufacturing industries

Add. qualification:

(zus. Qualifikation)

First Appointment:

(Erstberufung)

2009/03/08

Valid to:

(Gültig bis)

2015/03/07

Remarks:

CDM 01: valid for TA 1.1, 1.2

CDM 04: valid for TA 4.5 - Other WHR and Fuel Switch

+ Part Time TR

Languages:

Chinese

English

Experience Exchange

Date

Location

Remarks

Accreditation(s)

2011-06-18

Beijing

Beijing CDM Seminar-EB61/62

United Nations Framework Convention on C

Change

2010-12-21

Beijing

GC CDM Auditor Experience Exchange, Beijing, 2010-12-21to23

United Nations Framework Convention on Climate Change

Monitoring

Latest Monitoring:

(letzte Beurteilung)

Next Monitoring:

(nächste Beurteilung)

Remarks:

[View / Edit Monitoring](#)

History of scope allocation

Date: 2009-03-08
Change: EAC CDM added
By: Manfred Brinkmann
Reason:

History

Created:	2008/03/20 13:56:52	Daxun Li/Bj/Chn/TUV
Modified:	2012/09/28 11:52:16	Praveen Urs/Chn/TUV
	2012/09/28 11:27:35	Daxun Li/Chn/TUV
	2012/03/12 15:05:17	Manfred Brinkmann/Jpn/TUV
	2012/03/07 14:06:06	
	2011/01/13 15:24:11 ZE9	
	2011/01/13 15:22:23 ZE9	
	2010/11/10 18:24:28 ZE9	
	2010/11/10 18:23:35 ZE9	
	2008/03/20 13:57:07	

Export to ICMS

Last Export: