




**Verification and certification report form for CDM programme of activities**  
(version 01.0)

**VERIFICATION AND CERTIFICATION REPORT**

<b>Title of the programme of activities (PoA)</b>	Sichuan Rural Poor-Household Biogas Development Programme	
<b>UNFCCC reference number of the PoA</b>	2898	
<b>Version number(s) of the PoA-DD(s) applicable to this report</b>	1.6	
<b>Version number of the verification and certification report</b>	01.2	
<b>Completion date of the verification and certification report</b>	01/12/2015	
<b>Monitoring period number</b>	3 <sup>rd</sup>	
<b>Duration of this monitoring period</b>	01/03/2014 – 31/12/2014	
<b>Number and version number of the monitoring report to which this report applies</b>	1.2	
<b>Coordinating/managing entity (CME)</b>	Chengdu Oasis Science & Technology Co., Ltd	
<b>Host Party(ies)</b>	Host Party(ies) of the PoA	Is this a host Party to a CPA covered in this report?(yes/no)
	People's Republic of China	Yes
<b>Sectoral scope(s)</b>	Scope 1: Energy industries (renewable - / non-renewable sources) Scope 15: Agriculture	
<b>Selected methodology(ies)</b>	AMS-I.C - Thermal energy production with or without electricity (version 19) (EB61, Annex 16); AMS-III.R - Methane recovery in agricultural activities at household/small farm level (version 02) (EB59, Annex 4).	
<b>Selected standardized baseline(s)</b>	N/A	
<b>Total estimated GHG emission reductions or net GHG removals for this monitoring period in the included CPA(s) covered in this report</b>	593,042 tCO <sub>2</sub> e	
<b>Total certified GHG emission reductions or net GHG removals for this monitoring period for the included CPA(s) covered in this report</b>	613,252 tCO <sub>2</sub> e	

<p><b>Name of DOE</b></p>	<p>BUREAU VERITAS CERTIFICATION</p>
<p><b>Name, position and signature of the approver of the verification and certification report</b></p>	<p></p> <p><b>SANJAY S PATANKAR</b>- Climate Change Lead Verifier &amp; Product Manager</p>

## SECTION A. Executive summary

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UPM Umwelt-Projekt-Management GmbH (the client) has commissioned the Bureau Veritas Certification (BVC) to carry out the 3rd verification of the PoA "Sichuan Rural Poor-Household Biogas Development Programme" (hereafter referred to as "the PoA") registered by the UNFCCC with reference No. 2898 with regard to the relevant requirements for CDM PoA, the PoA located in Sichuan Province, P.R. China.

GHG data for the monitoring period was verified in detailed manner applying the set of requirements, audit practices and principles as required under the Validation and Verification Standard of the UNFCCC.

This report summarizes the findings of the verification of the Project, performed on the basis of UNFCCC criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.

### Objective

The objective of CDM PoA verification is to conduct a thorough, independent assessment of the registered project activities.

In carrying out its verification work, the DOE shall ensure that the project activity complies with the requirements of paragraph 62 of the CDM modalities and procedures. In particular, this assessment shall:

- (a) Ensure that the CPAs have been implemented and operated as per the registered CPA-DDs and that all physical features (technology, project equipment, and monitoring and metering equipment) of the project are in place;
- (b) Ensure that the monitoring report and other supporting documents provided are complete and verifiable and in accordance with applicable CDM requirements;
- (c) Ensure that actual monitoring systems and procedures comply with the monitoring systems and procedures described in the monitoring plan and the approved methodologies;
- (d) Ensure that the data is recorded and stored as per the monitoring methodologies.

### Scope

The verification of this registered CPAs is based on the registered PoA-DD, validated / included CPADDs, the monitoring report, emission reduction calculation spread sheet, supporting documents made available to the verifier and information collected through performing interviews and during the onsite assessment. Furthermore publicly available information was considered as far as available and required.

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

The verification is carried out on the basis of the following requirements, applicable for this project activity:

- (a) Clean Development Mechanism Validation and Verification Standard (version 09.0) /31/;
- (b) Clean development mechanism project standard, version 09.0 /32/;
- (c) Guidelines for completing the monitoring report form, version 01.0 /34/;
- (d) Other relevant rules, including the host country legislation /18/;
- (e) Clean development mechanism project cycle procedure, version 09.0 /33/;
- (f) Monitoring plan as given in the registered or included CPA-DDs (/4/~8/);
- (g) Approved CDM Methodologies "AMS-I.C - Thermal energy production with or without electricity (version 19)", "AMS-III.R– Methane recovery in agricultural activities at household/small farm level (version 02)" /30/;
- (h) Bureau Veritas Certification (BVC) CDM procedures and forms /41/;
- (i) all related evidence provided by CME;

### Verification Process

The verification consisted of the following three phases: i) desk review of the project design, the baseline and monitoring plan; ii) follow-up interviews with project stakeholders; iii) resolution of outstanding issues and the issuance of the final verification report and opinion.

**GHG Project Description**

The PoA generates additional incentives to install digesters to households that are supported by existing subsidy schemes. Target group of the PoA are low-income households located in Sichuan Province, China. The primarily targeted areas are thirteen cities (however, the PoA shall not be limited to these thirteen cities exclusively): Yibin, Neijiang, Suining, Ziyang, Zigong, Luzhou, Leshan, Meishan, Mianyang, Guang'An, Ganzi, Aba and Dazhou, all of which are located in Sichuan.

The 3rd monitoring period of this PoA consists of the verification of the 73 CPAs, Sichuan Rural Poor-Household Biogas Development Programme, CPA Nb. SCHHBG-2010-001 to CPA Nb. SCHHBG-2013-073. The verifiers have reviewed the implementation of the monitoring plan (MP) as described in the registered PoA-DD, CPA-DDs and the Monitoring Report (version 1.1, dated 2015-07-28). The total number of the households for the 73 CPAs during this monitoring period is 331,021.

PoA title: Sichuan Rural Poor-Household Biogas Development Programme  
 UNFCCC ref number: 2898  
 Registration Date: 11/04/2012  
 PoA renewal Period: 11/04/2012 – 10/04/2019  
 PoA Duration: 10/12/2010 – 09/12/2038  
 Monitoring Period: 01/03/2014 – 31/12/2014  
 Coordinating/management entity (CME): Host Party: China -Chengdu Oasis Science & Technology Co., Ltd  
 Other Parties Involved: United Kingdom of Great Britain and Northern Ireland- UPM Umwelt-Projekt-Management GmbH  
 Methodologies used: AMS-I.C - Thermal energy production with or without electricity (version 19)  
 AMS-III.R - Methane recovery in agricultural activities at household/small farm level (version 02)  
 UNFCCC view page: [http://cdm.unfccc.int/ProgrammeOfActivities/poa\\_db/5BGM96VOK3ATN4JPR70XSWIQ8CZH2F/view](http://cdm.unfccc.int/ProgrammeOfActivities/poa_db/5BGM96VOK3ATN4JPR70XSWIQ8CZH2F/view)

The detailed geographic coordinates of the 73 CPAs included in this monitoring period is listed as below:

CPA reference number	City(ies)	Longitude	Latitude
2898-0001	Yibin	103° 36' - 105° 20' E	27° 50' - 29° 16' N
2898-0002	Yibin	103° 36' - 105° 20' E	27° 50' - 29° 16' N
2898-0003	Yibin	103° 36' - 105° 20' E	27° 50' - 29° 16' N
2898-0004	Yibin	103° 36' - 105° 20' E	27° 50' - 29° 16' N
2898-0005	Yibin	103° 36' - 105° 20' E	27° 50' - 29° 16' N
2898-0006	Yibin	103° 36' - 105° 20' E	27° 50' - 29° 16' N
2898-0007	Yibin	103° 36' - 105° 20' E	27° 50' - 29° 16' N
2898-0008	Yibin	103° 36' - 105° 20' E	27° 50' - 29° 16' N
2898-0009	Yibin	103° 36' - 105° 20' E	27° 50' - 29° 16' N
2898-0010	Yibin	103° 36' - 105° 20' E	27° 50' - 29° 16' N
2898-0011	Mianyang	103° 45' - 105° 43' E	30° 42' - 33° 03' N

2898-0012	Mianyang	103° 45' - 105° 43' E	30° 42' - 33° 03' N
2898-0013	Mianyang	103° 45' - 105° 43' E	30° 42' - 33° 03' N
2898-0014	Mianyang	103° 45' - 105° 43' E	30° 42' - 33° 03' N
2898-0015	Mianyang	103° 45' - 105° 43' E	30° 42' - 33° 03' N
2898-0016	Mianyang	103° 45' - 105° 43' E	30° 42' - 33° 03' N
2898-0017	Mianyang	103° 45' - 105° 43' E	30° 42' - 33° 03' N
2898-0018	Mianyang	103° 45' - 105° 43' E	30° 42' - 33° 03' N
2898-0019	Mianyang	103° 45' - 105° 43' E	30° 42' - 33° 03' N
2898-0020	Mianyang	103° 45' - 105° 43' E	30° 42' - 33° 03' N
2898-0021	Mianyang	103° 45' - 105° 43' E	30° 42' - 33° 03' N
2898-0022	Mianyang	103° 45' - 105° 43' E	30° 42' - 33° 03' N
2898-0023	Mianyang	103° 45' - 105° 43' E	30° 42' - 33° 03' N
2898-0024	Mianyang	103° 45' - 105° 43' E	30° 42' - 33° 03' N
2898-0025	Mianyang	103° 45' - 105° 43' E	30° 42' - 33° 03' N
2898-0026	Mianyang	103° 45' - 105° 43' E	30° 42' - 33° 03' N
2898-0027	Mianyang	103° 45' - 105° 43' E	30° 42' - 33° 03' N
2898-0028	Guang'an	105° 57' - 107° 18' E	30° 01' - 30° 51' N
2898-0029	Guang'an	105° 57' - 107° 18' E	30° 01' - 30° 51' N
2898-0030	Guang'an	105° 57' - 107° 18' E	30° 01' - 30° 51' N
2898-0031	Guang'an	105° 57' - 107° 18' E	30° 01' - 30° 51' N
2898-0032	Suining	105° 03' - 106° 59' E	30° 10' - 31° 10' N
2898-0033	Suining	105° 03' - 106° 59' E	30° 10' - 31° 10' N
2898-0034	Suining	105° 03' - 106° 59' E	30° 10' - 31° 10' N
2898-0035	Dazhou	106° 40' - 108° 33' E	30° 19' - 32° 20' N
2898-0036	Ziyang	104° 11' - 105° 45' E	29° 41' - 30° 39' N
2898-0037	Ziyang	104° 11' - 105° 45' E	29° 41' - 30° 39' N
2898-0038	Ziyang	104° 11' - 105° 45' E	29° 41' - 30° 39' N
2898-0039	Ziyang	104° 11' - 105° 45' E	29° 41' - 30° 39' N
2898-0040	Ziyang	104° 11' - 105° 45' E	29° 41' - 30° 39' N
2898-0041	Ziyang	104° 11' - 105° 45' E	29° 41' - 30° 39' N
2898-0042	Meishan	102° 51' - 104° 30' E	29° 24' - 30° 22' N
2898-0043	Meishan	102° 51' - 104° 30' E	29° 24' - 30° 22' N
2898-0044	Meishan	102° 51' - 104° 30' E	29° 24' - 30° 22' N
2898-0045	Meishan	102° 51' - 104° 30' E	29° 24' - 30° 22' N
2898-0046	Neijiang	104° 16' - 105° 26' E	29° 11' - 30° 02' N
2898-0047	Leshan	102° 54' - 104° 15' E	28° 25' - 29° 56' N
2898-0048	Leshan	102° 54' - 104° 15' E	28° 25' - 29° 56' N
2898-0049	Zigong	104° 02' - 105° 16' E	28° 55' - 29° 38' N
2898-0050	Luzhou	105° 08' - 106° 28' E	27° 39' - 29° 20' N
2898-0051	Luzhou	105° 08' - 106° 28' E	27° 39' - 29° 20' N
2898-0052	Dazhou, Aba	100° 30' - 108° 33' E	30° 19' - 34° 19' N
2898-0053	Guang'an, Dazhou, Leshan	102° 54' - 108° 33' E	28° 25' - 32° 20' N
2898-0054	Luzhou	105° 08' - 106° 28' E	27° 39' - 29° 20' N
2898-0055	Mianyang	103° 45' - 105° 43' E	30° 42' - 33° 03' N
2898-0056	Mianyang	103° 45' - 105° 43' E	30° 42' - 33° 03' N
2898-0057	Mianyang	103° 45' - 105° 43' E	30° 42' - 33° 03' N

2898-0058	Mianyang	103° 45' - 105° 43' E	30° 42' - 33° 03' N
2898-0059	Mianyang	103° 45' - 105° 43' E	30° 42' - 33° 03' N
2898-0060	Mianyang	103° 45' - 105° 43' E	30° 42' - 33° 03' N
2898-0061	Mianyang	103° 45' - 105° 43' E	30° 42' - 33° 03' N
2898-0062	Mianyang	103° 45' - 105° 43' E	30° 42' - 33° 03' N
2898-0063	Suining	105° 03' - 106° 59' E	30° 10' - 31° 10' N
2898-0064	Neijiang	104° 16' - 105° 26' E	29° 11' - 30° 02' N
2898-0065	Leshan	102° 54' - 104° 15' E	28° 25' - 29° 56' N
2898-0066	Yibin	103° 36' - 105° 20' E	27° 50' - 29° 16' N
2898-0067	Guang'an	105° 57' - 107° 18' E	30° 01' - 30° 51' N
2898-0068	Guangan, Dazhou, Meishan, Leshan, Luzhou, Aba and Ganzi	97° 22' - 108° 33' E	27° 39' - 34° 20' N
2898-0069	Mianyang and Meishan	102° 51' - 105° 43' E	29° 24' - 33° 03' N
2898-0070	Mianyang and Neijiang	103° 45' - 105° 43' E	29° 11' - 33° 03' N
2898-0071	Yibin, Suining and Neijiang	103° 36' - 106° 59' E	27° 50' - 31° 10' N
2898-0072	Yibin and Ziyang	103° 36' - 105° 45' E	27° 50' - 30° 39' N
2898-0073	Ziyang and Zigong	104° 11' - 105° 16' E	29° 41' - 29° 38' N

### Verification Conclusions

The findings from the desk review of the original monitoring documents and the findings from interviews during the follow up visit are described in Appendix 4. The Clarification, Corrective and Forward Action Requests are stated, where applicable, in the following sections and are further documented in the Appendix 4. The verification of the Project resulted in 1 CAR and 3 CLs. The CARs, CLs and FARs were closed based on adequate responses from the Coordinating/managing entity (CME) which meets the applicable requirements. They have been reassessed before their formal acceptance and closure.

### SECTION B. Verification team, technical reviewer and approver

#### B.1. Verification team members

No.	Role	Type of resource	Last name	First name	Affiliation	Involvement in			
						Desk review	On-site inspection	Interview(s)	Verification findings
1.	Team Leader	EI	Wang	Zhen ning	BVC China	×	×	×	×
2.	Verifier	EI	Geng	Yan	BVC China	×	×	×	×

**B.2. Technical reviewer and approver of the verification and certification report**

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)
1.	Technical reviewer	IR	Tian	Pin	BVC China
2.	Technical expert supporting	EI	Wang	ZhiFeng	BVC China
3.	Approver	IR	Patankar	Sanjay	BVC

**SECTION C. Means of verification****C.1. Desk review**

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BVC has conducted a desk review of all documents initially provided by the client and publicly available documents relevant for the verification. The assessment of the project documentation provided by the CME is based upon both quantitative and qualitative information on emission reductions. Quantitative information comprises the reported numbers in the monitoring report (MR) version 1.2 dated 01/12/2015 /1/ and emission reduction calculation spreadsheet version 1.1 dated 28/07/2015 /9/, the sample results conducted by the CME /10//11/. Qualitative information comprises information on internal management controls/15//16/, calculation procedures, procedures for transfer of data/17/, frequency of emissions reports, and review and internal audit of calculations.

The Monitoring Report Version 1 dated 22/05/2015 submitted by the CME was also web hosted on the UNFCCC-CDM web site on 09/06/2015 and thus, was available in the public domain.

In addition to the monitoring documentation provided by the project participants, the DOE reviews:

- The registered PoA-DD and the corresponding validation report /3//4//22/;
- The registered or included CPA-DDs, including the monitoring plan and the corresponding validation reports and inclusion forms (/5/~8/);
- The applied monitoring methodologies/30/;
- Previous monitoring reports and verification reports /27//28/;
- Relevant decisions, clarifications and guidance from the CMP and the CDM Executive Board (/31/~38/);
- Any other information and references relevant to the project activity's resulting emission reductions (e.g., IPCC reports etc) (/41/~44/).

**C.2. On-site inspection**

Duration of on-site inspection: 06/07/2015 to 14/07/2015				
No.	Activity performed on-site	Site location	Date	Team member
1.	Management and stakeholders interview	Chengdu city	06/07/2015	WANG Zhenning GENG Yan
2.	Further documents review and low-income households visit	Yibin, Neijiang, Suining, Ziyang, Zigong, Leshan, Meishan, Mianyang, Guang'An	07/07/2015-12/07/2015	WANG Zhenning GENG Yan
3	Further documents review and low-income households visit	Mianyang city	13/07/2015	WANG Zhenning GENG Yan
4	Close meeting	Mianyang city	14/07/2015	WANG Zhenning GENG Yan

## C.3. Interviews

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	SONG	Yumin	Sichuan Rural Energy Office	06/07/2015	1.General aspects of the PoA and the CPA; 2.Changes since validation; 3.Remaining issues from validation 4.Quality management system;	WANG Zhenning GENG Yan
2.	YANG	Jiong	Sichuan Rural Energy Office	06/07/2015	1.Technical equipment and operation; 2.Involved personnel and responsibilities; 3.Training and practice of the operational personnel; 4.Implementation of the monitoring plan;	WANG Zhenning GENG Yan
3	FU	Yinyin	Chengdu Oasis Science & Technology Co., Ltd	06/07/2015	1.Monitoring data management; 2.Data uncertainty and residual risks; 3.GHG calculation 4.Procedural aspects of the verification;	WANG Zhenning GENG Yan
4	ZHA	Haiying	Ziyang Rural Energy Office	07/07/2015	1.Monitoring data management; 2.Procedural aspects of the verification; 3.Maintenance; 4.Environmental aspects	GENG Yan
5	ZENG	Libo	Meishan Rural Energy Office	07/07/2015	As above	WANG Zhenning
6	LUO	Yuanqiang	Leshan Rural Energy Office	08/07/2015	As above	WANG Zhenning
7	CHEN	Yong	Neijiang Rural Energy Office	08/07/2015	As above	GENG Yan
8	ZHU	Lin	Zigong Rural Energy Office	09/07/2015	As above	GENG Yan
9	ZHAO	Ruwen	Yibin Rural Energy Office	09/07/2015	As above	WANG Zhenning
10	FENG	Weidong	Yibin Rural Energy Office	10/07/2015	As above	WANG Zhenning
11	YANG	Guanghua	Suining Rural Energy Office	10/07/2015	As above	GENG Yan
12	HE	Min	Luzhou Rural Energy Office	11/07/2015	As above	WANG Zhenning
13	DU	Maolin	Guang'an Rural Energy Office	12/07/2015	As above	WANG Zhenning GENG Yan
14	CHEN	Chao	Guang'an Rural Energy Office	12/07/2015	As above	WANG Zhenning GENG Yan
15	LIANG	Xiuhua	Mianyang Rural Energy Office	13/07/2015	As above	WANG Zhenning GENG Yan
16	HU	Kaiquan	Mianyang Rural Energy Office	13/07/2015	As above	WANG Zhenning GENG Yan

## C.4. Sampling approach

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In this monitoring period (01/03/2014 – 31/12/2014), there are 73 CPAs including 331,021 households in this PoA /20/. According to the methodologies applied, sampling approach is applied for the monitoring parameters: Number of systems operating in each CPA ( $N_k$ ); Mean annual operation hours of the digesters (t); Annual average number of animals of type LT in year y ( $N_{LT,y}$ ); Land application of digestate from biogas digesters to avoid anaerobic digestion (proper sludge



application ratio).

All the households are located in Sichuan province, which is a limited area. Simple random sampling approach was selected for this PoA due to relatively homogenous population being studied, given the similar average ambient temperature and similar living habit of residents in Sichuan. Therefore simple random sampling (SRS) approach was followed by the PP to determine the sample size, and BVC is able to confirm the selection of sampling approach is appropriate as per our local knowledge. Target population is defined as all the households included in the PoA, i.e. 331,021 households in all included CPAs.

A single sample was drawn by the PP from the monitoring database in line with the Guidelines for Sampling and Surveys for CDM Project Activities and Programme of Activities (hereafter can be referred to as the 'sampling guideline'). According to the applied methodologies, confidence/precision of 90/10 is acceptable for sampling. According to the Standard for Sampling and Surveys for CDM Project Activities and Programme of Activities, confidence/precision of 95/10 should be applied when the sampling plan covered a group of CPAs. For this PoA, confidence/precision is 95/10. Therefore, BVC is able to confirm that the selection of confidence/precision is appropriate.

**Sampling Method**

1. The unbiased estimation of total value and mean value are:

$$\bar{y} = \frac{1}{n} \sum_{i=1}^n y_i \tag{D.1}$$

$$p = \frac{a}{nm} \tag{D.2}$$

The unbiased variation estimators of  $V(\bar{y})$  and  $V(p)$  with a sufficiently small  $f$  are:

$$v(\bar{y}) = \frac{1-f}{n} s^2 = \frac{1-f}{n(n-1)} \sum_{i=1}^n (y_i - \bar{y})^2 \approx \frac{1}{n(n-1)} \sum_{i=1}^n (y_i - \bar{y})^2 \tag{D.3}$$

$$v(p) = \frac{1-f}{n-1} p(1-q) \approx \frac{1}{n-1} p(1-q) \tag{D.4}$$

2. Relative error of the sample is to be calculated by formula:

$$r = t_{0.05} \frac{\sqrt{v(\bar{y})}}{\bar{y}} \tag{D.7}$$

3. Where:

$n$	Sample size
$f$	Sampling fraction
$N$	Total size of population (331,021)
$y_i$	Observation of a sample household
$\bar{y}$	Mean value of sample
$p$	Proportion of the sample
$r$	Relative error. Default is 10% (0.1).
$t_{0.05}$	1.96

**Sampling Size Calculation**

Sample size calculation is based on the formulas below as defined in Guidelines for Sampling and Surveys for CDM Project Activities and Programme of Activities for the simple random sampling approach adopted.

**For mean value**, equation below should be followed according to the Guidelines for Sampling and Surveys for CDM Project Activities and Programme of Activities:

$$n \geq \frac{t^2 NV}{(N - 1) \times 0.1^2 + t^2 V}$$

Where:

$$V = \left(\frac{SD}{mean}\right)^2$$

SD	Standard deviation of the parameter that is expected in the total population
mean	Average value of the parameter that is expected in the total population

However, when the population is large enough (N>5000), approximate calculation as below is allowed to be used. The calculation result is no difference between the sample size derived from the exact and approximate equations under such situation.

$$n \geq \frac{t^2 V}{0.1^2} = \frac{t^2 SD^2}{0.1^2 mean^2}$$

In the monitoring report, CME used different symbols to stand for the same parameter as in Guidelines for Sampling and Surveys for CDM Project Actives and Programme of Actives. “S” was used to stand for “SD”, “r” was used to stand for required precision, while y was used to stand for “mean”. Then the equation used in the monitoring report is changed to be:

$$n \geq \frac{t^2 S^2}{r^2 \bar{Y}^2}$$

BVC checked the equation and is able to confirm that, the equation in the monitoring report is same as that in the sampling guideline, i.e., the equation adopted is in line with the sampling guideline. To determine population parameter S<sup>2</sup> and  $\bar{Y}^2$ , the following options can be taken:

- (a) taking a small scale pre-survey small scale SRS pre-survey (selected),
- (b) or reference of similar survey,
- (c) or double sampling scheme.

Mean annual operation hours of the digesters (t) and annual average number of animals of type LT in year y (N<sub>LT,y</sub>) are calculated with mean value. In the monitoring report, estimation was made for the 2 parameters:

Annual average number of pigs in year y (N <sub>LT,y</sub> )	Mean: 5 pigs	Standard Deviation: 3 pigs
Mean annual operation hours of the digesters (t)	Mean: 8,400 h	Standard Deviation: 1,200 h

Therefore, the sample size could be calculated as:

Annual average number of pigs in year y (N<sub>LT,y</sub>):

$$n \geq \frac{t^2 SD^2}{0.1^2 mean^2} = \frac{1.96^2 \times 3^2}{0.1^2 \times 5^2} = 138.3$$

Mean annual operation hours of the digesters (t):

$$n \geq \frac{t^2SD^2}{0.1^2mean^2} = \frac{1.96^2 \times 1200^2}{0.1^2 \times 8400^2} = 7.84$$

Therefore, sample size for the mean annual operation hours of the digesters (t) should be 8, while the same for the Annual average number of pigs in year y (N<sub>LT,y</sub>) should be 139.

For **proportional parameters** (sludge application rate and rate of digesters still in operation), equation below should be followed according to the Guidelines for Sampling and Surveys for CDM Project Activities and Programme of Activities:

$$n \geq \frac{t^2N \times P(1 - P)}{(N - 1) \times 0.1^2 \times p + t^2 \times P(1 - P)}$$

Where:

<i>n</i>	<i>Sample size</i>
<i>N</i>	<i>Total size of population (331,021)</i>
<i>P</i>	<i>Expected proportion of the sample (in this PoA, CME assumed the proportion as 0.8)</i>
<i>0.1</i>	<i>Required precision (the value is 0.1 for this PoA)</i>
<i>t</i>	<i>Constant referring to the level of confidence (for this PoA, the value should be 1.96 since the confidence is 95%)</i>

As the population is large enough (N>5000), approximate calculation as below is allowed to be used. The calculation result is no difference between the sample size derived from the exact and approximate equations under such situation:

$$n \geq \frac{t^2(1 - P)}{0.1^2P} = \frac{t^2Q}{r^2P}$$

Where: Q=1-P

Therefore, the equation applied for the sample size calculation in the monitoring report is reasonable and in line with the latest guideline from EB. After applying the value of each parameter in the equation, the sample size is calculated as:

$$n \geq \frac{t^2(1 - P)}{0.1^2P} = \frac{1.96^2 \times (1 - 0.8)}{0.1^2 \times 0.8} = 96.04$$

Both proper sludge application ratio and Number of systems operating in each CPA (N<sub>k</sub>) were calculated with above equation. Therefore, sample size for the 2 parameters should be greater than 97.

As a conservative approach, a sample size of 200 was chosen by the CME. A Survey list of the 200 samples was supplied by the CME, which was compiled base on the Table of checked and accepted documents done by the survey staff. In the Survey list, name of user, location, operation status of each biogas digester, operation hour of each biogas digester, and sludge application etc. were monitored and recorded.

The verification team checked the adoption of sampling size calculation equations and parameter calculation process of the 4 parameters that applied with sampling approach. BVC is able to confirm that the sampling approach was consistent with the latest EB requirements. Sampling type was properly selected, the required confidence/precision has been met, and the sampling size was corrected calculated, so that the selected samples were representative of the population.

To make sure the data would be well collected during on-site sampling, survey staffs were well trained before they start the collecting work. A copy of training material and training records were reviewed and verified by the verification team. Photos of the training courses were also supplied and BVC is able to confirm that the survey staffs were well trained before start working. When the

survey staffs went to the households, questionnaire papers were supplied to the households and users are required to answer the questions on the questionnaire papers. After the questionnaire papers were filled, both survey staff and the user signed on the questionnaire papers. After all the users filled in such questionnaire papers, survey staff were required to fill a table, on which general information of each household are clearly included. Then the table were checked and confirmed by the SREO. The questionnaire papers and Table of checked and accepted documents were well preserved and supplied to the verification team during on-site verification.

BVC has checked the questionnaire papers filled by the household users, table of checked and accepted documents, survey list of the 200 samples summarized by the CME. BVC is able to confirm that the sampling process is reliable.

To ensure the data used in the calculation are correct, a QA/QC procedure was established by the CME including Supervisor Check, Data Entry, Data Check Algorithms and Analytical Checks.

By basic descriptive statistics, the outliers could be easily figured out. Further statistical analysis can work more characteristics of the data by professional analysis tools.

The monitoring sampling data, both hard and soft copy, are stored carefully by CME within the whole crediting period. Two hardcopies of monitoring questionnaires need to be stored in CME offices in Beijing and Chengdu separately to avoid information missing as emergency procedures. The BVC's verification team is able to confirm that the QA/QC procedure is in place and working properly.

**C.5. Clarification requests, corrective action requests and forward action requests raised**

<b>Areas of verification findings</b>	<b>No. of CL</b>	<b>No. of CAR</b>	<b>No. of FAR</b>
<b>General</b>			
Compliance of the monitoring report with the monitoring report form	1	0	0
Remaining forward action requests from validation and/or previous verification	0	0	0
Specific-case CPA(s) considered for verification and covered in this report	0	0	0
<b>Programme of activities</b>	0	0	0
Compliance of the programme implementation with the registered PoA-DD	0	0	0
Implementation and operation of the management system	0	0	0
Post-registration changes	0		0
<ul style="list-style-type: none"> <li>Temporary deviations from the registered monitoring plan, monitoring methodology or standardized baseline</li> </ul>	0	0	0
<ul style="list-style-type: none"> <li>Corrections</li> </ul>	0	0	0
<ul style="list-style-type: none"> <li>Inclusion of a monitoring plan in a registered PoA-DD (including its generic CPA-DD(s))</li> </ul>	0	0	0
<ul style="list-style-type: none"> <li>Permanent changes to the monitoring plan as described in the registered PoA-DD, applied methodology, or applied standardized baseline</li> </ul>	0	0	0
<ul style="list-style-type: none"> <li>Changes to the programme design of the registered PoA-DD (including corresponding changes to project design of the generic CPA-DD(s)) and updates to the eligibility criteria for inclusion of specific-case CPAs in the PoA</li> </ul>	0	0	0
<ul style="list-style-type: none"> <li>Types of changes specific to afforestation and reforestation activities</li> </ul>	0	0	0
<b>Component project activity(ies)</b>			
Compliance of the CPA implementation with the included CPA design document	1	0	0
Post-registration changes	0	0	0
<ul style="list-style-type: none"> <li>Temporary deviations from registered monitoring plan, applied methodology or applied standardized</li> </ul>	0	0	0

baseline			
• Corrections	0	0	0
• Changes to the start date of the crediting period	0	0	0
• Inclusion of a monitoring plan to an included CPA-DD	0	0	0
• Permanent changes to the monitoring plan as described in the included CPA-DD, applied methodology, or applied standardized baseline	0	0	0
• Changes to the programme design of the included CPA-DD	0	0	0
• Types of changes specific to afforestation and reforestation component project activities	0	0	0
Compliance of the monitoring plan with the monitoring methodology including applicable tool and standardized baseline	0	0	0
Compliance of monitoring activities with the registered monitoring plan	0	0	0
• Data and parameters fixed ex ante or at renewal of crediting period	1	0	1
• Data and parameters monitored	1	0	0
• Implementation of sampling plan	0	0	0
Compliance with the calibration frequency requirements for measuring instruments	0	0	0
Assessment of data and calculation of emission reductions or net removals			
• Calculation of baseline GHG emissions or baseline net GHG removals by sinks	0	1	0
• Calculation of project GHG emissions or actual net GHG removals by sinks	0	0	0
• Calculation of leakage GHG emissions	0	0	0
• Summary of calculation of GHG emission reductions or net GHG removals by sinks	0	0	0
• Comparison of actual GHG emission reductions or net GHG removals by sinks with estimates in included specific-case CPA	0	0	0
• Remarks on difference from estimated value in registered PDD	0	0	0
Others (please specify)	0	0	0
<b>Total</b>	<b>4</b>	<b>1</b>	<b>1</b>

#### SECTION D. Internal quality control

>>

The verification report underwent an Internal Technical Review (ITR) before requesting issuance of CERs for the programme activity.

The ITR is an independent process performed to examine thoroughly that the process of verification has been carried out in conformance with the requirements of the verification scheme as well as internal Bureau Veritas Certification procedures.

The Team Leader provides a copy of the verification report to the reviewer, including any necessary verification documentation. The reviewer reviews the submitted documentation for conformance with the verification scheme. This will be a comprehensive review of all documentation generated during the verification process.

When performing an Internal Technical Review, the reviewer ensures that:

- The verification activity has been performed by the team by exercising utmost diligence and complete adherence to the CDM rules and requirements.

- The review encompasses all aspects related to the project which includes project design, baseline, additionality, monitoring plans and emission reduction calculations, internal quality assurance systems of the project participant as well as the programme activity, review of the stakeholder comments and responses, closure of CARs, CLs and FARs during the verification exercise, review of sample documents.

The complete assessment prepared by the verification team is checked. The reviewer may raise Clarification Requests to the verification team and discusses these matters with Team Leader.

After the agreement of the responses on the Clarification Requests from the verification team as well as the PP(s), the finalized verification report is accepted for further processing such as uploading via the UNFCCC interface.

**SECTION E. Verification opinion**

&gt;&gt;

Bureau Veritas Certification has performed the 3<sup>rd</sup> verification of the project: Sichuan Rural Poor-Household Biogas Development Programme, with regard to the relevant requirements for Programme of Activities and their Component Project Activities. The project reduces GHG emissions due to by facilitating the installation of a large number of household biogas digesters. During the programme activity, each household is equipped with a household biogas digester that will treat the manure anaerobically and recover the generated methane to be used for domestic cooking. After installation of the biogas systems, both sources of emissions will be reduced: No methane is emitted from the existing manure management systems, as the manure will be treated within the biogas digesters and furthermore, all recovered methane will be utilized for cooking to reduce the coal consumption of each household. This verification covers the period 01/03/2014 – 31/12/2014 (including both days).

The verification consisted of the following three phases: i) desk review of the project design, the baseline and monitoring plan; ii) follow-up interviews with project stakeholders; iii) resolution of outstanding issues and the issuance of the final verification report and opinion.

Bureau Veritas Certification conducted the verification on the basis of the monitoring methodologies; the monitoring plan included in the PoA-DD and CPA-DDs and the monitoring report of version 1.1, dated 2015-07-28. The verification included:

- i. Checking whether the design of the PoA and its CPAs is implemented and installed as planned and described in the registered/included design documents;
- ii. Checking whether the provisions of the monitoring methodologies and the monitoring plan in the CPA-DDs were consistently and appropriately applied;
- iii. The collection of evidence supporting the reported data.

BVC's verification approach draws on an understanding of the risks associated with reporting of GHG emission data and the controls in place to mitigate these. BVC planned and performed the verification by obtaining evidence and other information and explanations that BVC considers necessary to give reasonable assurance that reported GHG emission reductions are fairly stated.

Bureau Veritas Certification can confirm that the GHG emission reductions are calculated without material misstatements. Our opinion relates to the projects' GHG emissions and resulting GHG emission reductions reported and related to the validated and approved revised project baseline, monitoring plan and its associated documents. Based on the evidence and information that are considered necessary to guarantee that GHG emission reductions are appropriately calculated, Bureau Veritas Certification confirms the following certificate statement.

**SECTION F. Certification statement**

&gt;&gt;

Bureau Veritas Certification has performed the 3<sup>rd</sup> periodic verification of Sichuan Rural Poor-Household Biogas Development Programme which is located in Sichuan Province, P.R. China, with the Registration No. 2898, and applying the methodologies AMS-I.C Version 19 and AMS-III.R Version 02. The verification was performed based on the requirements set by the CDM and relevant guidance provided by CMP and the CDM Executive Board.

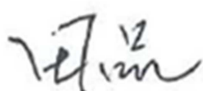
The verification consisted of the following three phases: i) desk review of the project design, the baseline and monitoring plan; ii) follow-up interviews with project stakeholders; iii) resolution of outstanding issues and the issuance of the final verification report and opinion.

The management of Chengdu Oasis Science & Technology Co., Ltd. is responsible for the preparation of the GHG emissions data and the reported GHG emission reductions of the Project on the basis set out within the registered project Monitoring Plan contained in the registered PoA-DD and CPA-DDs. The development and maintenance of records and reporting procedures in accordance with that plan, including the calculation and determination of GHG emission reductions from the Project is the responsibility of the management of the Project.

Bureau Veritas Certification verified the Monitoring Report version 1.2 dated 01/12/2015 for the reporting period as indicated below. Bureau Veritas Certification is able to confirm that the Project is implemented as planned and described in registered PoA-DD and CPA-DDs. The sample plan for data monitored completed reliably and appropriately.

Bureau Veritas Certification is able to confirm that the GHG emission reductions are calculated without material misstatements. Our opinion relates to the Project's GHG emissions and resulting GHG emission reductions reported and related to the valid and registered project baseline and approved monitoring plan, and its associated documents. Based on the verified amount of emission reductions stated in the verification report, Bureau Veritas Certification confirms the following statement:

Reporting period:	01/03/2014 – 31/12/2014
Baseline emissions:	687,986 tCO <sub>2</sub> equivalents
Project emissions:	74,734 tCO <sub>2</sub> equivalents
Leakage emissions:	0 tCO <sub>2</sub> equivalents
Emission Reductions:	613,252 tCO <sub>2</sub> equivalents



Mr. Tian Pin

Internal Technical Reviewer

01/12/2015



Mr. Wang Zhenning

Team Leader

01/12/2015



**SECTION G. Verification findings - General****G.1. Compliance of the monitoring report with the monitoring report form**

<b>Means of verification</b>	According to VVS version 09.0, BVC verification team crosschecked and compared the MR by employing the valid version of the applicable monitoring report form listed in UNFCCC website. <ul style="list-style-type: none"> <li>- The MR used the latest valid version of the applicable at UNFCCC website.</li> <li>- The MR is completed and meets all relevant requirements of instructions for filling out the Monitoring Report Form (version 01.0) for CDM programme activity.</li> </ul>
<b>Findings</b>	<b>CL-1:</b> The exact reference of the applied methodologies and tool (number, title, and version) should be completed. <i>The exact reference of the applied methodologies and tool (number, title and version) are completed in the updated MR. BVC checked the MR and confirmed the CL is closed.</i> <b>CL-2:</b> The continued operation periods of each CPAs should be indicated. <i>The continued operation periods is indicated in the updated MR sheet according to each CPAs, BVC confirmed the CL is closed.</i>
<b>Conclusion</b>	As per requirement of VVS Version 09.0, based on the findings above, BVC confirms that the MR version 1.1 was in compliance with relevant valid version of monitoring report form and instructions therein for filling out MR.

**G.2. Remaining forward action requests from validation and/or previous verification**

>>  
N/A

**G.3. Specific-case CPA(s) considered for verification and covered in this report**

Reference number of the specific-case CPA included in the PoA as of the end of this monitoring period	Is the specific-case CPA considered for this verification? (yes/no)	Version number of the registered PoA-DD to which the specific-case CPA complies with	Confirmation that a request for issuance including the specific-case CPA has been published for the previous monitoring period (Y/N)
2898-0001	Yes	1.6	Y
2898-0002	Yes	1.6	Y
2898-0003	Yes	1.6	Y
2898-0004	Yes	1.6	Y
2898-0005	Yes	1.6	Y
2898-0006	Yes	1.6	Y
2898-0007	Yes	1.6	Y
2898-0008	Yes	1.6	Y
2898-0009	Yes	1.6	Y
2898-0010	Yes	1.6	Y
2898-0011	Yes	1.6	Y
2898-0012	Yes	1.6	Y
2898-0013	Yes	1.6	Y
2898-0014	Yes	1.6	Y
2898-0015	Yes	1.6	Y
2898-0016	Yes	1.6	Y
2898-0017	Yes	1.6	Y
2898-0018	Yes	1.6	Y
2898-0019	Yes	1.6	Y
2898-0020	Yes	1.6	Y
2898-0021	Yes	1.6	Y
2898-0022	Yes	1.6	Y
2898-0023	Yes	1.6	Y

2898-0024	Yes	1.6	Y
2898-0025	Yes	1.6	Y
2898-0026	Yes	1.6	Y
2898-0027	Yes	1.6	Y
2898-0028	Yes	1.6	Y
2898-0029	Yes	1.6	Y
2898-0030	Yes	1.6	Y
2898-0031	Yes	1.6	Y
2898-0032	Yes	1.6	Y
2898-0033	Yes	1.6	Y
2898-0034	Yes	1.6	Y
2898-0035	Yes	1.6	Y
2898-0036	Yes	1.6	Y
2898-0037	Yes	1.6	Y
2898-0038	Yes	1.6	Y
2898-0039	Yes	1.6	Y
2898-0040	Yes	1.6	Y
2898-0041	Yes	1.6	Y
2898-0042	Yes	1.6	Y
2898-0043	Yes	1.6	Y
2898-0044	Yes	1.6	Y
2898-0045	Yes	1.6	Y
2898-0046	Yes	1.6	Y
2898-0047	Yes	1.6	Y
2898-0048	Yes	1.6	Y
2898-0049	Yes	1.6	Y
2898-0050	Yes	1.6	Y
2898-0051	Yes	1.6	Y
2898-0052	Yes	1.6	Y
2898-0053	Yes	1.6	Y
2898-0054	Yes	1.6	N
2898-0055	Yes	1.6	N
2898-0056	Yes	1.6	N
2898-0057	Yes	1.6	N
2898-0058	Yes	1.6	N
2898-0059	Yes	1.6	N
2898-0060	Yes	1.6	N
2898-0061	Yes	1.6	N
2898-0062	Yes	1.6	N
2898-0063	Yes	1.6	N
2898-0064	Yes	1.6	N
2898-0065	Yes	1.6	N
2898-0066	Yes	1.6	N
2898-0067	Yes	1.6	N
2898-0068	Yes	1.6	N
2898-0069	Yes	1.6	N
2898-0070	Yes	1.6	N
2898-0071	Yes	1.6	N
2898-0072	Yes	1.6	N
2898-0073	Yes	1.6	N

## SECTION H. Verification findings – Programme of activities

## H.1. Compliance of the programme implementation with the registered programme design document

<b>Means of verification</b>	<p>According to VVS version 09.0, BVC conducted an on-site inspection (06/07/2015-14/07/2015) to assess that all physical features (technology, project equipment, and monitoring and metering equipment) of the included CDM CPA in the registered PoA-DD and CPA-DDs are in places and the coordinating/managing entity have operated the PoA as per the PoA-DD. BVC found that:</p> <p>The PoA aims to reduce a large amount of greenhouse gases (GHG) by facilitating the installation of a large number of household biogas digesters for the low income households located in Sichuan province, China. During last monitoring period 01/03/2014 – 31/12/2014, 73 CPAs were included and 331,021 households were equipped with the biogas digesters in Yibin, Neijiang, Suining, Ziyang, Zigong, Luzhou, Leshan, Meishan, Mianyang, Guang'An, Ganzi, Aba and Dazhou, all of which are located in Sichuan. In this monitoring period quantities of the included CPAs and households are not changed.</p> <p>Prior to the project activity, households in the area which are now covered by PoA stored animal manure produced by micro-scale animal husbandries in deep pits for several months before applying it to their farmland. In the meantime, coal was used as source of energy for cooking in daily life. Through the project activity, each household is equipped with a household biogas digester that treats the manure anaerobically and recovers the generated methane as energy supply, which will avoid methane emission and reduce coal consumption. The Sichuan Rural Energy Office (SREO) is the local authority while Chengdu Oasis Science &amp; Technology Co., Ltd. is the coordinating/managing entity (CME), who will take the entire task regarding the monitoring issues. Based on the previous verification and during on-site inspection, BVC's verification team checked the Table of checked and accepted documents and statement on the household number and operation date issued by the SREO and is able to confirm that the local authority is SREO, CME is the Chengdu Oasis Science &amp; Technology Co., Ltd, taking care of all investigation and monitoring data review work.</p> <p>During this monitoring period a new statement on the existing total household number as well as the number included in each CPA were issued by the SREO. In the statement, SREO confirmed that in this monitoring period the number of included CPAs and included households was not changed (same as the previous monitoring period). Moreover, during the previous verification a full list of the households equipped with biogas digesters were verified by DoE, on which name, digester ID, digester location, and construction date were clearly indicated. Table of checked and accepted documents for all constructed biogas digesters were also randomly checked and BVC is able to confirm it is accepted by the local authority. Through checking above mentioned documents BVC is able to confirm that the total number of household equipped with biogas digester is 331,021 and the households included in each CPA are not changed, which is consistent with the monitoring report.</p> <p>The verification team also checked construction time of all the digesters on the Household list that included in each CPA (from CPA Nb. SCHHBG-2010-001 to CPA Nb. SCHHBG-2013-073) and confirmed that the earliest construction date of CPA Nb. SCHHBG-2010-001 is 2010-12-10, which is consistent with the registered CPA-DD. The verification team also checked the Household list of CPA Nb. SCHHBG-2012-002 to CPA Nb. SCHHBG-2013-073 and confirmed that the earliest construction date of biogas digester is no earlier than 2010-10-28. It is consistent with the CPA-DDs of CPA Nb. SCHHBG-2012-002 to CPA Nb. SCHHBG-2013-073. Construction of all CPAs (from CPA Nb. SCHHBG-2010-001 to CPA Nb. SCHHBG-2013-073) finished and starting operation before 2013-06-23. Verification team checked the Household list that included in each CPA and able to confirm the information on construction date given in the MR is correct.</p> <p>During on-site visit, the verification team checked the biogas digesters equipped in each household. Each biogas digester system consists of components such as inlet, inlet pipe, fermentation chamber, gas chamber storage, hydraulic chamber, movable cover and gas tube. Verification team is able to confirm that the systems were equipped in line with the registered PoA-DD and CPA-DD. The digesters were</p>
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	designed according to relevant regulations, checked and accepted by local authority. Therefore, based on this on-site visit and the reviewed project documentation, the verification team confirms that the realized technology, the project equipment, included CPA and household number, as well as the CME are consistent with the description in the registered or included CPA-DDs. There is no information (data and variables) provided in the monitoring report that is different from that stated in the registered PoA-DD and CPA-DD.
<b>Findings</b>	There is no CAR/CL raised in this section.
<b>Conclusion</b>	BVC confirms that the implementation and operation of the registered PoA and included CPAs has been conducted in accordance with the description contained in the registered PoA-DD and CPA-DDs; There is no deviation or the proposed or actual changes in the implementation or operation of the registered PoA and CPA comply with the requirements of the Project standard.

**H.2. Implementation and operation of the management system**

<b>Means of verification</b>	<p>According to VVS version 09.0, BVC verification team conducted documents review and on-site interview to assess implementation and operation of the management system included CDM CPA in the registered PoA-DD and CPA-DDs are consistent with the PoA-DD and CPA-DDs.</p> <ul style="list-style-type: none"> <li>- To make sure the monitoring procedure working properly, a monitoring structure was established. Two organizations were working on the monitoring work of this PoA. SREO is local authority, Chengdu Oasis Science &amp; Technology Co., Ltd is CME, and in charge of all tasks related to CDM and PoA, including determining the households to be included in the sampling survey using a simple random approach, submits the household references to the local data collectors, and the whole process of data management.</li> <li>- The data collection and management process is operated as below:             <ol style="list-style-type: none"> <li>1. A central online platform was established and the CME could use the platform to determine the households to be included in the sampling using a simple random approach and submits the household references to the local data collectors.</li> <li>2. Well trained local officers of SREO visited the households. Data collected was uploaded to the platform after the site visit. Using this platform, data could be transferred back to the CME for the calculation of the emission reduction.</li> <li>3. Data collected would be then analysed by an automatic database system, and outcome of the sampling survey would be used to calculate the emission reduction of each CPA during a certain monitoring period. Monitoring report could be prepared base on the data acquired.</li> </ol> </li> <li>- During on-site inspection, data management system was checked by the verification team. Operation manual of the data management system was supplied to the verification team. Therefore, BVC is able to confirm that the data management system were properly designed and operated, and operation manual was well followed.</li> <li>- Both platforms, the web-interface for the local data collectors as well as the emission reduction calculation software are saved in a backup system regularly.</li> </ul>
<b>Findings</b>	There is no CAR/CL raised in this section.
<b>Conclusion</b>	In conclusion, based on document review, and stakeholder interview, together based on BVC’s local and sectoral expertise, BVC confirms that: The implementation and operation of the management system included CDM CPA in the registered PoA-DD and CPA-DDs are consistent with the PoA-DD and CPA-DDs.

**H.3. Post-registration changes**

**H.3.1. Temporary deviations from the registered monitoring plan, monitoring methodology or standardized baseline**

>>  
N/A

**H.3.2. Corrections**

>>  
N/A

**H.3.3. Inclusion of a monitoring plan in a registered PoA-DD (including its generic CPA-DD(s))**

>>  
N/A

**H.3.4. Permanent changes to the monitoring plan as described in the registered PoA-DD, applied methodology, or applied standardized baseline**

>>  
N/A

**H.3.5. Changes to the programme design of the registered PoA-DD (including corresponding changes to project design of the generic CPA-DD(s)) and updates to the eligibility criteria for inclusion of specific-case CPAs in the PoA**

>>  
N/A

**H.3.6. Types of changes specific to afforestation and reforestation activities**

>>  
N/A

**SECTION I. Verification findings – Component project activity(ies)**

**I.1. Compliance of the CPA implementation with the included CPA design document**

<p><b>Means of verification</b></p>	<p>According to VVS version 09.0, BVC verification team conducted an on-site inspection (06/07/2015-14/07/2015) to assess that all physical features (technology, project equipment, and monitoring and metering equipment) of the included CDM CPA in this monitoring period are in places and the coordinating/managing entity have operated the CPA as per the PoA-DD and CPA-DD.</p> <ul style="list-style-type: none"> <li>- During on-site visit, the verification team checked the biogas digesters equipped in each household. Each biogas digester system consists of components such as inlet, inlet pipe, fermentation chamber, gas chamber storage, hydraulic chamber, movable cover and gas tube. Verification team is able to confirm that the systems were equipped in line with the registered PoA-DD and CPA-DD. The digesters were designed according to relevant regulations, checked and accepted by local authority. Therefore, based on this on-site visit and the reviewed project documentation, the verification team confirms that the realized technology, the project equipment, included CPA and household number, as well as the CME are consistent with the description in the CPA design document.</li> <li>- During this monitoring period a new statement on the existing total household number as well as the number included in each CPA were issued by the SREO. In the statement, SREO confirmed that in this monitoring period the number of included CPAs and included households was not changed (same as the previous monitoring period). Moreover, during the previous verification a full list of the households equipped with biogas digesters were verified by DoE, on which name, digester ID, digester location, and construction date were clearly indicated. Table of checked and accepted documents for all constructed biogas digesters were also randomly checked and BVC is able to confirm it is accepted by the local authority. Through checking above mentioned documents BVC is able to confirm that the total number of household equipped with biogas digester is 331,021 and the households included in each CPA are not changed, which is consistent with the registered CPA-DDs.</li> <li>- There is no information (data and variables) provided in the monitoring report that is different from that stated in the registered CPA-DD.</li> </ul>
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<b>Findings</b>	There is no CAR/CL raised in this section.
<b>Conclusion</b>	In conclusion, based on document review, and stakeholder interview, together based on BVC's local and sectoral expertise, BVC confirms that: The implementation and operation of the registered CPA has been conducted in accordance with the description contained in the registered PoA-DD and CPA-DDs; There is no deviation or the proposed or actual changes in the implementation or operation of the registered CPA comply with the requirements of the Project standard.

**I.2. Post-registration changes**

**I.2.1. Temporary deviations from registered monitoring plan, applied methodology or applied standardized baseline**

>>  
N/A

**I.2.2. Corrections**

>>  
When performing the 1<sup>st</sup> verification for the PoA, a correction was raised for the values of parameters FC<sub>BL,y</sub> and FC<sub>PE,y</sub> in the included CPA-DDs (from CPA No. SCHHBG-2012-002 to CPA No. SCHHBG-2012-053). And the correction as a post –registration change was approved on 03/01/ 2014.

**I.2.3. Changes to the start date of the crediting period**

>>  
N/A

**I.2.4. Inclusion of a monitoring plan to an included CPA-DD**

>>  
N/A

**I.2.5. Permanent changes to the monitoring plan as described in the included CPA-DD, applied methodology, or applied standardized baseline**

>>  
N/A

**I.2.6. Changes to the programme design of the included CPA-DD**

>>  
N/A

**I.2.7. Types of changes specific to afforestation and reforestation component project activities**

>>  
N/A

**I.3. Compliance of monitoring plan with the monitoring methodology including applicable tool and standardized baseline**

<b>Means of verification</b>	BVC verification team crosschecked that Board issues which enhance the level of accuracy and completeness of the registered monitoring plan. - During the document review and furthermore during the on-site visit the verification team has reviewed the registered monitoring plan and compared it with the monitoring methodology to verify their compliance. - There is no applicable standardized baseline according to the registered PoA-DD and included CPA-DDs.
<b>Findings</b>	There is no CAR/CL raised in this section.
<b>Conclusion</b>	The monitoring plan of the registered or included CPA-DDs is in compliance with

	the monitoring methodologies including applicable tool(s). There is no applicable standardized baseline according to the registered PoA-DD and included CPA-DDs.
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**I.4. Compliance of monitoring activities with the registered monitoring plan**

**I.4.1. Data and parameters fixed ex ante or at renewal of crediting period**

<b>Means of verification</b>	<p>The document review and the site visit revealed that a complete set of data for the specified monitoring period is available. The correctness of information provided in the monitoring report has been crosschecked against the registered PoA-DD and/or included CPA-DDs.</p> <p>The following ex-ante parameters have been checked the compliance with the registered monitoring plan.</p> <table border="1" style="width: 100%;"> <thead> <tr> <th style="width: 50%;">Parameter</th> <th style="width: 50%;">Value and Assessment</th> </tr> </thead> <tbody> <tr> <td>FC<sub>BL,y</sub>, Average annual coal consumption before the installation of the digesters (Tonnes of coal)</td> <td>The value is calculated as the number of households times the average coal consumption per household before and after the completion of each CPA. There are 1,000 households in CPA Nb. SCHHBG-2010-001, while 4,601 households in Nb. SCHHBG-2012-002 to CPA Nb. SCHHBG-2013-072 each and 3,350 in CPA Nb. SCHHBG-2013-073. For CPA Nb. SCHHBG-2010-001: 1,006 (=1.006×1000) For CPA Nb. SCHHBG-2012-002 to CPA Nb. SCHHBG-2013-072: 4,456.48 (=0.9686×4601) For CPA Nb. SCHHBG-2013-073: 3,244.78(=0.9686×3,350)</td> </tr> <tr> <td>FC<sub>PE,y</sub>, Average annual coal consumption after the installation of the digesters (Tonnes of coal)</td> <td>The value is calculated as the number of households times the average coal consumption per household before and after the completion of each CPA. There're 1,000 households in CPA Nb. SCHHBG-2010-001, while 4601in Nb. SCHHBG-2012-002 to CPA Nb. SCHHBG-2013-072 each, and 3,350 in CPA Nb. SCHHBG-2013-073. For CPA Nb. SCHHBG-2010-001: 47 (=0.047×1000) For CPA Nb. SCHHBG-2012-002 to CPA Nb. SCHHBG-2013-072: 125.7(=0.027×4601) For CPA Nb. 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<b>Findings</b>	<p><b>CL-4:</b> The CPA-DDs require that for parameters FC<sub>BL,y</sub> (average annual coal consumption before the installation of the digesters) and FC<sub>PE,y</sub> (average annual coal consumption after the installation of the digesters) the data will be collected in a comprehensive baseline survey that is repeated tri annually. Please explain how this requirement has been complied with, in particular whether the survey has been repeated tri annually.</p> <p><i>The information in the CPA-DDs was copied directly from the PoA-DD, whereas the</i></p>																

	<p>requirement to repeat the survey is at the PoA level. The new survey is meant to obtain the parameters for the inclusion process, and the data collected will also be fixed during the crediting period for the specific new CPAs. The survey will be repeated every three years (triennially), instead of tri annually. BVC checked the CPA-DDs and the PoA-DD and the minutes of direction of communication with EB /39/, confirmed the clarification CL is reasonable closed and a FAR is raised for the correction in future.</p> <p><b>FAR-1:</b> The CPA-DDs require that for two ex-ante parameters <math>FC_{BL,y}</math> (average annual coal consumption before the installation of the digesters) and <math>FC_{PE,y}</math> (average annual coal consumption after the installation of the digesters) the data will be collected in a comprehensive baseline survey that is repeated tri annually. Meanwhile the two parameters are set fixed ex-ante. Although this requirement has no effect on this verification. There is a correction shall be done for the design documents with the next verification.</p> <p>As mentioned before, the two parameters "<math>FC_{BL,y}</math>" and "<math>FC_{PE,y}</math>" is fixed for the CPA included as ex-ante parameters. The correction will be done to clear up the misunderstanding in the future. BVC confirms the CME will conduct a correction for the project documents in future.</p>
<p><b>Conclusion</b></p>	<p>BVC's verification team confirms that all the ex-ante parameters have been correctly mentioned and justified in section G.1 of the MR and applied in the ER calculation process. The information of data and parameters fixed ex ante provided in the monitoring report is compliance with the registered PoA-DD and the included CPA-DDs. But the same sentence in the CPA-DDs copied from PoA-DD might be easily misunderstood and thus one FAR is raised as above.</p>

**I.4.2. Data and parameters monitored**

<p><b>Means of verification</b></p>	<p>According to PS (version 09.0), VVS(version 09.0), sample standard/guideline and applied methodologies included the applied tools, the verification team reviewed the MR, PoA-PDD and included CPA-DDs, crosschecked against the other available data and documents, verified whether monitored parameters in accordance with all relevant applicable requirements in the PS; whether the MR list all data and parameters to be monitored, as required by the applied methodology and whether the data and parameters obtained in a reasonable way, whether the sample plan conducted accordingly, the source and the applied value of the monitored parameter is acceptable, whether the equipment used and calibrated according to the registered monitoring plan included in the registered PoA-DD and CPA-DDs, whether the parameters monitored explain the operational and management structure, responsibilities and institutional arrangement for data collection/archiving, QA/QC procedures.</p> <p>The information flow and the values in the monitoring report were verified as follows:</p> <table border="1" data-bbox="448 1626 1447 2067"> <thead> <tr> <th data-bbox="448 1626 794 1659">Parameter</th> <th data-bbox="794 1626 1447 1659">Value and Assessment</th> </tr> </thead> <tbody> <tr> <td data-bbox="448 1659 794 2067"> <p><math>N_k</math>, Number of systems operating in each CPA.</p> </td> <td data-bbox="794 1659 1447 2067"> <p>The total number for the 73 CPAs of this monitoring period is 331,021, including:                      CPA Nb. SCHHBG-2010-001: 1,000;                      CPA Nb. SCHHBG-2013-073: 3,350;                      All other CPAs: 4,601</p> <p>In order to determine the number of systems operating in each CPA, CME have followed sampling approach as described above and randomly selected 200 households for interview. The information obtained from household interviews has been recorded in the form of questionnaire papers. Well trained survey staffs were in charge of collecting and recording the information from the questionnaire papers. The information collected by the survey staffs has been supplied to Chengdu Oasis Science &amp; Technology Co., Ltd. (the CME) and data was</p> </td> </tr> </tbody> </table>	Parameter	Value and Assessment	<p><math>N_k</math>, Number of systems operating in each CPA.</p>	<p>The total number for the 73 CPAs of this monitoring period is 331,021, including:                      CPA Nb. SCHHBG-2010-001: 1,000;                      CPA Nb. SCHHBG-2013-073: 3,350;                      All other CPAs: 4,601</p> <p>In order to determine the number of systems operating in each CPA, CME have followed sampling approach as described above and randomly selected 200 households for interview. The information obtained from household interviews has been recorded in the form of questionnaire papers. Well trained survey staffs were in charge of collecting and recording the information from the questionnaire papers. The information collected by the survey staffs has been supplied to Chengdu Oasis Science &amp; Technology Co., Ltd. (the CME) and data was</p>
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		<p>transferred to automatic database system to determine the value of this parameter. BVC's verification team was provided with the Survey list of the 200 samples, the questionnaire papers filled by the households, and Table of checked and accepted documents. The verification team has also visited 82 of these households on a random sampling basis and interviewed the users. A calculation on the reliability of the sample size was done by the verification team and confirmed that the sample size selected by the CME is reliable and conservative. Based on the result of acceptance sampling, the monitoring records are deemed acceptable by BVC in accordance with the sampling standard.</p>
	<p>t, Mean annual operation hours of the digesters.</p>	<p>In order to determine the mean annual operation hours of the digesters CME have followed sampling approach as described above and randomly selected 200 households for interview. Based on the result of acceptance sampling, the monitoring records of parameter t are deemed acceptable by BVC in accordance with the sampling standard.</p>
	<p>T, Mean annual temperature in city k. This parameter determines the emission factors of the existing manure management systems.</p>	<p>According to the registered PoA-DD/ and CPA-DDs, latest available official publication should be used. When the monitoring report is published on the UNFCCC website, Sichuan Statistical Yearbook 2014 which provided the annual average temperature for the year 2013 is the latest available source. Therefore, Mean annual temperature in the Sichuan Statistical Yearbook 2014 is applied.</p>
	<p><math>MCF_{j,k}</math>, Methane conversion factors for each manure management system j in climate region k.</p>	<p>The value is the methane conversion factor under different temperature. As the 331,021 households are distributed in 13 different cities, the methane conversion factor is different from each other due to different temperature. The value is available in the IPCC 2006 Guidelines for National Greenhouse Gas Inventories, Volume 4, Chapter 10, Table 10.17, in which, different temperature is corresponding different <math>MCF_{j,k}</math> value.</p>
	<p><math>N_{LT,y}</math>, Annual average number of animals of type LT in year y (numbers).</p>	<p>In order to determine the average number of pigs in each household during this monitoring period, CME have followed sampling approach as described above and randomly selected 200 households for interview. The information obtained from household interviews has been recorded in the form of questionnaire papers. Well trained survey staffs were in charge of collecting and recording the information from the questionnaire papers. The information collected by the survey staffs has been supplied to Chengdu Oasis Science &amp; Technology Co., Ltd. (the CME) and data was transferred to automatic database system to determine the value of this parameter. BVC's verification team was provided with the Survey list of the 200 samples, the questionnaire papers filled by the households, and Table of checked and accepted documents. The verification team has also visited 82 of these households on a random sampling basis and interviewed the users. A calculation on the reliability of the sample size was done by the verification team and confirmed that the sample size selected by the CME is reliable and conservative. Based on the result of acceptance sampling, the monitoring records are deemed acceptable by BVC in accordance with the sampling standard.</p>
	<p>Proper sludge application ratio, Land application of digestate from biogas digesters to avoid anaerobic digestion</p>	<p>In order to determine the proper sludge application ratio, CME have followed sampling approach as described above, The information obtained from household interviews has been recorded in the form of questionnaire papers. Well trained survey staffs were in charge of collecting and recording the information from the questionnaire papers. The information collected by the</p>

		<p>survey staffs has been supplied to Chengdu Oasis Science &amp; Technology Co., Ltd. (the CME) and data was transferred to automatic database system to determine the value of this parameter.</p> <p>BVC's verification team was provided with the Survey list of the 200 samples, the questionnaire papers filled by the households, and Table of checked and accepted documents. The verification team has also visited 80 of these households on a random sampling basis and interviewed the users. A calculation on the reliability of the sample size was done by the verification team and confirmed that the sample size selected by the CME is reliable and conservative. Based on the result of acceptance sampling, the monitoring records are deemed acceptable by BVC in accordance with the sampling standard.</p>
	<p>EF<sub>CO<sub>2</sub>,i,y</sub>, Emission Factor of raw coal</p>	<p>According to the registered PoA-DD and CPA-DDs, latest available official publication should be used. When the monitoring report is published on the UNFCCC website, latest data available is the official data from Chinese DNA. Therefore, Emission Factor of raw coal of Chinese DNA's Guideline of emission factors of Chinese grids 2014 is applied /43/.</p>
	<p>NCV<sub>i,y</sub>, Net Calorific Value of raw coal</p>	<p>According to the registered PoA-DD and CPA-DDs, latest available official publication should be used. When the monitoring report is published on the UNFCCC website, latest data available is the official data from Chinese DNA. Therefore, Emission Factor of raw coal of Chinese DNA's Guideline of emission factors of Chinese grids 2014 is applied/43/.</p>
<p><b>Findings</b></p>	<p><b>CL-3:</b> The Sichuan Statistical Yearbook of 2014 is not submitted to BVC for check. The Sichuan Statistical Yearbook of 2014 is submitted to BVC. BVC checked the Sichuan Statistical Yearbook of 2014 provided by CME and confirmed the data is consistent with the MR, thus the CL is closed.</p>	
<p><b>Conclusion</b></p>	<p>Therefore, based on the document review and onsite verification, BVC's verification team is of the opinion that the data generation of the parameters above is reliable and the procedures applied by the CME are appropriate. The data management of parameters above (data aggregation, data recording and data values) is considered to be appropriate. The QA/QC of the parameters was established according to the registered CPA-DDs and applied methodologies (including tools).</p>	

**1.4.3. Implementation of sampling plan**

<p><b>Means of verification</b></p>	<p>According to the VVS (version 09.0), sample standard/guideline and applied methodologies included the applied tools, a single sample was drawn for all 73 included CPAs for this monitoring period in the PoA level by the CME from the monitoring database in line with the Guidelines for Sampling and Surveys for CDM Project Activities and Programme of Activities (hereafter can be referred to as the "sampling guideline"). According to the applied methodologies, confidence/precision of 90/10 is acceptable for sampling. According to the Standard for Sampling and Surveys for CDM Project Activities and Programme of Activities, confidence/precision of 95/10 should be applied when the sampling plan covered a group of CPAs. For this PoA, confidence/precision is 95/10.</p> <p>According to the sample plan contained in the MR and registered PoA-DD and included CPA-DDs, an initial survey is conducted to estimate the population parameter <math>S^2</math> and <math>\bar{Y}</math>. Based on the population characters, the initial sample size was corrected according to the size of target population and then be corrected Respond Rate <math>r_R</math> (initially 90%). In case, the survey covers more than one expected parameters, conservatively, sample size should not be less than the maximum calculated sample size of those indicators.</p> <p style="text-align: center;"><b>Reliability Analysis:</b></p> <p>In the monitoring report and relevant parameters were monitored and recorded. Reliability of the sample result was calculated by the CME. For the operation hours (t), calculated precision is 0.31%. For the annual average number of pigs (<math>N_{LT,y}</math>), calculated precision is 4.69%. Both of them are below 10% of confidence level. As the percentage of sludge application rate and rate of digesters still in operation (<math>N_k</math>)</p>
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	<p>is 100% during sampling survey, standard error is zero. Therefore, the sample result is reliable.</p> <p>The verification team reviewed the MR, PoA-PDD and included CPA-DDs, the other available data and documents such as the Survey list of the 200 samples, the questionnaire papers filled by the households, and Table of checked and accepted documents. Crosschecked with the inspection during the on-site period, including 82 random households visit. Verified whether the sample plan is reasonable to conduct and the implementation and results of the sample survey can be accepted.</p> <p style="text-align: center;"><b>Acceptance of Sampling</b></p> <p>Using own professional judgement, it is assumed that the Acceptable Quality Level (AQL) is 1% and the Unacceptable Quality Level (UQL) is 10% for this PoA. The maximum error of producer's risk and consumer's risk is assumed at 5%, in compliance with the Standard for Sampling and Surveys for CDM Project Activities and Programme of Activities (hereafter referred to as the "sampling standard"). Based on these assumptions, BVC refers to the sampling standard and sampling guideline and found that sample size should be not less than 61 and acceptance number is 2. During on-site visit, 82 households (total sample size by BVC) were chosen by the verification team randomly to check the correctness of sampling size and data that need to be monitored. This is considered to be a good practice.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Parameter</th> <th style="text-align: center;">Number of samples in MR</th> <th style="text-align: center;">Number of samples by BVC</th> <th style="text-align: center;">Acceptance number</th> <th style="text-align: center;">Discrepant records</th> <th style="text-align: center;">Acceptable or not</th> </tr> </thead> <tbody> <tr> <td>Number of systems operating in each CPA (<math>N_k</math>)</td> <td style="text-align: center;">200</td> <td style="text-align: center;">82</td> <td style="text-align: center;">2</td> <td style="text-align: center;">0</td> <td style="text-align: center;">Yes</td> </tr> <tr> <td>Mean annual operation hours of the digesters (t)</td> <td style="text-align: center;">200</td> <td style="text-align: center;">82</td> <td style="text-align: center;">2</td> <td style="text-align: center;">0</td> <td style="text-align: center;">Yes</td> </tr> <tr> <td>Annual average number of animals of type LT in year y (<math>N_{LT,y}</math>)</td> <td style="text-align: center;">200</td> <td style="text-align: center;">82</td> <td style="text-align: center;">2</td> <td style="text-align: center;">1</td> <td style="text-align: center;">Yes</td> </tr> <tr> <td>Proper sludge application ratio</td> <td style="text-align: center;">200</td> <td style="text-align: center;">82</td> <td style="text-align: center;">2</td> <td style="text-align: center;">0</td> <td style="text-align: center;">Yes</td> </tr> </tbody> </table> <p>As per the above table, for the parameter "number of systems operating in each CPA (<math>N_k</math>)", "proper sludge application ratio" and "Mean annual operation hours of the digesters (t)", result of CME's is consistent in the samples verified (cross-checked) by BVC. For the parameter "Annual average number of animals of type LT in year y (<math>N_{LT,y}</math>)", only 1 minor discrepancies are found as table shown below.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Parameter</th> <th style="text-align: center;">Serial No. of Household</th> <th style="text-align: center;">Result from CME</th> <th style="text-align: center;">Result from BVC</th> </tr> </thead> <tbody> <tr> <td>Annual average number of animals of type LT in year y (<math>N_{LT,y}</math>)</td> <td style="text-align: center;">G-2010-0260</td> <td style="text-align: center;">4.23</td> <td style="text-align: center;">4.5</td> </tr> </tbody> </table> <p>BVC observed that the number of discrepant records is less than the acceptance number. Therefore, in accordance with the sampling standard, BVC is able to confirm that the sample size and sampling result is acceptable.</p>	Parameter	Number of samples in MR	Number of samples by BVC	Acceptance number	Discrepant records	Acceptable or not	Number of systems operating in each CPA ( $N_k$ )	200	82	2	0	Yes	Mean annual operation hours of the digesters (t)	200	82	2	0	Yes	Annual average number of animals of type LT in year y ( $N_{LT,y}$ )	200	82	2	1	Yes	Proper sludge application ratio	200	82	2	0	Yes	Parameter	Serial No. of Household	Result from CME	Result from BVC	Annual average number of animals of type LT in year y ( $N_{LT,y}$ )	G-2010-0260	4.23	4.5
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<b>Findings</b>	There is no CAR/CL raised in this section.																																						
<b>Conclusion</b>	The sample plan is reasonable to conduct and the implementation is well performed and results of the sample survey can be accepted. The implementation of sample plan is in line with the VVS (version 09.0), sample standard/guideline and applied methodologies included the applied tools.																																						

**I.5. Compliance with the calibration frequency requirements for measuring instruments**

<b>Means of verification</b>	N/A
<b>Findings</b>	N/A
<b>Conclusion</b>	N/A

**I.6. Assessment of data and calculation of emission reductions or net removals**

**I.6.1. Calculation of baseline GHG emissions or baseline net GHG removals by sinks**

<b>Means of verification</b>	According to VVS (version 09.0), a complete set of data for the specified monitoring period is verified. Information provided in the monitoring report has been cross-checked with other sources such as plant logbooks, inventories, purchase records
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	<p>and laboratory analysis. Calculations of baseline GHG emissions have been verified whether carried out in accordance with the formulae and methods described in the registered monitoring plan, the applied methodology and, where applicable, the applied standardized baseline. Any assumptions used in emission or removal calculations have been justified. Whether the appropriate emission factor, IPCC default values, GWP and other reference values have been correctly applied. The correctness of information provided in the monitoring report has been verified by cross checks with Survey list of the 200 samples, Questionnaire paper that filled by the investigated households, Table of checked and accepted documents for all constructed biogas digesters signed by local authority, Sichuan Statistical Yearbook 2014, IPCC default value, and Chinese DNA's Guideline of emission factors of Chinese grids 2014.</p> <p>There are two parts of the baseline emissions, baseline emissions from an existing animal manure management system and baseline emissions due to the reduction of coal consumption.</p> <ul style="list-style-type: none"> <li>- The baseline emissions from an existing animal manure management system can be calculated as formula below:</li> </ul> $BE_{CH_4} = GWP_{CH_4} \times D_{CH_4} \times UF_b \times \sum_{j,LT} MCF_j \times B_{0,LT} \times N_{LT,y} \times VS_{LT,y} \times MS\%_{BL,j}$ <p>For the specific calculation of baseline emissions of each CPA within this monitoring period, the result of equation above is multiplied with three factors:</p> <p>Time: To account for the length of the monitoring period, the length of the monitoring period in days divided by 365 is applied as a factor. For CPA 2898-001, CPAs 2898-002 to 2898-053, the factor is 306/365 = 0.838. For CPA 2898-054 to 2898-073, the factor is 283/365 = 0.775.</p> <p>Households with proper sludge application: To exclude households without proper sludge application, the baseline emissions are multiplied with the monitoring parameter "Proper Sludge Application".</p> <p>Number of households: Multiplying the baseline emissions per household with the number of households in the CPA leads to the baseline emissions in the entire CPA.</p> <ul style="list-style-type: none"> <li>- The baseline emissions due to the reduction of coal consumption can be calculated as formula below</li> </ul> $BE_{CO_2} = FC_{BE,y} \times NCV_{coal,y} \times EF_{co2,coal,y}$
<p><b>Findings</b></p>	<p>1 CAR was raised for the inconsistency of the baseline emissions values in MR and ER sheet. The updated MR corrects the values and BVC confirmed the inconsistency is typo. Thus the CAR was closed.</p> <p><b>CAR-1:</b> The data of the baseline emission in MR are not consistent with the ER sheet provided, such as baseline emission of (2898-028 to 2898-031), CPA 2898-035 and (2898-046 to 2898-048).</p> <p>The inconsistent data is typo and corrected according to the ER sheet. BVC checked the updated MR and confirmed the data is consistent with the ER sheet and correct, there is no impact on emission reductions, thus the CAR is closed.</p>
<p><b>Conclusion</b></p>	<p>The verification checked and recalculated the ER calculation sheet and confirms that the sheet is reproducible and calculation was correctly applied. The confirmed value of baseline emissions is 687,986 tCO<sub>2</sub>e.</p>

**1.6.2. Calculation of project GHG emissions or actual net GHG removals by sinks**

<p><b>Means of verification</b></p>	<p>According to the VVS (version 09.0), a complete set of data for the specified monitoring period is verified. Information provided in the monitoring report has been cross-checked with other sources such as plant logbooks, inventories, purchase records and laboratory analysis. Calculations of project GHG emissions have been verified whether carried out in accordance with the formulae and methods described in the registered monitoring plan, the applied methodology and, where applicable, the applied standardized baseline. Any assumptions used in emission or removal calculations have been justified. Whether the appropriate emission factor, IPCC default values, GWP and other reference values have been correctly</p>
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	<p>applied. Following the calculations laid out in the PoA-DD, the following equation is applied to calculate the project emissions:</p> $PE_{CH_4,y} = 0.10 \cdot GWP_{CH_4} \cdot D_{CH_4} \cdot \sum_{i,LT} B_{0,LT} \cdot N_{LT,y} \cdot VS_{LT,y} \cdot MS\%_{i,y}$ <ul style="list-style-type: none"> <li>- For the specific calculation of project emissions of each CPA within this monitoring period, the result of equation above is multiplied with two factors: <ol style="list-style-type: none"> <li>1. Time: To account for the length of the monitoring period, the length of the monitoring period in days divided by 365 is applied as a factor. For CPA 2898-001, CPAs 2898-002 to 2898-053, the factor is 306/365 = 0.838. For CPA 2898-054 to 2898-073, the factor is 283/365 = 0.775.</li> <li>2. Households with proper sludge application: To exclude households without proper sludge application, the project emissions are multiplied with the monitoring parameter "Proper Sludge Application".</li> </ol> </li> <li>- Additionally, the project emissions from coal consumption are calculated using formula below:</li> </ul> $PE_{CO_2,y} = \sum_i FC_{PE,y} \cdot COEF_{i,y}$ <p>The possible project emissions from electricity or other sources that are listed in the methodology are not applicable, as no electricity consumption occurs and no other greenhouse gases are emitted by the project activity.</p>
<b>Findings</b>	There is no CAR/CL raised in this section.
<b>Conclusion</b>	The verification checked and recalculated the ER calculation sheet and confirms that the sheet is reproducible and calculation was correctly applied. The confirmed value of project emissions is 74,734 tCO <sub>2</sub> e.

**I.6.3. Calculation of leakage GHG emissions**

<b>Means of verification</b>	Calculations of leakage GHG emissions have been verified whether carried out in accordance with the formulae and methods described in the registered monitoring plan, the applied methodology and, where applicable, the applied standardized baseline.
<b>Findings</b>	N/A
<b>Conclusion</b>	According to the registered PoA-DD, the leakage emissions of this PoA and its CPAs are considered 0.

**I.6.4. Summary of calculation of GHG emission reductions or net GHG removals by sinks**

<b>Means of verification</b>	<p>According to VVS (version 09.0), a complete set of data for the specified monitoring period is verified. Information provided in the monitoring report has been cross-checked with other sources such as plant logbooks, inventories, purchase records and laboratory analysis. Calculations of GHG emissions have been verified whether carried out in accordance with the formulae and methods described in the registered monitoring plan, the applied methodology and, where applicable, the applied standardized baseline. Any assumptions used in emission or removal calculations have been justified. Whether the appropriate emission factor, IPCC default values, GWP and other reference values have been correctly applied. There are two parts of the emission reductions, emission reductions from an existing animal manure management system and emission reductions due to the reduction of coal consumption.</p> <p>The equations to calculate the emission reductions are listed as follow:</p> $ER_{CH_4,y} = BE_{CH_4,y} - PE_{CH_4,y} - Leakage$ $ER_{CO_2,y} = BE_{CO_2,y} - PE_{CO_2,y} - Leakage$ $ER_y = ER_{CH_4,y} + ER_{CO_2,y}$
<b>Findings</b>	There is no CAR/CL raised in this section.
<b>Conclusion</b>	The verification checked and recalculated the ER calculation sheet and confirms that the sheet is reproducible and calculation was correctly applied. The confirmed value of project emission reductions is 613,252 tCO <sub>2</sub> e.

### 1.6.5. Comparison of actual GHG emission reductions or net GHG removals by sinks with estimates in included specific-case CPA

<b>Means of verification</b>	The estimates of GHG emission reductions in included specific-case CPA is calculated based on the annual ER values in the registered CPA-DDs. The nominal ER in monitoring period considered the days in this monitoring period. BVC checked the calculation of the estimated ER according to the registered PoA-DD and CPA-DDs and compared with the actual ER. The actual value achieved during this monitoring period is 613,252tCO <sub>2</sub> e and 3.4% more than values (593,042tCO <sub>2</sub> e) estimated according to the registered PoA-DD and CPA-DDs.
<b>Findings</b>	There is no CAR/CL raised in this section.
<b>Conclusion</b>	BVC confirms the calculation of comparison is correct.

Specific-case CPA reference number	Value estimated in ex ante calculation in the included CPA-DD(s)	Actual values achieved by the specific-case CPA(s) during this monitoring period
2898-0001	1,910 <sup>*</sup>	1,970
2898-0002	8,506	8,941
2898-0003	8,506	8,941
2898-0004	8,506	8,941
2898-0005	8,506	8,941
2898-0006	8,506	8,941
2898-0007	8,506	8,941
2898-0008	8,506	8,941
2898-0009	8,506	8,941
2898-0010	8,506	8,941
2898-0011	8,274	8,615
2898-0012	8,274	8,615
2898-0013	8,274	8,615
2898-0014	8,274	8,615
2898-0015	8,274	8,615
2898-0016	8,274	8,615
2898-0017	8,274	8,615
2898-0018	8,274	8,615
2898-0019	8,274	8,615
2898-0020	8,274	8,615
2898-0021	8,274	8,615
2898-0022	8,274	8,615
2898-0023	8,274	8,615
2898-0024	8,274	8,615
2898-0025	8,274	8,615
2898-0026	8,274	8,615
2898-0027	8,274	8,615

<sup>\*</sup> For the value estimated ex ante calculation in the included CPA-DDs, it's calculated based on the days in the monitoring period multiplied by the ex-ante ER value in the registered CPA-DDs. Please refer to the ER calculation sheet and the registered CPA-DDs

2898-0028	8,506	8,615
2898-0029	8,506	8,615
2898-0030	8,506	8,615
2898-0031	8,506	8,615
2898-0032	8,274	8,615
2898-0033	8,274	8,615
2898-0034	8,274	8,615
2898-0035	8,274	8,941
2898-0036	8,274	8,615
2898-0037	8,274	8,615
2898-0038	8,274	8,615
2898-0039	8,274	8,615
2898-0040	8,274	8,615
2898-0041	8,274	8,615
2898-0042	8,274	8,615
2898-0043	8,274	8,615
2898-0044	8,274	8,615
2898-0045	8,274	8,615
2898-0046	8,274	8,941
2898-0047	8,506	8,941
2898-0048	8,506	8,941
2898-0049	8,506	8,941
2898-0050	8,506	8,941
2898-0051	8,506	8,941
2898-0052	7,454	7,668
2898-0053	8,456	8,748
2898-0054	7,943	8,268
2898-0055	7,943	7,966
2898-0056	7,943	7,966
2898-0057	7,943	7,966
2898-0058	7,943	7,966
2898-0059	7,943	7,966
2898-0060	7,943	7,966
2898-0061	7,943	7,966
2898-0062	7,943	7,966
2898-0063	7,943	7,966
2898-0064	7,943	8,268
2898-0065	7,943	8,268
2898-0066	8,197	8,268
2898-0067	8,197	7,966
2898-0068	7,873	8,086
2898-0069	7,943	7,966
2898-0070	7,943	8,105
2898-0071	7,952	8,007
2898-0072	8,059	8,105
2898-0073	5,866	5,899
Total	593,042	613,252

**I.6.6. Remarks on difference from estimated value in registered PDD**

<b>Means of verification</b>	<p>The actual value achieved during this monitoring period is 613,252tCO<sub>2</sub>e and 3.4% more than values (593,042tCO<sub>2</sub>e) estimated according to the registered PoA-DD and CPA-DDs.</p> <p>The main reasons for increase are:</p> <ul style="list-style-type: none"> <li>- In the estimates values, GWP<sub>CH<sub>4</sub></sub> of 21 for 2898-001, 2898-002 to 2898-053 is used and GWP<sub>CH<sub>4</sub></sub> of 25 for 2898-054 to 2898-073 is used; while the actual value achieved during this monitoring period, GWP<sub>CH<sub>4</sub></sub> 25 is used for this monitoring period;</li> <li>- The annual average temperature of the 13 cities are increased for this monitoring period as per the latest Sichuan Statistical Yearbook 2014, therefore, MCF is also increased, which is higher than the values applied in the registered PDD.</li> </ul>
<b>Findings</b>	There is no CAR/CL raised in this section.
<b>Conclusion</b>	BVC confirms that the increase of ER has been explained reasonably.



## Appendix 1. Abbreviations

Abbreviations	Full texts
AQL	Acceptable Quality Level
BVC	Bureau Veritas Certification
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CDM-EB	CDM Executive Board (the board)
CER	Certified Emission Reductions
CH4	Methane
CL	Clarification Request
CME	Coordinating/Managing Entity
CO <sub>2</sub>	Carbon Dioxide
CO <sub>2</sub> e	Carbon Dioxide Equivalent
COP/MOP	The Conference of the Parties to the United Nations Framework Convention on Climate Change serving as the Meeting of the Parties to the Kyoto Protocol
CPA	Component Project Activity
CPA-DD	CPA Design Document
DNA	Designated National Authority
DOE	Designated Operational Entity
ER	Emission Reduction
FAR	Forward Action Request
GHG	Green House Gas(es)
MoV	Means of Verification
MP	Monitoring Plan
MR	Monitoring Report
MRR	Monthly Reading Record
PDD	Project Design Document
PoA	Programme of Activities
PoA-DD	PoA Design Document
PP	Project Participant
QA/QC	Quality Assurance / Quality Control
SREO	Sichuan Rural Energy Office
UNFCCC	United Nations Framework Convention on Climate Change
UQL	Unacceptable Quality Level
VVS	Validation and Verification Standard

## Appendix 2. Competence of team members and technical reviewers

Mr. Gengyan	Coco	Bureau Veritas Certification, China	<p>Team Member, Climate Change Lead Verifier. She holds a Master Degree in Ecology and a bachelor degree in Forestry. She has 2 years of technical experience in CDM in P.R China before joining Bureau Veritas Certification. She obtained the certificate of CDM Lead Verifier and Lead Auditor for EMS ISO 14001. She has successfully completed the course assessment for the ISO 14064:2006.</p> <p>She is qualified for TA1.1, TA5.2, TA14.1, TA15.1</p>
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Mr. Wang Zhenning	Bureau Veritas Certification, China	<p>He holds an MSc Degree in Environmental Technology and Bachelor Degree in Environmental Engineering. Before joining BV in 2010, he gained 4 years of technical experiences in waste management as a CDM consultant. He obtained the certificate of CDM Verifier and Lead Auditor for EMS ISO 14001.</p> <p>He is qualified for TA1.2, TA1.2, TA13.1, TA13.2, TA15.1</p>
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Mr. Pin Tian	Bureau Veritas Certification, China	<p>Technical Reviewer, Climate Change Lead Verifier, He holds a MEng in Industrial Engineering. Before joining BV in 2009, he gained two years working experience in project management in various industrial sectors. He obtained the certificate of CDM Verifier, Lead Auditor for ISO 14001 and has successfully completed the course assessment for ISO 14064.</p> <p>He is qualified for TA1.1, TA1.2, TA8.1</p>
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Mr. Wang Zhifeng	External expert	<p>Technical Specialist.</p> <p>He was engaged in study on forage cultivation and grassland ecology in the Jilin Academy of Agricultural Sciences (JAAS) from 1991 to 2012. He has lead or participated in more than 20 research projects including 12 nation level research projects, and he has received 7 awards for his research achievements, he has bred 2 new forage varieties, and he has published more than 25 specialty papers.</p> <p>He is qualified for TA13.2, TA15.1</p>
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### Appendix 3. Documents reviewed or referenced

No	Author	Title	References to the document	Provider
/1/	Chengdu Oasis Science & Technology Co., Ltd.	Monitoring Report (the 3 <sup>rd</sup> monitoring period), including CPA Nb. SCHHBG-2010-001 to CPA Nb. SCHHBG-2013-073of Version 1.2, 01/12/2015		CME
/2/	Chengdu Oasis Science & Technology Co., Ltd.	Monitoring Report for GSP of version 1, 22/05/2015	<a href="http://cdm.unfccc.int/ProgrammeOfActivities/poa_db/5BGM96VOK3ATN4JPR70XSWIQ8CZH2F/view">http://cdm.unfccc.int/ProgrammeOfActivities/poa_db/5BGM96VOK3ATN4JPR70XSWIQ8CZH2F/view</a>	CME
/3/	Chengdu Oasis Science & Technology	Registered PoA-DD: Sichuan Rural Poor-Household Biogas Development Programme version	As Above	CME

	Co., Ltd.	1.6, dated 03/04/2012		
/4/	Chengdu Oasis Science & Technology Co., Ltd.	Registered CPA-DD Generic: Sichuan Rural Poor- household Biogas Development Programme, CPA Nb. SCHHBG-20XX-XX, version 1.4, dated 03/04/2012	As Above	CME
/5/	Chengdu Oasis Science & Technology Co., Ltd.	Registered CPA-DD specific: Sichuan Rural Poor-Household Biogas Development Programme, CPA Nb. SCHHBG-2010-001, version 1.4, dated 03/04/2012	As Above	CME
/6/	Chengdu Oasis Science & Technology Co., Ltd.	Registered CPA-DD specific: CPA Nb. SCHHBG-2012-002 to CPA Nb. SCHHBG-2012-053, version 1.1, dated 09/04/2013	As Above	CME
/7/	Chengdu Oasis Science & Technology Co., Ltd.	Registered Revised CPA-DD specific (post-registration change): CPA Nb. SCHHBG-2012-002 to CPA Nb. SCHHBG-2012-053, version 1.2, dated 14/07/2013	As Above	CME
/8/	Chengdu Oasis Science & Technology Co., Ltd.	Registered CPA-DD specific: CPA Nb. SCHHBG-2013-054 to CPA Nb. SCHHBG-2013-073, version 1.2, dated 14/03/2014	As Above	CME
/9/	Chengdu Oasis Science & Technology Co., Ltd.	Emission Reduction Calculation spreadsheet version 1.1, dated 28/07/2015	As Above	CME
/10/	Chengdu Oasis Science & Technology Co., Ltd.	Sample size calculation spreadsheet, version 01, dated 22/05/2015	As Above	CME
/11/	Chengdu Oasis Science & Technology Co., Ltd.	Survey list of the 200 samples, version 1.0, March 2015	As Above	CME
/12/	Chengdu Oasis Science & Technology Co., Ltd.	Questionnaire paper that filled by the investigated households;	As Above	CME
/13/	Chengdu Oasis Science & Technology Co., Ltd.	Table of checked and accepted documents for all constructed biogas digesters	As Above	CME
/14/	Chengdu Oasis Science & Technology Co., Ltd.	Sample of manual check and acceptance records of the included CPAs	As Above	CME
/15/	Chengdu Oasis Science & Technology Co., Ltd.	Training material copy and training records of the survey staff of this PoA	As Above	CME
/16/	Chengdu Oasis Science & Technology Co., Ltd.	CDM GHG Services Manual (incl. procedures and forms)	As Above	CME
/17/	Chengdu Oasis Science & Technology Co., Ltd.	Operation manual of data management system of the PoA	As Above	CME
/18/	Standard	Standard list relevant for household biogas digesters in Sichuan province,	As Above	CME

		e.g.: GB/T 3606-2001: Domestic Biogas Stove; GB/T 4570-2002: Collections of Standard Design Drawings of Household Anaerobic Digesters Etc....		
/19/	Sichuan Rural Energy Office	Household list that included in each CPA (from CPA Nb. SCHHBG-2010-001 to CPA Nb. SCHHBG-2013-073)		Others
/20/	Sichuan Rural Energy Office	Statement on the number of household equipped with biogas digester in this PoA (from CPA Nb. SCHHBG-2010-001 to CPA Nb. SCHHBG-2013-073)		Others
/21/	Sichuan Rural Energy Office	Statement on the existing number of household equipped with biogas digester and the number of household included in each CPA		Others
/22/	TÜV NORD	Validation Report for CDM PoA Sichuan Rural Poor-Household Biogas Development Programme, version 01, dated 05/04/2012, issued by TÜV NORD	<a href="http://cdm.unfccc.int/ProgrammeOfActivities/poa_db/5BGM96VO K3ATN4JPR70XSWIQ8CZH2F/view">http://cdm.unfccc.int/ProgrammeOfActivities/poa_db/5BGM96VO K3ATN4JPR70XSWIQ8CZH2F/view</a>	Others
/23/	TÜV NORD	Validation Report for CPA inclusion Sichuan Rural Poor-Household Biogas Development Programme, CPA Nb. SCHHBG-2010-001, version 01, dated 2012-04-05, issued by TÜV NORD	As Above	Others
/24/	TÜV NORD	CPA inclusion forms for CPA inclusion CPA Nb. SCHHBG-2012-002 to CPA Nb. SCHHBG-2012-053 dated 11/04/2013, issued by TÜV NORD	As Above	Others
/25/	TÜV NORD	Validation Reports for CPA inclusion Sichuan Rural Poor-Household Biogas Development Programme, CPA Nb. SCHHBG-2012-002 to CPA Nb. SCHHBG-2012-053, version 01, dated 10/04/2013	As Above	Others
/26/	TÜV NORD	Validation Reports for CPA inclusion Sichuan Rural Poor-Household Biogas Development Programme, CPA Nb. SCHHBG-2013-054 to CPA Nb. SCHHBG-2013-073, version 01, dated 20/03/2014	As Above	Others
/27/	GLC	Verification Report for the 1 <sup>st</sup> monitoring period version 06 dated 26/08/2013, issued by GLC and 1st monitoring period monitoring report (version 1.4.1)	As Above	Others
/28/	GLC	Verification Report for the 2 <sup>nd</sup> monitoring period, version 05 dated 17/06/2014, issued by GLC and 2 <sup>nd</sup> monitoring period monitoring report (version 2.1)	As Above	Others
/29/	GLC	Validation Opinion on Post-Registration Changes of Registered CDM PoA: Sichuan Rural Poor-Household Biogas Development Programme version 05, dated 26/08/2013 issued by GLC	As Above	Others
/30/	CDM	Approved methodology: AMS-I.C -	<a href="http://cdm.unfccc.int/methodolog">http://cdm.unfccc.int/methodolog</a>	Others

	Executive Board	Thermal energy production with or without electricity (version 19) (EB61, Annex 16) and AMS-III.R - Methane recovery in agricultural activities at household/small farm level (version 02) (EB59, Annex 4)	ies/DB/JSEM51TG3UVKADPA25IPUHXJ85HE8A  <a href="http://cdm.unfccc.int/methodologies/DB/JQHRMGL23TWZ081T6G7G1RZ63GM1BZ">http://cdm.unfccc.int/methodologies/DB/JQHRMGL23TWZ081T6G7G1RZ63GM1BZ</a>	
/31/	As above	Clean Development Mechanism Validation and Verification Standard, Version 09.0	EB82, Annex 14	Others
/32/	As above	Clean development mechanism project standard, Version 09.0 dated 20/02/2015	EB82, Annex 13	Others
/33/	As above	Clean development mechanism project cycle procedure, Version 09.0 dated 20/02/2015	EB82, Annex 15	Others
/34/	As above	Monitoring Report Form for CDM programme of activities (F-CDM-MR), Version 01.0		Others
/35/	As above	Glossary CDM terms, version 8.0		Others
/36/	As above	Application of the global warming potentials to Clean Development Mechanism project activities and programme of activities for the second commitment period of the Kyoto Protocol	Para. 66 of EB69 meeting report	Others
/37/	As above	Guidelines for Sampling and Surveys for CDM Project Actives and Programme of Actives, version 03.1, 13/08/2015	EB 75, Annex 8	Others
/38/	As above	Standard for Sampling and Surveys for CDM Project Activities and Programme of Activities, version 04.1, dated 28/11/2013	EB 65, Annex 2	Others
/39/	CDM Executive Board	Direct Communication Report PoA 2898 dated 20151126		Others
/40/	BVC	On-site picture: pigpens, biogas digesters, living condition of each household etc		Others
/41/	BVC	CDM GHG Services Manual (incl. procedures and forms)		Others
/42/	Sichuan Statistics Bureau	Sichuan Statistical Yearbook 2014	<a href="http://www.sc.stats.gov.cn/tjcbw/tjn/2014/index.htm">http://www.sc.stats.gov.cn/tjcbw/tjn/2014/index.htm</a>	Others
/43/	Chinese DNA	Chinese DNA's Guideline of emission factors of Chinese grids 2014	<a href="http://cdm.ccchina.gov.cn/archiver/cdmcn/UpFile/Files/Default/20150317120351621130.pdf">http://cdm.ccchina.gov.cn/archiver/cdmcn/UpFile/Files/Default/20150317120351621130.pdf</a>	Others
/44/	IPCC	2006 IPCC Guidelines for National Greenhouse Gas Inventories: work book		Others

## Appendix 4. Clarification requests, corrective action requests and forward action requests

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

FAR ID	N/A	Section no.	Date: N/A
Description of FAR			

<b>CME response</b>	<b>Date:</b> DD/MM/YYYY
<b>Documentation provided by the CME</b>	
<b>DOE assessment</b>	<b>Date:</b> DD/MM/YYYY

Table 2. CL from this verification

<b>CL ID</b>	01	<b>Section no.</b>	G.1	<b>Date:</b> 27/07/2015
<b>Description of CL</b>				
<i>The exact reference of the applied methodologies and tool (number, title, and version) is not completed.</i>				
<b>CME response</b>				<b>Date:</b> 28/07/2015
<i>The exact reference of the applied methodologies and tool (number, title and version) are completed in the updated MR.</i>				
<b>Documentation provided by the CME</b>				
<i>Updated MR.</i>				
<b>DOE assessment</b>				<b>Date:</b> 03/08/2015
<i>The exact reference of the applied methodologies and tool (number, title and version) are completed in the updated MR. BVC checked the MR and confirmed the CL is closed.</i>				
<b>CL ID</b>	02	<b>Section no.</b>	G.1	<b>Date:</b> 27/07/2015
<b>Description of CL</b>				
<i>The continued operation periods of each CPAs are not indicated.</i>				
<b>CME response</b>				<b>Date:</b> 28/07/2015
<i>The continued operation periods of each CPAs is indicated in the updated MR sheet.</i>				
<b>Documentation provided by the CME</b>				
<i>Updated MR.</i>				
<b>DOE assessment</b>				<b>Date:</b> 03/08/2015
<i>The continued operation periods is indicated in the updated MR sheet according to each CPAs, BVC confirmed the CL is closed.</i>				
<b>CL ID</b>	03	<b>Section no.</b>	I.4.2	<b>Date:</b> 27/07/2015
<b>Description of CL</b>				
<i>The Sichuan Statistical Yearbook of 2014 is not submitted to BVC for check.</i>				
<b>CME response</b>				<b>Date:</b> 03/08/2015
<i>The Sichuan Statistical Yearbook of 2014 is submitted to BVC.</i>				
<b>Documentation provided by the CME</b>				
<i>Sichuan Statistical Yearbook of 2014</i>				
<b>DOE assessment</b>				<b>Date:</b> 13/08/2015
<i>BVC checked the Sichuan Statistical Yearbook of 2014 provided by CME and confirmed the data is consistent with the MR, thus the CL is closed.</i>				
<b>CL ID</b>	04	<b>Section no.</b>	I.4.1	<b>Date:</b> 30/11/2015
<b>Description of CL</b>				
<i>The CPA-DDs require that for parameters <math>FC_{BL,y}</math> (average annual coal consumption before the installation of the digesters) and <math>FC_{PE,y}</math> (average annual coal consumption after the installation of the digesters) the data will be collected in a comprehensive baseline survey that is repeated tri annually. Please explain how this requirement has been complied with, in particular whether the survey has been repeated tri annually.</i>				
<b>CME response</b>				<b>Date:</b> 01/12/2015

<i>The sentence in the CPA-DDs was copied directly from the PoA-DD, whereas the requirement to repeat the baseline survey is at the PoA level. For the included CPA with specific data, the parameters FC<sub>BL,y</sub> (average annual coal consumption before the installation of the digesters) and FC<sub>PE,y</sub> (average annual coal consumption after the installation of the digesters) is fixed during the first crediting period. The new baseline survey is meant to obtain the parameters for new CPAs for the inclusion process, and the data collected will also be fixed during the crediting period for the specific new CPAs. The baseline survey will be repeated every three years (triennially), instead of tri annually.</i>	
<b>Documentation provided by the CME</b>	
<i>Minutes of Direct Communication - PoA No.2898 with EB dated 26/11/2015.</i>	
<b>DOE assessment</b>	<b>Date:</b> 01/12/2015
<i>BVC checked the the CPA-DDs and the PoA-DD and the minutes of direct communication with EB, confirmed the CL is closed and a FAR is raised for the correction in future.</i>	

**Table 3. CAR from this verification**

<b>CAR ID</b>	01	<b>Section no.</b>	H.1	<b>Date:</b> 27/07/2015
<b>Description of CAR</b>				
<i>The data of the baseline emission in MR are not consistent with the ER sheet provided, such as baseline emission of (2898-028 to 2898-031), CPA 2898-035 and (2898-046 to 2898-048).</i>				
<b>CME response</b>				<b>Date:</b> 28/07/2015
<i>The inconsistent data is typo and corrected according to the ER sheet.</i>				
<b>Documentation provided by the CME</b>				
<i>Updated MR.</i>				
<b>DOE assessment</b>				<b>Date:</b> 18/08/2015
<i>BVC checked the updated MR and confirmed the data is consistent with the ER sheet and correct, there is no impact on emission reductions, thus the CAR is closed.</i>				

**Table 4. FAR from this verification**

<b>FAR ID</b>	01	<b>Section No.</b>	I.4.1	<b>Date:</b> 30/11/2015
<b>Description of FAR</b>				
<i>The CPA-DDs require two ex-ante parameters FC<sub>BL,y</sub> (average annual coal consumption before the installation of the digesters) and FC<sub>PE,y</sub> (average annual coal consumption after the installation of the digesters) to be collected in a comprehensive baseline survey that is repeated tri annually. Although this requirement has no effect on this verification. A correction shall be requested for the design documents with the next verification.</i>				
<b>CME response</b>				<b>Date:</b> 01/12/2015
<i>As mentioned before, the two parameters "FC<sub>BL,y</sub>" and "FC<sub>PE,y</sub>" is fixed for the CPA included as ex-ante parameters. The correction will be done to clear up the misunderstanding in the future.</i>				
<b>Documentation provided by the CME</b>				
<i>N/A</i>				
<b>DOE assessment</b>				<b>Date:</b> 01/12/2015
<i>BVC confirms the CME will conduct a correction for the project documents in future.</i>				

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Document information

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