



VALIDATION REPORT – RENEWAL OF THE CREDITING PERIOD

SHENZHEN PHASCON TECHNOLOGIES CO.,
LTD.

UNFCCC REF. No. 0176

MEIZHOU LANDFILLS GAS RECOVERY AND
UTILIZATION AS ENERGY

Report No: QT-GZC02008/12 – 12/152

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Validation Report:	Report No.	Rev. No.	Date of 1st issue:	Date of this rev.
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Project:	Title:	Initial PDD Version:	Final PDD Version	
	Meizhou Landfills Gas Recovery and Utilization as Energy	2012-02-28	2012-11-29	
Client:	Shenzhen PhasCon Technologies Co., Ltd.		Client ref:	
Project Participant(s):	Host Party:		Other involved parties:	
	Shenzhen PhasCon Technologies Co., Ltd. (People's Republic of China)		Kommunalkredit Public Consulting GmbH (Austria)	
Applied methodology/ies:	Title:	No.:	Scope / TA:	
	"Flaring or use of landfill gas"	ACM0001 ver. 12.0.0	13 / 13.1	
Validation team / Technical Review and Final Approval	Validation Team:		Technical review:	Final approval:
	LI Yong Jun (TL) YU Sai Fang (TM) LI Xue Mei (TM)		B. Grünenwald, Dr. J. Schubert	Dr. J. Schubert
Expected Emission reductions: [t CO₂e]	Expected emission reductions over the second crediting period:		Project starting date:	
	240,683		2004-10-18	
Confidential content:	<input type="checkbox"/> Yes		<input checked="" type="checkbox"/> No	
Summary of Validation Opinion:	<input checked="" type="checkbox"/> Positive validation opinion		<input type="checkbox"/> Negative validation opinion	
	<p>"Shenzhen PhasCon Technologies Co., Ltd." has commissioned the TÜV NORD JI/CDM Certification Program (CP) to validate Renewal of Crediting Period of the project: "Meizhou Landfills Gas Recovery and Utilization as Energy" with regard to the relevant requirements of the UNFCCC for CDM project activities, as well as criteria for consistent project operations, monitoring and reporting. UNFCCC criteria include article 12 of the Kyoto Protocol, the modalities and procedures for CDM (Marrakech Accords) and the relevant decisions by COP/MOP and CDM Executive Board. In the course of the validation 09 Corrective Action Requests (CARs), while 04 Clarification Requests (CLs) were raised and successfully closed.</p> <p>The review of the project design documentation and additional documents related to baseline and monitoring methodology; the subsequent background investigation and follow-up interviews have provided TÜV NORD JI/CDM CP with sufficient evidence to validate Renewal of Crediting Period for the fulfilment of the stated criteria.</p> <p>In detail the conclusions can be summarised as follows:</p> <ul style="list-style-type: none"> - The project is in line with all relevant host country criteria (China) and all relevant UNFCCC requirements for CDM. Project activity approval have been obtained from DNA of China vide the Letter of Approval (HCA) dated 2005-08-30 while Austria is involved as annex 1 country at this stage. - The monitoring plan is transparent and adequate. - The calculation of the project emission reductions is carried out in a transparent and conservative manner, so that the calculated emission reductions of 240,683 tCO₂e are most likely to be achieved within the (2nd renewable) crediting period. <p>The conclusions of this report show, that the project, as it was described in the project documentation, is in line with all criteria applicable for the validation.</p>			
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Abbreviations

BAU	Business as usual
CA	Corrective Action / Clarification Action
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CL	Clarification Request
CO₂	Carbon dioxide
CO_{2e}	Carbon dioxide equivalent
CSPG	China Southern Power Grid
CP	Certification Program
DNA	Designated National Authority
DRC	Development and Reform Commission
EB	CDM Executive Board
EIA	Environmental Impact Assessment
EPB	Environmental Protection Bureau
FAR	Forward Action Request
GHG	Greenhouse gas(es)
IPCC	Intergovernmental Panel on Climate Change
MESAB	Meizhou Environment and Sanitation Administration Bureau
MP	Monitoring Plan
PDD	Project Design Document
PhasCon	Shenzhen PhasCon Technologies Co., Ltd.
QC/QA	Quality control/Quality assurance
UNFCCC	United Nations Framework Convention on Climate Change
VVM	Validation and Verification Manual



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1 OBJECTIVE / SCOPE

The purpose of this validation is to have an independent third party assess the updated project design for the renewal of the crediting period. In particular the project's baseline, the monitoring plan (MP), and the project's compliance

with

- the requirements of Article 12 of the Kyoto Protocol;
- the CDM modalities and procedures as agreed in the Marrakech Accords under decision 3/CMP.1
- the annex to the decision;
- subsequent decisions made by COP/MOP & CDM Executive Board (including EB 46, Annex 11); and
- other relevant rules, including the host country legislation and sustainability criteria

are validated in order to confirm that the updated project design as documented is sound and reasonable and meets the stated requirements and identified criteria. Validation is seen as necessary to provide assurance to stakeholders on the quality of the project and its intended generation of certified emission reductions (CERs) for the renewed crediting period.

The validation scope is given as a thorough independent and objective assessment of the project design including especially: the correct application of the methodology and the project's baseline study, which are included in the PDD and other relevant supporting documents, to ensure that the proposed CDM project activity meets all relevant and applicable CDM criteria.

The information included in the PDD and the supporting documents were reviewed against the requirements as set out by the UNFCCC. The validation team has, based on the requirements in the Validation and Verification Manual^{VVM}, carried out a full assessment of all evidences to assess the compliance of the project with the key areas as outlined in section V.E. and V.F. of the VVM (version 1.2, EB 55).

The validation is based on the information made available to TÜV NORD JI/CDM CP and on the contract conditions. TÜV NORD JI/CDM CP cannot be held liable by any entity for making its validation opinion based on any false or misleading information supplied to it during the course of validation.

The validation is not meant to provide any consulting to the project participants. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the updated project design.

2 GHG PROJECT DESCRIPTION

2.1 Project Characteristics

Essential data of the project is presented in the following Table 2-1.

Table 2-1: Project Characteristics

Item	Data
Project title	Meizhou Landfills Gas Recovery and Utilization as Energy
Project size	<input checked="" type="checkbox"/> Large Scale <input type="checkbox"/> Small Scale
Project Scope (according to UNFCCC sectoral scope numbers for CDM)	<input type="checkbox"/> 1 Energy Industries (renewable- /non-renewable sources)
	<input type="checkbox"/> 2 Energy distribution
	<input type="checkbox"/> 3 Energy demand
	<input type="checkbox"/> 4 Manufacturing industries
	<input type="checkbox"/> 5 Chemical industry
	<input type="checkbox"/> 6 Construction
	<input type="checkbox"/> 7 Transport
	<input type="checkbox"/> 8 Mining/Mineral production
	<input type="checkbox"/> 9 Metal production
	<input type="checkbox"/> 10 Fugitive emissions from fuels (solid, oil and gas)
	<input type="checkbox"/> 11 Fugitive emissions from production and consumption of halocarbons and hexafluoride
	<input type="checkbox"/> 12 Solvents use
	<input checked="" type="checkbox"/> 13 Waste handling and disposal
	<input type="checkbox"/> 14 Afforestation and Reforestation
	<input type="checkbox"/> 15 Agriculture
Applied Methodology	ACM0001. Version 12.0.0
Crediting period	<input checked="" type="checkbox"/> Renewable Crediting Period (7 y) <input type="checkbox"/> Fixed Crediting Period (10 y)
No. of crediting period	2
Start of 2 nd crediting period ¹	2012-09-01
CDM registration No.	0176
Date of registration	2006-03-03

2.2 Involved Parties and Project Participants

The following parties to the Kyoto Protocol and project participants are involved in this project activity (Table 2-2).

Table 2-2: Project Parties and project participants

Characteristic	Party	Project Participant
Host party	People's Republic of China	Shenzhen PhasCon Technologies Co., Ltd.
Other involved party	Austria	Kommunalkredit Public Consulting GmbH

¹ As per the draft updated PDD (version 4)

2.3 Project Location

The details of the project location are given in Table 2-3:

Table 2-3: Project Location

No.	Project Location
Host Country	People's Republic of China
Region:	Guangdong Province
Project location address:	Eight landfills are spread in the Longfeng landfill at Meijiang District of Meizhou City, and other seven landfills in the Counties of Xingning, Meixian, Fengshun, Pingyuan, Jiaoling, Dapu, Wuhua respectively.
Latitude:	As below table, please see also CAR A1.
Longitude:	As below table, please see also CAR A1.

Landfills	Latitude	Longitude
Longfeng Landfill	24° 18' 21" N	116° 07' 59" E
Xingning Huangnikeng Landfill	24° 07' 52" N	115° 39' 07" E
Meixian Qilongken Landfill	24° 17' 44" N	116° 10' 29" E
Fengshun Landfill	23° 43' 41" N	116° 09' 54" E
Jiaoling Landfill	24° 34' 54" N	116° 06' 29" E
Longfeng Landfill	24° 21' 19" N	116° 39' 32" E
Xingning Huangnikeng Landfill	23° 58' 41" N	115° 44' 58" E
Meixian Qilongken Landfill	24° 33' 56" N	115° 54' 03" E

2.4 Technical Project Description

The project is a landfill gas recovery and utilization project and it is designed to install 4x500kW in the second crediting period. It consists of the following eight landfills of Longfeng landfill, Fengshun landfill, Xingning landfill, Meixian Qilongkeng landfill, Pingyuan landfill, Wuhua landfill, Jiaoling landfill and Dapu landfill. Currently, the first stage of construction in Longfeng site has been completed and put into operation since January 2006. During the second stage construction work, the LFG collection and flaring system has been put into operation since 2009-08-01 at Xingning Site and the gas recovery for flaring has been constructed and a 2x500kW LFG power generation system has been installed and is going to generate electricity in 2013 at the Meixian Qilongkeng Site. In the second crediting period, there are a total of 4x500kW LFG generators in operation at Longfeng and Meixian Qilongkeng landfills. Excess LFG and all LFG collected during periods when electricity is not generated is flared in one enclosed flare. The construction of Meixian Qilongkeng site delayed

because the landfill operation makes the LFG pipes can not connect to the gas wells. The construction work of other 5 sites is delayed with regard to the plan because the landfill operation party can not timely covering and sealing fields.. Although the captured LFG is used to generate electricity, no emission reductions are claimed for the displacement of grid electricity.

The technical key data are provided in Table 2-4 below:

Table 2-4: **Technical data of the project activity**^{TD/}

Parameter	Unit	Value	
		Longfeng landfill	Xingning landfill
LFG Blower station, designed and manufactured by PhasCon Technologies			
LFG collection pipes	m	PVC 8000 PE 3000	PVC 3500 PE 1260
Lockout drum for gas-water separation	m	Stainless steel D2×H5	Stainless steel D1.5×H5
Blower pumps	kpa m³/h	-10/20 3500	-10/20 1200
LFG Flaring system, Designed and manufactured by Chengdu Zhaolong Electronic Co., Ltd.			
Flare Torch system	℃ m m³/h	600-800 D2×H10 3000	
Gas generator station, manufactured by Shangdong Shengdong Co.			
Rated capacity	kW	2×500	N/A
Generator rated voltage	V	40	N/A
Rated speed	rpm	1,000	N/A
Transformer	kVA	1,250	N/A
Monitoring and Control system, manufactured by Germany Schneider			
PLC controller	input/output	64	64
Variable frequency controller	V/kW	380/50	380/30

3 METHODOLOGY AND VALIDATION SEQUENCE

3.1 Validation Steps

The validation of the project consisted of the following steps:

- Contract review
- Appointment of team members and technical reviewers
- A desk review of the updated PDD^{/PDD/} submitted by the client and additional supporting documents with the use of customised validation protocol^{/CPM/} according to the Validation and Verification Manual^{/VVM/},
- Validation planning,
- On-Site assessment^{/IM01/},
- Background investigation and follow-up interviews with personnel of the project developer and its contractors,
- Draft validation reporting
- Resolution of corrective actions (if any)
- Final validation reporting
- Technical review
- Final approval of the validation.

The sequence of the validation is given in the table 3.1 below:

Table 3.1: Validation sequence

Topic	Time
Assignment of validation	2012-02-13
On-site visit	2012-04-16 to 2012-04-18
Draft reporting finalised	2012-08-14
Final reporting finalised	2012-12-17
Technical review on final reporting finalised	2012-12-17
Final reporting finalised (renewal of CP, RfR)	2013-04-11
Technical review on final reporting (renewal of CP, RfR) finalised	2013-04-11

3.2 Contract review

To assure that

- the project falls within the scopes for which accreditation is held,
- the necessary competences to carry out the verification can be provided,
- Impartiality issues are clear and in line with the CDM accreditation requirements

a contract review was carried out before the contract was signed.

3.3 Appointment of team members and technical reviewers

On the basis of a competence analysis and individual availabilities a validation team, consistent of one team leader and three additional team members, were appointed. Furthermore also the personnel for the technical review and the final approval were determined.

The list of involved personnel, the tasks assigned and the qualification status are summarized in the table 3-2 below.

Table 3-2: Involved Personnel

	Name	Company	Function ¹⁾	Qualification Status ²⁾	Scheme competence ³⁾	Technical competence ⁴⁾	Host country Competence	On-site visit
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	LI Yong Jun	TN China	TL	SA	<input checked="" type="checkbox"/>	13.1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms.	YU Sai Fang	TN China	TM ^{A)}	A	<input checked="" type="checkbox"/>	13.1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms.	LI Xue Mei	TN China	TM ^{A)}	LA	<input checked="" type="checkbox"/>	-	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Grünenwald, Büsrar	TN Cert GmbH	TR ^{B)}	LA	<input checked="" type="checkbox"/>		<input type="checkbox"/>	-
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Schubert, Dr. Jochen	TN Cert GmbH	TR/ FA ^{B)}	SA	<input checked="" type="checkbox"/>	13.1	<input type="checkbox"/>	-

¹⁾ TL: Team Leader; TM: Team Member, TR: Technical review; OT: Observer-Team, OR: Observer-TR; FA: Final approval

²⁾ GHG Auditor Status: A: Assessor; LA: Lead Assessor; SA: Senior Assessor; T: Trainee; TE: Technical Expert

³⁾ GHG auditor status (at least Assessor)

⁴⁾ As per S01-MU03 or S01-VA070-A2 (such as 1.1, 1.2, ...)

⁵⁾ In case of verification projects

- A) Team Member: GHG auditor (at least Assessor status), Technical Expert (incl. Host Country Expert or Verification Expert), not ETE
B) No team member

All team members contributed to the review of documents, the assessment of the project activity and to the preparation of this report under the leadership of the team leader.

Technical Experts contributed to the assessment of special aspects of the project activity, e.g. technical or host country aspects.

Statements of competence for the above mentioned team members are enclosed in annex 6 of this report.

3.4 Validation Protocol

In order to ensure consideration of all relevant assessment criteria, a validation protocol is used. The protocol shows, in a transparent manner, criteria and requirements, means of validation and the results from pre-validating the identified criteria. The validation protocol reflects the generic CDM requirements each CDM project has to meet as well as project specific issues as applicable. The validation protocol serves the following purposes:

- It organises, details and clarifies the requirements that a CDM project is expected to meet;
- It ensures a transparent validation process where the validating entity will document how a particular requirement has been validated and the result of the determination.

The validation protocol as described in Figure 1.

Validation Protocol Table A-1: Requirement checklist				
Checklist Item	Validation Team Comment	Reference	Draft Conclusion	Final Conclusion
<i>The checklist items in Table A-1 are linked to the various requirements the project should meet. The checklist is organised in various sections. Each section is then further subdivided as per the requirements of the topic and the individual project activity.</i>	<i>The section is used to elaborate and discuss the checklist item in detail. It includes the assessment of the validation team and how the assessment was carried out. The reporting requirements of the VVM shall be covered in this section.</i>	<i>Gives reference to the information source on which the assessment is based on</i>	<i>Assessment based on evidence provided if the criterion is fulfilled (OK), or a CAR, CR or FAR (see below) is raised. The assessment refers to the draft validation stage.</i>	<i>In case a corrective action or a clarification the final assessment at the final validation stage is given.</i>

Figure 1: Validation protocol tables

The completed validation protocol is enclosed in Annex 1 to this report.

3.5 Review of Documents

The registered PDD^{/PDDO/} as well as the revised PDD^{/PDD/} and supporting background documents related to the project design and baseline were reviewed.

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

3.6 Follow-up Interviews

The validation team has carried out interviews in order to assess the information included in the project documentation and to gain additional information regarding the compliance of the project with the relevant criteria applicable for CDM.

During validation the validation team has performed interviews to confirm selected information and to resolve issues identified in the document review. The main topics of the interviews are summarized in Table 3-3.

Table 3-3: Interviewed persons and interview topics

Interviewed Persons / Entities	Interview topics
Project proponent representatives: Shenzhen PhasCon Technologies Co., Ltd. Meizhou Branch	<ul style="list-style-type: none"> - Chronological description of the project activity with documents of key steps of the implementation. - Current status of plant design - Technical details of the project designing - Operational life time
Project consultant representatives: Shenzhen PhasCon Technologies Co., Ltd.	<ul style="list-style-type: none"> - Crediting period starting date - CER allocation / ownership - Applicability aspects of the methodology - Baseline study assumptions - Monitoring aspects of the project - Monitoring and measurement equipment and system. - Roles & responsibilities of the project participants w.r.t. project management, monitoring and reporting - ER calculations and applied formulae - National Legislation - Editorial issues of the updated PDD

A comprehensive list of all interviewed persons is part of section 7 'References'.

3.7 Project comparison

The validation team has compared the CDM project activity with similar projects or technology that have similar or comparable characteristics and with similar projects in the host country in order to achieve additional information esp. regarding:

- Project technology
- Reasons for reviews, requests for reviews and rejections within the CDM renewal process.

3.8 Resolution of Clarification and Corrective Action Requests

3.8.1 Definition

A **Corrective Action Request (CAR)** will be established where:

- mistakes have been made in assumptions, application of the methodology or the project documentation which will have a direct influence the project results,
- the requirements deemed relevant for validation of the project with certain characteristics have not been met or
- there is a risk that the renewal of the crediting period would not be accepted by the UNFCCC or that emission reductions would not be able to be verified and certified.

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

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

3.8.2 Draft Validation

After reviewing all relevant documents and taken all other relevant information into account, the validation team issues all findings in the course of a draft validation report and hands this report over to the project proponent in order to respond on the issues raised and to revise the project documentation accordingly.

3.8.3 Final Validation

The final validation starts after issuance of the proposed corrective action (CA) of the CARs, CLs and FARs by the project proponent. The project proponent has to reply on those and the requests are “closed out” by the validation team in case the response is assessed as sufficient. In case of raised FARs the project proponent has to respond on this, identifying the necessary actions to ensure that the topics raised

in this finding are likely to be resolved at the latest during the first verification of the second crediting period. The validation team has to assess whether the proposed action is adequate or not.

In case the findings from CARs and CLs cannot be resolved by the project proponent or the proposed action related to the FARs raised cannot be assessed as adequate, no positive validation opinion can be issued by the validation team.

The CAR(s) / CL(s) / FAR(s) are documented in chapter 4.

3.9 Technical review

Before submission of the final validation report a technical review of the whole validation procedure is carried out. The technical reviewer is a competent GHG auditor being appointed for the scope this project falls under. The technical reviewer is not considered to be part of the verification team and thus not involved in the decision making process up to the technical review.

As a result of the technical review process the validation opinion and the topic specific assessments as prepared by the validation team leader may be confirmed or revised. Furthermore reporting improvements might be achieved.

3.10 Final approval

After successful technical review of the final report an overall (esp. procedural) assessment of the complete validation will be carried out by a senior assessor located in the accredited premises of TÜV NORD.

Only after this step the request for renewal of the crediting period can be started (in case of a positive validation opinion).

4 VALIDATION FINDINGS

In the following table the findings from the desk review of the published PDD, visits, interviews and supporting documents are summarised:

Table 4-1: Summary of CARs, CLs and FARs issued

Validation topic ¹⁾	No. of CAR	No. of CL	No. of FAR
General description of project activity (A) - Project specification - Technical project description - Participation - Contribution to sustainable development - PDD editorial aspects - Technology to be employed	1	1	—
Project Baseline, Additionality and Monitoring Plan (B) - Application of the Methodology - Project Boundary - Baseline identification - Calculation of GHG emission reductions Project emissions Baseline emissions Leakage - Additionality determination - Monitoring Methodology - Monitoring Plan - Project management planning	8	3	—
Duration of the Project / Crediting Period (C)	—	—	—
Environmental impacts (D)	—	—	—
Stakeholder Comments (E)	—	—	—
SUM	9	4	—

¹⁾ The letters in brackets refer to the validation protocol

The following tables include all raised CARs, CLs and FARs. For an in depth evaluation of all validation items it should be referred to the validation protocols (see Annex 1).

The findings of validation process are summarized in the tables below.

Finding:	A1		
Classification	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<p>General description of the Project Activity:</p> <ol style="list-style-type: none"> 1. According to the on-site audit, the Meixian landfill gas recovery for flaring hasn't been put into operation yet, thus revision of section A.2 is requested. 2. According to the on-site audit and Google Earth software, the geographic coordinates of the Jiaoling Landfill, Dapu Landfill and Wuhua Hualong Landfill are incorrect. 3. The designed end fill date and the estimated final volume of the eight landfills except the designed end fill date year 2031 of Fengshun landfill are different from the values in the registered PDD, please clarify. 		
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	<ol style="list-style-type: none"> 1. It is revised in PDD V07 2. They are revised in PDD V07 3. The landfills have been enlarged and by the end of the designed fill date, the landfills haven't been filled fully, so the designed end fills date and the estimated final volume of the eights landfills in second crediting period are different from the values in the registered PDD. 		
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<ol style="list-style-type: none"> 1. The systems of landfill gas recovery for flaring of Meixian site has been built but not operate now. The revised description about Meixian site in the PDD has been checked. OK. 2. It's impossible for the seconds of geographic coordinates to exceed 60. Thus revision of the landfills geographic coordinates is still needed, this issue remains open. 3. The designed end fill date and the estimated final volume of the eight landfills addressed in the PDD can be assessed as correct by means of checking Eight landfills information registration forms issued by Meizhou Environment and Sanitation Administration Bureau in Febuary or March, 2012^{/LIR/}. OK. 		
Corrective Action #2 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	<ol style="list-style-type: none"> 2. The geographic coordination of Dupu, Jiaoling and Wuhua Hualong landfills are revised in PDD ver.08. 		

Finding:	A1		
DOE Assessment #2 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	2. The geographic coordination of Dupu, Jiaoling and Wuhua Hualong landfills have been revised correctly, which has been checked by on-site validation and Google Earth Software.		
	Landfills	Latitude	Longitude
	Longfeng Landfill	24°18'21"N	116°07'59"E
	Xingning Huangnikeng Landfill	24°07'52"N	115°39'07"E
	Meixian Qilongken Landfill	24°17'44"N	116°10'29"E
	Fengshun Landfill	23°43'41"N	116°09'54"E
	Jiaoling Landfill	24°34'54"N	116°06'29"E
	Longfeng Landfill	24°21'19"N	116°39'32"E
	Xingning Huangnikeng Landfill	23°58'41"N	115°44'58"E
	Meixian Qilongken Landfill	24°33'56"N	115°54'03"E
The geographical coordinates above are assessed as correct. OK.			
Conclusion <i>Tick the appropriate checkbox</i>	<div><input type="checkbox"/> To be checked during the first periodic verification</div> <div><input type="checkbox"/> Additional action should be taken (finding remains open)</div> <div><input checked="" type="checkbox"/> The finding is closed</div>		

Finding:	A2
Classification	<input type="checkbox"/> CAR <input checked="" type="checkbox"/> CL <input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<p>1. Not all equation serial numbers are consistent in the full PDD, for example, formula of $MD_{\text{flared},y}$ of equation (4) mentioned in the project emission of section B.6.1 cannot be found.</p> <p>2. Link 14 in page 36 is unavailable.</p> <p>3. Figure 10 in section B.7.2 is unclear and cannot be read, revision is requested.</p>
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	<p>1. It is revised in PDD V07</p> <p>2. All the links in PDD have been updated in PDD V07</p> <p>3. Figure 10 in section B.7.2 was displaced with a clear one in PDD v07.</p>
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>1. Formula of $MD_{\text{flared},y}$ has been deleted as $MD_{\text{flared},y}$ is not applied in ACM0001 version 12.0.0. Project emission from flaring is considered in the formula of $PE_{\text{flare},y}$ of equation (12) in the revised PDD applying "Tool to determine project emissions from flaring gases containing methane (version 01)" utilized in the applied methodology, which is in line with paragraph 91(i) and 92 of EB 68 meeting report, i.e., for all</p>



Finding:	A2
	<p>revised methodologies and tools that were approved by the Board at this meeting (Methodological tool ‘Project emissions from flaring’, as contained in annex 15 to EB 68 meeting report), the DOEs may upload not later than 20 March 2013 (24:00 GMT) for registration the PDDs of project activities in which the previous version of an approved methodology or an approved tool has been applied. According to ACM0001 VER12.0.0, PE_{flare} shall be determined using the "Tool to determine project emissions from flaring gases containing methane", where the tool has a grace period, so the tool needn't updated. OK.</p> <p>2. It has been revised appropriately meaning the links are working properly. OK.</p> <p>3. Figure 10 has been revised and can clearly be read. OK.</p>
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed

Finding:	B1
Classification	<input checked="" type="checkbox"/> CAR <input type="checkbox"/> CL <input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<p>Application of the methodology:</p> <p>1. In section B.2., it is described that the project activity meets situation of “(b) Make an investment into an existing LFG capture system to increase the recovery rate or change the use of the captured LFG”. However, section B.6.1 shows no existing LFG capture system that occurs at the start of the project activity. Thus the application of this methodology to this project activity needs further justification.</p> <p>2. Not all the applicability conditions mentioned in ACM0001 version 12.0.0 have been addressed in the PDD.</p> <p>3. Version 05 of the “Procedures for renewal of the crediting period of a registered CDM project activity” is not the latest one, an update is requested.</p>
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	<p>1. There is no existing LFG capture system occurs at the start of the project activity, so (b) is not applicable for this project activity. It is revised in PDD v07.</p> <p>2. The applicability conditions mentioned in ACM0001 Version 12.0.0 all are documented in the revised PDD V07.</p> <p>3. It is revised in PDD v07.</p>

Finding:	B1
<p>DOE Assessment #1</p> <p><i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<ol style="list-style-type: none"> 1. The Project installs a new LFG capture system in an existing SWDS, 1(a) is applicable for this Project and 1(b) is not applicable, which can be evidenced by the registered PDD, monitoring reports in the first crediting period and on-site validation. OK. 2. The justification of whether the applicability 1d) and 2b (i) & (ii) is applicable for the Project has been added in the updated PDD. The Project uses the captured LFG to generate electricity and the excess LFG will be flared, no heat will be generated and no LFG will be supplied to consumers through a natural gas distribution network, therefore, 1(c)(i) is applicable for this Project. The applicability of 1(d) as per ACM001 ver.12. p. 3. was validated and assessed to be correct by means of checking and confirming <ol style="list-style-type: none"> a) the provided evidence entitled “Meizhou Municipal Solid Waste Treatment Center Certification”^{/COW/} stating out that <ol style="list-style-type: none"> i) Eight landfills (“Longfeng landfill, Meixian Qilongken landfill, Jiaoling landfill, Dapu landfill, Pingyuan landfill, Wuhua Landfill, Xingning landfill and Fengshun landfill”) adopt municipal solid waste filling treatment. ii) The filling way is simple and traditional without waste separation, sort and organic waste recycle. iii) Since the landfills have began to build, it did not design any organic wastes recycle activity in each landfill. iv) That there is no national regulation or financial support to construct waste treatment project. v) Before and after registering the CDM project, there is also no any organic waste recycle activity or project in each landfill and regarding the circumstance that b) In China, no systematic way for waste separation and recovery and no regulation or contractual requirements to recycle the organic waste and to prevent the disposal of organic waste to the landfill site exist. All the municipal solid waste from seven counties and Meijiang district of Meizhou is not separated and sorted before the waste is transported to the eight landfills. Moreover, the landfill sites are managed by the Meizhou Municipal Solid Waste Treatment Center which did not allow any disposal plant or project prior to the CDM project implementation. Furthermore, the status of the landfills was validated as correct by the audit team during the site-visit. Hence, it is unlikely the organic waste would be recycled in the absence of the project. All the other applicability conditions mentioned in ACM0001 version 12.0.0 have been appropriately addressed in the revised PDD. OK. 3. The version of “Procedures for renewal of the crediting period of a registered CDM project activity” has been updated to version 06.0, i.e., EB 63 Annex 29 which is the latest applicable version thereof. OK.

Finding:	B1
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed

Finding:	B2
Classification	<input type="checkbox"/> CAR <input checked="" type="checkbox"/> CL <input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	Project boundary: Table B-1 "Overview on emissions sources included in or excluded from the project boundary" in the PDD has not been strictly addressed according to Table 1 "Summary of greenhouse gases and sources included in and excluded from the project boundary" as per ACM0001 version 12.0.0.
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	It is revised in PDD V07.
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	CO ₂ emissions from electricity generation in the baseline scenario has been included in Table B-1, however, electricity generation using fossil fuels or supplied by the grid in the absence of the project activity (case B) is excluded in the baseline emission reduction in section B.6. Therefore, whether CO ₂ emissions from electricity generation in the baseline scenario are excluded has not been further justification.
Corrective Action #2 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	In the project activity, the emission reduction attributable to the displacement of grid electricity was not claimed for this crediting period, therefore, the project emission could be considered as zero if the total electricity generated by LFG is greater than the total electricity consumed by the project activity from the grid, otherwise, the project emission shall be considered. It is discussed in table B-1.
DOE Assessment #2 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	The further justification has been clearly indicated in Table B-1 which has been verified in the updated PDD. So the issue is closed. OK.
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed

Finding:	B3
Classification	<input checked="" type="checkbox"/> CAR <input type="checkbox"/> CL <input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	Compliance of the current baseline with relevant mandatory national and/or sectoral policies: 1. The latest version of "Technical code for municipal solid waste sanitary landfill" is not CJJ17-1988, an update is requested. 2. According to the eight landfill information registration forms



Finding:	B3																	
	provided by the related county or city sanitation bureau, the waste in Longfeng Landfills at the end of 2011 is 5.495 million tonnes, larger than 2.5 million tonnes. As per “China Standard for pollution control on the landfill site of municipal solid waste (GB16889-2008)”, for landfills with a design landfill capacity larger than 2.5 million tonnes and a design depth deeper than 20m, the landfills shall install methane capture facility or flaring system to treat the methane. In addition, all other seven landfills have been filled with waste, thus clarification is requested on how to make sure that the baseline complies with the national and/or sectoral policies as stated above.																	
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	<div>1. It is updated in PDD V07.</div> <div>2. All the landfills do not apply the landfill gas recovery, which was required for those build landfill with capacity over 2.5 million tons and depth over 20 meters defined in the national and/or sectoral policies, such as China Standard for pollution control on the landfill site of Municipal Solid Waste (GB16889-2008), and technical code for projects of landfill gas collection treatment and utilization (CJJ133-2009).</div>																	
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<div>1. Technical code for municipal solid waste sanitary landfill has been updated to CJJ17-2004 which is the latest version. OK.</div> <div>2. According to the Eight landfills information registration forms issued by Meizhou Environment and Sanitation Administration Bureau^{/LIR/} in February and March 2012 respectively and being provided during the on-site validation in April 2012, there is no landfill with a design landfill capacity larger than 2.5 million tonnes and a design depth deeper than 20m. The waste in Longfeng Landfills at the end of 2011 is 5.495 million tonnes and the average depth is 18m, less than 20m. Therefore, no methane capture facility or flaring system shall be installed in the eight landfills according to China’s Standard for pollution control on the landfill site of Municipal Solid Waste (GB16889-2008)^{/SCLW/} and the Technical code for projects of landfill gas collection treatment and utilization (CJJ133-2009)^{/LGTU/}. The total designed filling capacity, designed filling depth, the component of the wastes, annual filling amount from start filling year to end filling year and other information about each landfill is provided in the above mentioned lists.</div> <div>The total design capacity in million tons and information related to the depth of each landfill site as per respective landfill information registration forms is listed as below:</div> <table><tr><th>Landfill</th><th>Total design capacity (million tons)</th><th>Actual depth/total design depth (m)</th></tr><tr><td>Longfeng</td><td>5.78</td><td>18/15</td></tr><tr><td>Xingning</td><td>3.97</td><td>17/19</td></tr><tr><td>Wuhua</td><td>1.997</td><td>15/23</td></tr><tr><td>Fengshun</td><td>3.282</td><td>12/19</td></tr></table>			Landfill	Total design capacity (million tons)	Actual depth/total design depth (m)	Longfeng	5.78	18/15	Xingning	3.97	17/19	Wuhua	1.997	15/23	Fengshun	3.282	12/19
Landfill	Total design capacity (million tons)	Actual depth/total design depth (m)																
Longfeng	5.78	18/15																
Xingning	3.97	17/19																
Wuhua	1.997	15/23																
Fengshun	3.282	12/19																



Finding:	B3		
	Pingyuan	3.479	8/18
	Jiaoling	1.382	16/25
	Dapu	1.728	18/27
	Meixian Qilongkeng	8.234	6/19
	<p>According to the clause 3.0.3 of regulation CJJ133-2009 <i>Technical code for projects of landfill gas collection treatment and utilization</i>, if the total design capacity is over or equal to 2.5million tons and the filling depth is over or to equal to 20m, the landfill is required to build landfill gas utilization equipments and according to clause 5.15 of regulation GB16889-2008 <i>Technical code for municipal solid waste sanitary landfill</i>, if the total design capacity is over 2.5 million tons AND the filling depth is over 20m, the landfill should be installed along with methane utilization equipments or torch flaring equipment to treat the landfill gas containing methane. Regarding this project, the total design capacity and design filling depth of each landfill does not meet both conditions as these have to be meet simultaneously (2.5million tons and design deeper than 20m) to trigger mandatory flaring, thus flaring is not mandatory and both regulations CJJ133-2009 and GB16889-2008 are not applicable for the project. Therefore, the impact of the policies. i.e., mandatory flaring is not applicable in the determination of the parameter FCH₄,BL,y. As the total design capacity and design filling depth of each landfill have been fixed, the project will remain within the capacity and depth requirements for non-mandatory flaring (regulations CJJ133-2009 and GB16889-2008) during the totality of the second crediting period.</p> <p>OK.</p>		
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed		

Finding:	B4		
Classification	<input type="checkbox"/> CAR	<input checked="" type="checkbox"/> CL	<input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	The emission factor is not the latest one, therefore, the description of Step 1.4: Assessment of the validity of the data and parameters in section B.4 has to be revised.		
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	They are updated in PDD V07.		

Finding:	B4
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	The emission factor $EF_{grid,CM,y}$ 0.474 tCO ₂ /MWh has been updated appropriately, which has been cross-checked with the “Tool to calculate the emission factor for an electricity system (version 02.2.1)” ^{*/TEF/} and Official data sources for Grid Emission Factor (CSPG) published by the Chinese DNA on 2011-10-20 ^{*/GEF/} . However, the $EF_{grid,CM,y}$ calculation is missing in the emission reduction calculation spreadsheet and annex 3.
Corrective Action #2 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	The $EF_{grid,CM,y}$ calculation is added in emission reduction calculation spreadsheet and annex 3.
DOE Assessment #2 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	The $EF_{grid,CM,y}$ calculation has been checked in emission reduction calculation spreadsheet and annex 3. It is assessed as correct against the Official data sources. OK.
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed

Finding:	B5
Classification	<input type="checkbox"/> CAR <input checked="" type="checkbox"/> CL <input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	Ex-ante estimation of amount of methane used for LFG power generation in section B.6.1 is totally different from the emission reduction calculation method addressed in ACM0001 version 12.0.0, clarification is requested.
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	The methodologies for Ex-ante estimation of amount of methane used for LFG power generation in Section 6.1 is from ACM0001 Version 11.0.0. It is not applicable in ACM0001Version 12.0.0. It is deleted in PDD V07.
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	The description of Ex-ante estimation of amount of methane used for LFG power generation in section B.6.1 has been deleted, however, MD _{BL,y} etc. addressed in the Regulatory requirements relating to landfill gas projects of section B.6.2 is not applicable. AF and MD _{Hist} etc in section B.6.2 is not applicable since ACM0001 Version 12.0.0 is applied for this Project.
Corrective Action #2 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	The parameters not applied for ACM0001. Ver 12.0.0 are deleted in PDD ver.08.
DOE Assessment #2 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	The data and parameters in section B.6.2 have been updated as per ACM0001 Version 12.0.0. Ex-ante estimation of amount of methane used for LFG power generation in section B.6.1 has been deleted, and the emission reductions addressed in section B.6.1 has been updated appropriately as per ACM0001 Version 12.0.0. So the finding can be closed.
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open)

Finding:	B5
	<input checked="" type="checkbox"/> The finding is closed

Finding:	B6
Classification	<input checked="" type="checkbox"/> CAR <input type="checkbox"/> CL <input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	Ex post emission reduction calculation: <ol style="list-style-type: none"> 1. Ex post calculation of $F_{CH_4,EL,y}$ and $F_{CH_4,sent_flare,y}$ has not been discussed in details according to the latest version of "Tool to determine the mass flow of a greenhouse gas in a gaseous stream", which is required by ACM0001 version 12.0.0. 2. The data and parameters needed to be monitored when calculating $F_{CH_4,EL,y}$ and $F_{CH_4,sent_flare,y}$ have not been addressed in section B.7.1.
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	<ol style="list-style-type: none"> 1. Ex post calculation of $F_{CH_4,EL,y}$ and $F_{CH_4,sent_flare,y}$ are discussed in details according to the latest version of "Tool to determine the mass flow of a greenhouse gas in a gaseous stream", which is required by ACM0001 version 12.0.0. in PDD V07. 2. They are added in section B.7.1 in PDD V07.
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<ol style="list-style-type: none"> 1. As the applicability condition related to the gaseous stream flow temperature (T_t) being below 60°C ((b) of Option A) is adopted, T_t as a monitored continuously parameter in section B.7.1, not T. In addition, P has to be revised. 2. $V_{t,db}$: The data unit, source of data, measurement methods and procedures and QA/QC procedures are not in line with the latest version of the "Tool to determine the mass flow of a greenhouse gas in a gaseous stream". $v_{i,t,db}$, T_t, P_t: The source of data, measurement methods and procedures, QA/QC procedures and any comment is not in line with the mass flow tool. In addition, some parameters utilized to calculate $F_{CH_4,EL,y}$ and $F_{CH_4,sent_flare,y}$ are missing in section B.6.2 and section B.7.1, when Option B is applied.
Corrective Action #2 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	<ol style="list-style-type: none"> 1. The two parameters are revised in PDD ver.08. 2. $V_{t,db}$, $v_{i,t,db}$, T_t, and P_t: are revised according to the "Tool to determine the mass flow of a greenhouse gas in a gaseous stream" in PDD ver.08.
DOE Assessment #2 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<ol style="list-style-type: none"> 1. Ex post calculation of $F_{CH_4,EL,y}$ and $F_{CH_4,sent_flare,y}$ has been updated according to the latest version of "Tool to determine the mass flow of a greenhouse gas in a gaseous stream" being checked. OK. 2. $V_{t,db}$, $v_{i,t,db}$, T_t, and P_t has been revised, which is consistent with the applied tool. OK.
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed

Finding:	B7		
Classification	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<p>Ex ante emission reduction calculation:</p> <ol style="list-style-type: none"> For the ex-ante calculation of baseline emission reductions in section B.6.3, formula in ACM0001 version 12.0.0 such as $BE_{CH_4,y} = (1 - OX_{top_layer}) \cdot (F_{CH_4,PJ,y} - F_{CH_4,BL,y}) \cdot GWP_{CH_4}$ $F_{CH_4,PJ,y} = \eta_{PJ} \cdot BE_{CH_4,SWDS,y} / GWP_{CH_4}$ $BE_{CH_4,SWDS,y}$ determined in the methodological tool “Emissions from solid waste disposal sites (Version 06.0.1)”, i.e., formula (1) in this tool, discussion of $F_{CH_4,BL,y}$ calculation in step A.2 of ACM0001 version 12.0.0 has not been utilized in the PDD and the emission reduction calculation spreadsheet. The waste composition percentage of the eight landfills in the emission reduction calculation spreadsheet is totally different from the ones in the eight landfill information registration forms provided by the related county or city sanitation bureau. Clarification is requested. According to the methodological tool “Emissions from solid waste disposal sites (Version 06.0.1)”, the model correction factor to account for model uncertainties of 0.9 utilized in the PDD is unclear and needs further justification. Not all the values in the PDD and emission reduction calculation spreadsheet are consistent. For example, K_f of food, food waste, sewage sludge, beverages and tobacco in the PDD 0.40 is correct, however, 0.04 utilized in the emission reduction calculation spreadsheet is incorrect. Evidence of collection efficiency applied in the emission reduction calculation spreadsheet has not been provided. A transparent ex ante calculation of project emissions and baseline emissions expected has not been provided in section B.6.3, documenting how each equation is applied, in a manner that enables the reader to reproduce the calculation; Where relevant, provide additional background information and or data in Annex 3, including relevant electronic files (i.e. spreadsheets). 		
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	<ol style="list-style-type: none"> They are added in PDD V07 and emission reduction calculation spreadsheet Version 02 The waste composition percentages of the eight landfills in the emission reduction calculation spreadsheet are revised according to eight landfill information registration forms provided by the related county or city sanitation bureau in ER sheet V02. The data in V01 is from the previous ones and not updated. Model correction factor to account for model uncertainties is 0.75 according to “Emissions from solid waste disposal sites” version 6.0.1, EB66. They are revised in emission reduction calculation spreadsheet Version 02. The collection efficiency of eight landfills is changed to 50% in ER sheet V02 according to default value as per ACM0001. They are added in the PDD V07. 		

Finding:	B7
<p>DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<ol style="list-style-type: none"> Step A.2: Only case 1 is detected in Table B-2, the other 3 cases are missing in Table B-2 as per the description above Table B-2. The waste composition percentage of the eight landfills in the emission reduction calculation spreadsheet has been revised consistently with “Eight landfills information registration forms issued by Meizhou Environment and Sanitation Administration Bureau in February or March, 2012^{LIR/}”. OK. Model correction factor to account for model uncertainties has been revised to 0.75 in the revised PDD and emission reduction calculation spreadsheet, which is in accordance with “Emissions from solid waste disposal sites (Version 06.0.1)^{/TESW/}”. OK. K_j of food, food waste, sewage sludge, beverages and tobacco has been revised to 0.40 in the revised emission reduction calculation spreadsheet, which is consistent with the PDD, is also in accordance with the applied methodology and “Emissions from solid waste disposal sites” (Version 06.0.1)^{/TESW/}. OK. Collection efficiency 50% is not detected in the ACM0001 version 12.0.0, and collection efficiency needs further justification. The specific data source of basic parameters such as the default values utilized to calculate $BE_{CH_4,SWDS,y}$ and the calculation process of $EF_{grid,CM,y}$ is missing in the emission reduction calculation spreadsheet. All the values calculated by other values shall be linked to the relevant cells in the emission reduction calculation spreadsheet, especially with regard to the “emission reduction” sheet.
<p>Corrective Action #2 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p>	<ol style="list-style-type: none"> The other three cases are added in PDD Ver.08 Collection efficiency 50% is a default value from the η_{PJ} “Efficiency of the LFG capture system that will be installed in the project activity” in ACM0001 Ver12.0.0 The default values for $BE_{CH_4,SWDS,y}$ calculation have been used in the ER sheet, the default values used to calculate the $EF_{grid,CM,y}$ are added in the emission reduction calculation spreadsheet.
<p>DOE Assessment #2 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<ol style="list-style-type: none"> $BE_{CH_4,SWDS,y}$ has been calculated according to “Emissions from solid waste disposal sites (Version 06.0.1)” both in the revised PDD and the emission reduction calculation spreadsheet. The ex ante $F_{CH_4,PJ,y}$ and $F_{CH_4,BL,y}$ calculation in the revised PDD and the emission reduction calculation spreadsheet is in accordance with ACM0001 version 12.0.0. OK. η_{PJ} 50% is utilized in the formula $F_{CH_4,PJ,y} = \eta_{PJ} \cdot BE_{CH_4,SWDS,y} / GWP_{CH_4}$ as per the applied methodology, and the collection efficiency of eight landfills 50% utilized to calculate $BE_{CH_4,SWDS,y}$ in the emission reduction calculation spreadsheet is inconsistent with the formula (18) to calculate $BE_{CH_4,SWDS,y}$ in the PDD. Not all values calculated by other values have been linked to

Finding:	B7
	the relevant cells in the emission reduction calculation spreadsheet, please also see CL B4.
Corrective Action #3 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	5. In the emission reduction spreadsheet ver 03, the $BE_{CH_4,SWDS,y}$ multiplied by collective efficiency 50% more by mistake, it is deleted in Ver 04. 6. All the values calculated by other values are linked to the relevant cells in the revised emission reduction calculation spreadsheet Ver 04.
DOE Assessment #3 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	5. The correction has been checked in the emission reduction spreadsheet Ver 04. OK. 6. The calculated values are all linked to the raw data in the updated emission reduction spreadsheet Ver 04. OK.
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed

Finding:	B8
Classification	<input checked="" type="checkbox"/> CAR <input type="checkbox"/> CL <input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	Project emission calculation: According to the latest version of "Tool to calculate the emission factor for an electricity system", the default values of w_{OM} and w_{BM} for the second crediting period have not been applied for this project activity, thus recalculation of $EF_{grid,CM,y}$ is requested. In addition, this parameter has not been addressed in section B.6.2.
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	The $EF_{grid,CM,y}$ is updated according to the latest version of the "Tool to calculate the emission factor for an electricity system" for the second crediting period in PDD V07.
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	$w_{OM} = 0.25$ and $w_{BM} = 0.75$ has been applied for the second crediting period. $EF_{grid,OM,y}$ 0.9489 tCO ₂ /MWh and $EF_{grid,BM,y}$ 0.3157 tCO ₂ /MWh cited from the Official data sources for Grid Emission Factor (CSPG) published by the Chinese DNA on 2011-10-20 ^{/GEF/} has been checked, therefore, $EF_{grid,CM,y} = 0.9489 \times 0.25 + 0.3157 \times 0.75 = 0.474$ (tCO ₂ /MWh) is assessed as appropriate. $EF_{grid,CM,y}$ has been added in section B.6.2. However, the calculation process of $EF_{grid,CM,y}$ is missing in Annex 3.
Corrective Action #2 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	The calculation process of $EF_{grid,CM,y}$ are added in Annex 3 of PDD ver.08
DOE Assessment #2 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	The calculation process of $EF_{grid,CM,y}$ has been checked in Annex 3 of PDD ver. 08. OK.

Finding:	B8
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed

Finding:	B9
Classification	<input checked="" type="checkbox"/> CAR <input type="checkbox"/> CL <input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	Data and parameters not monitored: 1. In section B.6.2, parameters such as $F_{CH_4, BL, x-1}$, NCV_{CH_4} are not applicable for this project activity. 2. $W_{j,x}$ (amount of solid waste type j disposed or prevented from disposal in the SWDS in the year x (t)) or total amount of MSW dumped annually and the waste composition percentage of the eight landfills has not been discussed in section B.6.2.
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	1. They are deleted in PDD V07. 2. $W_{j,x}$ is discussed in section B6.2. of PDD V07 and ER sheet V02.
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	1. The tables of parameters OX_{top_layer} (OX), GWP_{CH_4} and η_{PJ} are not in accordance with the Guidelines for Project Design Document (CDM-PDD) and the Proposed new baseline and monitoring methodologies (CDM-NM) Version 07, EB41 Annex 12). Parameters in section B.6.2 such as AF, Regulatory requirements relating to landfill gas projects and MD_{Hist} (not applicable for ACM0001 version 12.0.0) can be deleted. The DOC_j (% dry waste) hasn't been detected in "Emissions from solid waste disposal sites (Version 06.0.1)". $BE_{CH_4, SWDS, y}$: "Tool to determine methane emissions avoided from dumping waste at a solid waste disposal site" is outdated. The description of $BE_{CH_4, SWDS, y}$ is not in accordance with ACM0001 version 12.0.0. 2. $W_{j,x}$ has been added appropriately in section B.6.2. The annual amount of solid waste disposed in the SWDS in the year x and the fraction of waste type j in the deposited waste of the eight landfills utilized in the emission reduction calculation spreadsheet are cited from "Eight landfills information registration forms issued by Meizhou Environment and Sanitation Administration Bureau in February or March, 2012 ^{LIR/} ". $W_{j,x}$ can be assessed as correct by checking the eight landfills information registration forms and recalculating. OK.
Corrective Action #2 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	1. The table forms in B.6.2 are updated according to the Guidelines for Project Design Document (CDM-PDD) and the proposed new baseline and monitoring methodologies (CDM-NM) Version 07, EB41 Annex 12 in PDD ver.08. The DOC_j (% dry waste) has been deleted in B.6.2 of PDD ver.08. According to ACM0001.Ver12.0.0, the $BE_{CH_4, SWDS, y}$ is determined using the methodological tool "Emission from solid

Finding:	B9
	waste disposal sites ", it is updated in PDD ver.08.
DOE Assessment #2 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	1. The justification of the choice of data or description of measurement methods and procedures actually applied is empty, which is unacceptable. Justification is needed. "Emission from solid waste disposal sites" is not the latest version.
Corrective Action #3 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	1. The justification of the choice of data or description of measurement methods and procedures actually applied are added in table forms in B.6.2 and B.7.1."Emission from solid waste disposal sites" is updated to version 06.0.1.
DOE Assessment #3 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	1. The justification of the choice of data or description of measurement methods and procedures has been checked in table forms in B.6.2 and B.7.1 of the updated PDD. "Emission from solid waste disposal sites" is confirmed to be version 06.0.1 - which is the latest applicable one - in the updated PDD. OK.
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed

Finding:	B10
Classification	<input checked="" type="checkbox"/> CAR <input type="checkbox"/> CL <input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	Data and parameters monitored: 1. $F_{CH_4,BL,R,y}$ only applies for case 2. 2. $LFG_{total,y}$, $LFG_{flare,y}$ and $LFG_{electricity,y}$ is not addressed in ACM0001 version 12.0.0.. 3. $EC_{PJ,j,y}$ has not been addressed. 4. Revision of section B.7.1 with regard to CAR B6 issue 2 is requested.
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	1. It is deleted in PDD V07. 2. They are updated according to ACM0001 Version12.0.0 and the tool "Tool to determine the mass flow of a greenhouse gas in a gaseous stream" version 2.0.0, EB61. 3. It is added in PDD V07. 4. It is updated in B.7.1 in PDD V07.
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	1. $F_{CH_4,BL,R,y}$ has been deleted. OK. 2. $LFG_{total,y}$, $LFG_{flare,y}$ and $LFG_{electricity,y}$ has been deleted, however, see CAR B6. 3. The description of $EC_{PJ,j,y}$ is inconsistent with the description under formula 17. The evidence of $EC_{PJ,j,y}$ 350 MWh/y and $EL_{PJ,j,y}$ 7,000 MWh/yr is missing. 4. $T_{flare,y}$: The measurement procedures and any comment is not in accordance with the "Tool to determine project emissions from flaring gases containing methane". $PE_{flare,y}$ is missing in section B.7.1.

Finding:	B10
	Also see CAR B6.
Corrective Action #2 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	2. The parameters used for calculating $F_{CH_4,EL,y}$ and $F_{CH_4,sent_flare,y}$ are in the PDD. 3. The data has been revised to be $EC_{PJ,j,y} = 202.18MW$ and $EC_{BL,k,y} = 3,919.5MW$. The related evidence has been supplied. 4. The parameters $p_{CH_4,n}$, $Fv_{RG,h}$ and $f_{vCH_4,RG,h}$ utilized to calculate $PE_{flare,y}$ are added in PDD ver08.
DOE Assessment #2 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	2. The parameters used for calculating $F_{CH_4,EL,y}$ and $F_{CH_4,sent_flare,y}$ has been checked in the updated PDD. OK. 3. The data of Longfeng is from the Power generation and electricity consumption settlement list ^{/PPSL/} which has been checked. The data of Xingning is estimated based on the FSR which is same as in the first crediting period. OK. 4. The parameters $p_{CH_4,n}$, $Fv_{RG,h}$ and $f_{vCH_4,RG,h}$ utilized to calculate $PE_{flare,y}$ have been checked in the updated PDD ver08. OK.
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed

Finding:	B11
Classification	<input checked="" type="checkbox"/> CAR <input type="checkbox"/> CL <input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	All the information in section B.7.2 needs to be updated once section B.7.1 is updated.
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	They are updated in PDD V07.
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	The newly added monitoring parameters in section B.7.1 are missing in section B.7.2, see also CAR B6 and CAR B10.
Corrective Action #2 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	The figures of Installation of the Monitoring Meters and electrical supply and distribution diagram of the Project Entity in B.7.2 have been updated according to B.7.1 and all the meters will be calibrated according to the requirements as the B.7.1.
DOE Assessment #2 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	The updated figures of Installation of the Monitoring Meters and electrical supply and distribution diagram of the Project Entity have been checked in the updated PDD ver. 08. OK.
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed

5 VALIDATION ASSESSMENT SUMMARY

5.1 General Description of the Project Activity

5.1.1 Participation

LOA

The host party, China, ratified the Kyoto Protocol on 2002-08-30. The Host Country Approval (HCA) of the project was issued by National Development and Reform Commission of People's Republic of China (NDRC, China DNA) No. 005^{/HCA/} dated 2005-08-30 which serves as Chinese DNA. The HCA is assessed as authentic by consulting the Chinese DNA's website^{/dna/}.

Host Country Approval from China confirmed the voluntary participation of Shenzhen PhasCon Technologies Co., Ltd as project participant in the CDM project activity.

It is clearly stated in HCA that the project is considered to support sustainable development.

LOA from Annex I Party the Austria^{/LOA/} was issued separately on 2005-08-31. The Republic of Austria has ratified the KP on 2002-05-31. The LOA is from General Environmental Policy Department of the Republic of Austria (the Austria's DNA). It authorizes Kommunalkredit Public Consulting GmbH as project participant.

Both the HCA and LOA were provided by the PPs as a scanned version. The HCA has been carefully checked and its authenticity was confirmed through the Chinese DNA website

(http://cdm.ccchina.gov.cn/website/CDM/pdf/Item_new/Item_new45.pdf).

The validation team could confirm that the project is listed as approved on the DNA's website. Based on checking the LOAs issued by the Austria's DNA and comparing it with LOAs issued by the Austria's DNA for many other projects verified by TÜV NORD, the validation team could confirm that the document is authentic.

Both approvals are unconditional with regard to any CDM requirement.

The precise project title is "Meizhou Landfills Gas Recovery and Utilization as Energy". The project title is consistent along with the MoC, PDD, HCA and LoA.

Project Participants

The project participants are:

Shenzhen PhasCon Technologies Co., Ltd. authorized by the Government of China^{/HCA/}, and the name of the buyer is Kommunalkredit Public Consulting GmbH according to Host Country Approval from the DNA of People's Republic of China,

dated on 2005-08-30 and Letter of Approval from the Republic of Austria DNA issued on 2005-08-31^{/LOA/}.

Project participants are listed in table form in section A.3 of the PDD. It is consistent with the contact details provided in Appendix of the PDD.

No entities other than those approved as project participants are included in these sections of the PDD.

5.1.2 Environmental Impacts

The project activity is in line with sustainable development policies of the country and national regulation/policy on Environmental Protection. The project has already obtained the LoA from NDRC (DNA of China) for the proposed project activity.

Social and environment impacts of the project have been sufficiently addressed. An Environmental Impact Assessment was conducted and approved by the local EPB^{/EIA/} as a requirement to start the project.

The project is not expected to create any significant adverse environmental effects. On the contrary, by collecting and combusting landfill gas, the project reduces emissions from the uncontrolled release, reduces the risks of explosion and fire at the landfill as well as reduces the risks of toxic effects on the local community and local environment. Leachate purification and recirculation is carried out to reduce ground water contamination.

5.1.3 PDD editorial Aspects

The project used the latest template for completing CDM PDD form version 3 which is the latest available during intimation to UNFCCC for renewable of crediting period of the project activity.

The Project also used CDM – PDD filling guideline version 07, for completing all the section of the PDD which is the latest available.

5.1.4 Technology to be employed

The description of the project in the PDD is complete, accurate and in compliance with PDD templates and guidelines^{/PDD-G/} after revision.

The project includes eight landfill sites of Longfeng, Fengshun, Xingning, Meixian, Pingyuan, Wuhua, Jiaoling and Dapu.

The project consists of collection of landfill gas and utilization of landfill gas for power generation where feasible, which the excess landfill gas will be flared. The project plans to implement a set of gas collection systems and leachate treatment and recirculation systems at each of the eight landfills. At landfills where the landfill gas

reaches a certain amount, a modular power generator will be implemented when feasible. The electricity generated will be sold to the Southern China Power Grid.

The proposed landfill gas collection and electricity generation technology represents current good practice in the waste management sector of China. The geographical boundaries of the project are clearly defined. The project consists of two components:

1. Recovery and combustion or flaring of LFG, reducing the uncontrolled release of methane
2. Generation of electricity from LFG, reducing CO₂ emissions associated with the use of grid electricity.

But the emission reduction result from the displacement of grid electricity will not be claimed by the project developer in the PDD.

Currently, only the LFG utilization project in Longfeng landfill site is in operation, with two sets of generation units with each capacity of 500kW and one flare device installed on-site. The flare systems have been put into operation in Xingning site. The flare systems and power generation system of Meixian Qilongken site have been installed but not in operation yet. The other five sites are under the preparation of construction.

In the second crediting period, there are 2*500kW LFG generators operated in Longfeng landfill and 2*500kW generators installed in Meixian Qilongkeng landfill, which are planned to generate electricity in 2013. Fengshun, Pingyuan, Wuhua, Jiaoling and Dapu have not started being built yet.

5.1.5 Small Scale Projects

N/A

5.2 Project Baseline, Additionality and Monitoring Plan

5.2.1 Application of the Methodology

The project was registeted under ACM 0001 version 01. As per §2 (a) of EB 63 Annex 29, the latest version of the baseline and monitoring methodology has been applied for renewal of the crediting period of the project activity. The project applies approved baseline and monitoring methodology “Flaring or use of landfill gas” version 12 which is valid during the intimation submitted to the UNFCCC. The project activity involves collecting and flaring the LFG, as well as usage of the captured LFG for power generation to displace grid electricity system that is a part of the Southern China Power Grid which is dominated by fossil fuel based power generating sources. All the applicability criteria for the project activity have been detailed in section B.2 of the PDD which is assessed to be correct by the assessment team during the validation activity. The project is in line with all the other stipulated requirements of the methodology. The validation team confirms with reference to §2 (a) of Annex 29

EB 63 that the project meets all the applicability conditions of the applied methodology.

5.2.2 Project Boundary

ACM0001 specifies that project boundary encompasses the physical, geographical site of the gas captured and destroyed. During the site visit and subsequent interview with the project participant^{/IM01/} it was found that the project boundary includes LFG collection, LFG flaring and LFG power generation system, auxiliary equipment, all the facilities in the landfill and electricity grid which provides the electricity to the landfill. The grid emission factor for Southern China Power Grid has been considered for baseline calculations which was checked during the site visit and subsequent interview with the client and found to be OK. However, in Table B-1 of the PDD, an overview on emissions sources included in or excluded from the project boundary is not strictly addressed according to Table 1 “Summary of greenhouse gases and sources included in and excluded from the project boundary” in ACM0001 version 12.0.0. and hence DOE has raised CAR B2 in this regard. CAR was successfully closed by corrections in Table B-1 of the updated PDD.

5.2.3 Baseline Identification

ACM0001 is applicable to the project since the baseline is defined as “total atmospheric release of the gas”, and the project consists of either (1) the LFG is flared; or (2) the LFG is used to produce energy, but no emission reduction will be claimed from displacing energy generated from other sources. In conclusion, the project meets all the applicable requirements of ACM0001.

The project baseline is determined as total atmospheric release of LFG.

The description of baseline identification in the PDD is transparent, verifiable and in accordance to the methodology.

Establishing Baseline

As prescribed in the baseline methodology, the emission baseline will be (a) (the amount of methane that would have been destroyed/ combusted minus the amount of methane that would have been destroyed/combusted during the year in the absence of the project due to regulatory and/or contractual requirement) multiplied by the GWP of CH₄ in the project scenario and (b) the energy produced / displaced by the LFG generating unit multiplied by an emission coefficient of the associated grid. In the project activity, the emission reduction attributable to the displacement of grid electricity was not claimed for this crediting period, therefore, the project emission could be considered as zero, if the total electricity generated by LFG is greater than the total electricity consumed by the project activity from the grid, otherwise, the project emission shall be considered.

Further as the project is under the renewable crediting period, thus the baseline identification shall be demonstrated as per the Procedures for Renewal of the

Crediting Period of a Registered CDM Project Activity, EB 63 Annex 29 and the tool for “Assessment of the validity of the original/current baseline and to update the baseline at the renewal of a crediting period” version 03.0.1 “EB 65, Annex 20. As per tool the validity of the baseline shall be demonstrated in two steps, which are detailed as follows:

Step 1: Assess the validity of the current baseline for the next crediting period

The baseline remains unchanged as total atmospheric release of the gas in absence of the project. The validity has been checked according to EB66, Annex 47 under the following sub-steps:

Step 1.1: Assess compliance of the current baseline with relevant mandatory national and/or sectoral policies

The baseline for the project activity is to release the LFG from the landfill sites directly to the atmosphere without any collection. The baseline remains the same as it was in the registered PDD and it has been validated that the selected baseline complies with sectoral policies applicable at the time of requesting renewal of the crediting period which have been detailed below.

The Chinese legislation regulating landfill management has evolved over the past 20 years. Besides the National standard for pollution control of landfill sites for domestic waste GB16889-1997 and the technical code for municipal solid waste CJJ 17-2004, other regulations are in place that requires either LFG flaring or utilization. However, these regulations have a promotional, rather than a mandatory character and are not enforced^{/CNAP/}. There were two national regulations CJJ133-2009^{/TC/} and GB16889-2008^{/CS/} issued and taken into effective since July 2008, where the landfill gas recovery was required for those build landfill with capacity over 2.5 million tons and depth over 20 meters. According to Eight landfills information registration forms issued by Meizhou Environment and Sanitation Administration Bureau in February and March 2012^{/LIR/} respectively, no landfills with a design landfill capacity larger than 2.5 million tonnes and design depth deeper than 20m. The waste in Longfeng Landfills at the end of 2011 is 5.495 million tonnes and average depth is 18m, less than 20m. Regarding this project, the total design capacity and design filling depth of each landfill does not meet both conditions as these have to be meet simultaneously (2.5million tons and design deeper than 20m) to trigger mandatory flaring, thus flaring is not mandatory and both regulations CJJ133-2009 and GB16889-2008 are not applicable for the project. Therefore, no methane capture facility or flaring system shall be installed in the eight landfills according to the China Standard for pollution control on the landfill site of Municipal Solid Waste (GB16889-2008)^{/SCLW/} and the Technical code for projects of landfill gas collection treatment and utilization (CJJ133-2009)^{/LGTU/}. The evidence issued by Meizhou Municipal Solid Waste Treatment Center states that the eight landfills adopt municipal solid waste filling treatment and that there is not any organic waste recycle activity or project in each landfill. The project does not reduce the amount of organic waste that would be recycled in the absence of the project activity as per eligibility condition stated on ACM0001 ver. 12, p. 3.

This situation is not likely to be changed during the second crediting period. Hence the baseline determined as the continuous release of landfill gas is justified and still valid at the time of requesting renewal of the crediting period.

Step 1.2: Assess the impact of circumstances

As per the requirement of the sub-step, it has been assessed that there was no impact of circumstances existing at the time of requesting renewal of the crediting period on the established baseline. However, due to change in emission factor (as published by Chinese DNA) the estimated baseline emissions for the second crediting period differs from the previous crediting period. Therefore, the baseline has been updated in line with the applied methodology ACM0001 version 12.

Step 1.3: Assess whether the continuation of the use of current baseline equipment(s) is technically possible

As the baseline for the project is total atmospheric release of the gas, thus the step is not applicable to the project activity. Further, the residual technical lifetime of the major equipments; i.e. the PE/PVC plastic pipes in the landfill gas wells, the LFG blowers for deliver the LFG from gas wells to the collection stations, the stainless flare torches and resistant alloy material burning heads, the gas generator sets and power transformers as well as the industrial level control devices^{/SP/} is 18 years (25-7 years). The project has applied for the second crediting period of 7 years, thus it is evident that the technical lifetime of the project activity exceeds the end of the second crediting period.

Step 1.4: Assessment of the validity of the data and parameters

This step stipulates to assess the data and parameters that were only determined at the start of the crediting period and are not monitored during the crediting period. In the proposed project one parameter that was determined at the start of the crediting period which is not valid anymore is the baseline emission factor. Hence, the current baseline emission factor is updated for the renewal of crediting period as per the data from Official data sources for Grid Emission Factor (CSPG) published by the Chinese DNA on 2011-10-20^{/GEF/} in line with the “Tool to calculate the emission factor for an electricity system (version 02.2.1)”^{/TEF/}. But the displacement of grid electricity by the Project Activity will not be claimed for the second crediting period, same as in the first crediting period.

Furthermore, the data and parameters such as the IPCC default values and the default value for the model correction factor to account for model uncertainties (ϕ_y) are updated for the second crediting period as described in Table B-3 of the PDD.

Step 2: Update the current baseline and the data and parameters

As per step 1, the current baseline is updated to incorporate the change in the emission factor of the Southern China Grid.

Step 2.1: Update the current baseline

The baseline scenario needn't be updated based on the latest ACM0001 version 12.0.0 applicable to the project activity. The data and parameters for baseline emission calculation such as the IPCC default values are updated for the second crediting period. The baseline emissions factor for the subsequent crediting period was updated based on the approved methodology ACM0001 Version 12, the emission factor has been sourced from the published Chinese DNA database.

Step 2.2: Update the data and parameters

As mentioned in step 1.4 above, the baseline emission factor is updated based on Official data sources for Grid Emission Factor (CSPG) published by the Chinese DNA on 2011-10-20^{GEF}.

In light of the above discussions it can be concluded that baseline scenario as applied for the second crediting period is in accordance with the requirements stipulated in the EB 63 Annex 29.

5.2.4 Calculation of GHG Emission Reductions

Baseline emissions

The baseline emissions is that the amount of methane that would have been destroyed/ combusted minus the amount of methane that would have been destroyed/combusted during the year in the absence of the project due to regulatory and/or contractual requirement multiplied with the GWP of CH₄ in the project scenario as stipulated in ACM0001, (Version 12). As the proposed project activity is only CASE (A) Methane emissions from the SWDS in the absence of the project activity related. So BE_y = BE_{CH₄,y}

$$BE_{CH_4,y} = (1 - OX_{top_layer}) \cdot (F_{CH_4,PJ,y} - F_{CH_4,BL,y}) \cdot GWP_{CH_4}$$

Where:

BE_{CH₄,y} = Baseline emissions of LFG from the SWDS in year y (t CO₂e/yr)

OX_{top_layer} = Fraction of methane in the LFG that would be oxidized in the top layer of the SWDS in the baseline (dimensionless)

F_{CH₄,PJ,y} = Amount of methane in the LFG which is flared and/or used in the project activity in year y (t CH₄/yr)

F_{CH₄,BL,y} = Amount of methane in the LFG that would be flared in the baseline in year y (t CH₄/yr)

GWP_{CH₄} = Global warming potential of CH₄ (t CO₂e/t CH₄)

The baseline emission calculation is checked by the validation team and found that the calculation is transparent and conservative.

Project Emissions

Project emissions are calculated as follows:

$$PE_y = PE_{EC,y} + PE_{FC,y} \quad (16)$$

Where:

PE_y = Project emissions in year y (t CO₂/yr)
 $PE_{EC,y}$ = Emissions from consumption of electricity due to the project activity in year y (t CO₂/yr)
 $PE_{FC,y}$ = Emissions from consumption of fossil fuels due to the project activity, for purpose other than electricity generation, in year y (t CO₂/yr)

The project emissions from consumption of electricity by the project activity ($PE_{EC,y}$) shall be calculated using the “Tool to calculate baseline, project and/or leakage emissions from electricity consumption”.

- There is no fossil fuel combustion for purposes of project activity, therefore $PE_{FC,y}=0$. As the emission reductions result from the displacement of grid electricity will not be claimed the project emission could be considered as zero, if the total electricity generated by LFG is greater than the total electricity consumed by the project activity from grid. Otherwise, the project emission shall be used to determined as per the “Tool to calculate baseline, project and/or leakage emission from electricity consumption”

$$PE_y = PE_{EC,y} = \sum_j EC_{PJ,j,y} * FE_{EL,j,y} * (1 + TDL_{j,y})$$

Where

PE_y = Project emissions during the year y (tCO₂e/yr)
 $PE_{EC,y}$ = Project emissions from electricity consumption by the project activity during the year y (tCO₂e/yr)
 $EC_{PJ,j,y}$ = is the quantity of electricity consumed by the project activity during the year y (MWh);
 $FE_{EL,j,y}$ = is the emission factor for electricity generation for source j in year y (tCO₂/MWh)
 TDL_y = are the average technical transmission and distribution losses in the grid in year y for the voltage level at which electricity is obtained from the grid at the project site

The calculations and formulas used are in line with the applied methodology.

Leakage

In compliance with ACM0001 leakage is ignored.

Emission Reductions

ER_y of the project activity during the crediting period is the difference between baseline emission (BE_y) and project emission (PE_y). The calculated result is as follows:

$$ER_y = BE_y - PE_y$$

The emission reduction calculation^{/XLS/} was checked by the validation team.

Altogether, the project activity reduces emissions of 240,683 tCO₂e over the second crediting period. It is confirmed by the DOE by cross-checking the whole calculation

process^{/XLS/} against all referenced data sources and the requirements of the applied methodology and methodological tools that:

- a) All data sources and assumptions used are listed and referenced in the PDD and are appropriate. Calculations are correct, applicable to the proposed CDM project activity and will result in a conservative estimation of the emission reductions;
- b) All documentation used by project participants as the basis for assumptions and source of data is correctly quoted and interpreted in the PDD;
- c) All values used in the PDD are considered reasonable in the context of the proposed CDM project activity;
- d) The baseline methodology has been applied correctly to calculate project emissions, baseline emissions, leakage and emission reductions;
- e) All estimates of the baseline emissions can be replicated using the data and parameter values provided in the PDD. Therefore, the GHG emission reduction calculation is assessed to be correct.

However, CAR B5-B8 were raised and closed successfully.

5.2.5 Additionality Determination

As the project is under Validation for Renewable Crediting period, thus assessment of the additionality is not required as per PROCEDURES FOR RENEWAL OF THE CREDITING PERIOD OF A REGISTERED CDM PROJECT ACTIVITY, EB 63 Annex 29.

5.2.6 Monitoring Methodology

The monitoring plan of the PDD follows the approved monitoring methodology ACM 0001 version 12. The same is checked by the assessment team and found correct. However, CAR B10 was raised regarding data and parameters monitored and successfully closed by PDD revision in section B.7.

5.2.7 Monitoring Plan

According to ACM0001 Ver.12, the monitoring plan covers the following parameters required to be monitored:

The project monitoring consists of metering

- Operation hour of the energy plant,
- Volumetric flow of the gaseous stream in hour h (time interval t) ($V_{t,db} / V_{t,wb}$)
- Volumetric fraction of CH_4 in the LFG in hour h (time interval t) ($V_{i,t,db}$)
- Volumetric fraction of gas k in the gaseous stream in time interval t on a dry basis ($V_{k,t,db}$)
- Temperature of the gaseous stream in time interval t (T_t)
- Pressure of the gaseous stream in time interval t (P_t)
- Saturation pressure of H_2O at temperature T_t in time interval t ($P_{H_2O,t,Sat}$)
- Temperature in the exhaust gas of the flare ($T_{flare,y}$)
- Net amount of electricity generated using LFG in year y ($EC_{BL,k,y}$)

- Quantity of electricity consumed from external by the project electricity consumption source j in year y ($EC_{PJ,y}$)
- Volumetric flow rate of the residual gas in dry basis at normal conditions in the hour h ($FV_{RG,h}$)
- Concentration of methane in the exhaust gas of the flare in dry basis at normal conditions in the hour h ($fV_{CH_4,RG,h}$)
- Other flare operation parameters

The flow meters and the gas analyzer are installed in accordance with the national standard. The calibration of the meter is conducted by a qualified organization and in compliance with the national standard. All data is archived during the crediting period and two years after the end of the last crediting period.

The monitoring plan can be implemented with regard to the description of measurement methods and QA/QC procedures. All the monitoring arrangements are feasible within the project design.

During the course of validation for renewal of Crediting Period, the DOE has raised a CAR B10 and CAR B11. For a detailed assessment, please refer to validation protocol under Annex-A1 of the report.

5.2.8 Project Management Planning

The responsibilities and authorities of project management, data handling and recording, measurement methods and QA/QC procedure have been systematically established and formalized and the same was verified during the site visit, even though Shenzhen PhasCon Technologies Co., Ltd. is not an ISO certified and has proper internal quality management procedures for data monitoring and operation of the plant.

5.2.9 Crediting Period

PP has chosen renewable crediting period for the project activity i.e. 7 years. The start date of first crediting period for the project activity was 2005-09-01. In line with the guideline under section III - EB 63 Annex 29, the PP notified the CDM secretariat by an email of their intention to renew the crediting period of the project by submitting an updated CDM PDD and informing of their selection of "TUV NORD" as the DOE for Validation of renewable crediting period. The email was submitted on 2012-02-29 which is six months prior to the expiration of the first crediting period (2012-08-31). The start date of the second crediting period is 2012-09-01 and it is acceptable.

5.2.10 Environmental Impacts

The project is under Validation for Renewable Crediting period, thus assessment of the environmental impacts is not required as per PROCEDURES FOR RENEWAL OF THE CREDITING PERIOD OF A REGISTERED CDM PROJECT ACTIVITY, EB 63 Annex 29. Nevertheless the environmental impacts had been assessed during the project registration and the project activity is expected to have positive impacts and

no significant adverse environmental impacts are foreseen. Since, the project activity is about landfill gas recovery for power generation and the excess LFG as well as all gas collected at other six landfill sites will be flared therefore no negative impact are envisaged. The EIA has been carried out according to mandatory legal requirement f in China. EIA report and approval letter from local EPB on Dec. 17, 2004 ^{/EIA/} have been verified by the audit team.

5.2.11 Comments by Local Stakeholders

The project is under Validation for Renewable Crediting period, thus local stakeholder consultation is not required as per PROCEDURES FOR RENEWAL OF THE CREDITING PERIOD OF A REGISTERED CDM PROJECT ACTIVITY, EB 63 Annex 29.

Nevertheless the local stakeholder consultation was conducted during the project registration to UNFCCC and no adverse comments were received.

6 VALIDATION OPINION

“Shenzhen PhasCon Technologies Co., Ltd.” has commissioned the TÜV NORD JI/CDM Certification Program (CP) to validate the project: “Meizhou Landfills Gas Recovery and Utilization as Energy” with regard to the relevant requirements of the UNFCCC for CDM project activities, as well as criteria for consistent project operations, monitoring and reporting. UNFCCC criteria include article 12 of the Kyoto Protocol, the modalities and procedures for CDM (Marrakech Accords) and the relevant decisions by COP/MOP and CDM Executive Board.

In the course of the validation, 09 Corrective Action Requests (CARs) and 04 Clarification Requests (CLs) were raised and successfully closed.


The review of the project design documentation and additional documents related to baseline and monitoring methodology; the subsequent background investigation and follow-up interviews have provided TÜV NORD JI/CDM CP with sufficient evidence to validate the fulfilment of the stated criteria.

In detail the conclusions can be summarised as follows:

- The project is in line with all relevant host country criteria (China) and all relevant UNFCCC requirements for CDM. Project activity approval have been obtained from DNA of China vide the Letter of Approval (HCA) dated 2005-08-30 while Austria is involved as annex 1 country at this stage.
- The monitoring plan is transparent and adequate.
- The calculation of the project emission reductions is carried out in a transparent and conservative manner, so that the calculated emission reductions of 240,683 tCO₂e are most likely to be achieved within the (2nd renewable) crediting period.

The conclusions of this report show, that the project, as it was described in the project documentation, is in line with all criteria applicable for the validation.

Shanghai, 2013-04-11



LI, Yong Jun
TÜV NORD JI/CDM CP
Validation Team Leader

Essen, 2013-04-11



Dr. Jochen Schubert
TÜV NORD JI/CDM CP
Final Approver

7 REFERENCES

Table 7-1: Documents provided by the project participant

Reference	Document
/AML/	Agreement for Greenhouse Gas Overall Treatment of Meizhou Landfills – Xingning, Wuhua, Meixian, Jiaoling, Pingyuan, Dapu and Fengshun with MESAB dated on 2004-07-26
/AUX/	List of auxiliary equipments of the Project provided by PP
/CMM/	CDM Project Management Manual: 1. CDM Project Management Manual of Meizhou Longfeng Landfill Gas Collection Station issued by PhasCon, dated on 2009-05-01 2. CDM Project Management Manual of Meizhou Xingning Landfill Gas Collection Station issued by PhasCon, dated on 2009-05-01
/ECIL	Main Electricity Consumption Instruments List of Longfeng, Meixian and Longfeng Landfills issued by PhasCon, dated on 2012-04-12
/ER/	Emission Reduction Calculation Spreadsheet
/GCA/	Grid Connection Agreement of Longfeng Landfill Gas Power Generation Station 4×500kW Generating Sets with Meizhou Power Supply Bureau dated on 2008-12-23 (Contract No. 14HB0800004)
/ICP/	Instrumentation Calibration Procedures issued by PhasCon, dated on 2012-04-12
/LIR/	Eight landfills information registration forms issued by MESAB in February and March 2012 respectively
/PDD/	1. Updated draft PDD for the purpose of request of renewal of crediting period dated 2012-02-28 version 06 2. Updated final PDD for the purpose of request of renewal of crediting period dated 2012-07-10 version 07 3. Updated final PDD for the purpose of request of renewal of crediting period dated 2012-11-29 version 08
/PEL/	Project Events List issued by PhasCon, dated on 2012-04-12
/QAP/	QA and QC Procedures of Measuring Meters issued by PhasCon, dated on 2012-04-12

Reference	Document
/SEPC/	Sale of Electricity Purchase Contract of Longfeng Landfill Gas Power Generation Station 4×500kW Generating Sets With Meizhou Power Supply Bureau of Guangdong Power Grid dated on 2011-11-07 (Contract No. 14SCHG1100026)
/SOMS/	Safety Operation Management Specification of Landfill Gas Power Generation Plant issued by PhasCon, dated in November 2005
/TC/	Meizhou Project CDM Organization and Management Team Configuration issued by PhasCon, 2012-04-12
/EIA/	EIA report and approval letter from local EPB on Dec. 17, 2004
/PDD-G/	Guidelines for Project Design Document (CDM-PDD) and the Proposed new baseline and monitoring methodologies (CDM-NM)* version 07
/CNAP/	China National Action Plan for Recovery and Utilization of landfill gas (12/2001)
/TC/	“Technical code for projects of landfill gas collection treatment and utilization” promulgated by China Ministry of housing and Urban-Rural Development on 09,Nov,2009 (CJJ133-2009)
/CS/	China Standard for pollution control on the landfill site of Municipal Solid Waste (GB16889-2008) on 02, April,2008
/PPSL/	Power generation and electricity consumption settlement list
/SP/	Specifications of biogas generators, stainless flare torch, Gas-water separator tank, Flame monitor of BZY-ZK-200 and PE/PVC plastic pipes
/COW/	Certificate for that the Project does not reduce the amount of organic waste that would be recycled in the absence of the project activity issued by Meizhou Municipal Solid Waste Treatment Center, dated 2013-03-26

Table 7-2: Background investigation and assessment documents

Reference	Document
/ACM1/	ACM0010: Flaring or use of landfill gas (Version 12.0.0)

Reference	Document
/CMSW/	Technical code for municipal solid waste sanitary landfill (CJJ17-2004) issued by Construction Department of P. R. China on 2004-02-19.
/CPM/	TÜV NORD JI / CDM CP Manual (incl. CP procedures and forms)
/GCP/	UNFCCC: Guidelines for completing CDM-PDD and CDM-NM
/GCT/	Glossary of CDM terms (Ver.5)
/GEF/	Official data sources for Grid Emission Factor (CSPG) published by the Chinese DNA on 2011-10-20.
/HCA/	Host Country Approval obtained at the time of registration of the project activity
/IPCC/	<ul style="list-style-type: none"> • IPCC Good Practice Guidance & Uncertainty Management in National Greenhouse Gas Inventories, 2000 • Revised 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Reference Manual
/KP/	Kyoto Protocol (1997)
/LGTU/	Technical code for projects of landfill gas collection treatment and utilization (CJJ133-2009)
/MA/	Decision 3/CMP. 1 (Marrakesh – Accords & Annex to decision (17/CP.7))
/MR/	Monitoring Reports during the first crediting period
/SCLW/	China Standard for pollution control on the landfill site of municipal solid waste (GB16889-2008)
/PDD-F/	Project Design Document Form (CDM PDD) – Version 03
/PDDO/	Registered Project Design Document, “Meizhou Landfills Gas Recovery and Utilization as Energy”, 2005 Nov 01 (UNFCCC reference # 0176)
/PRCP/	Procedures for Renewal of the crediting period of a registered CDM project activity (Version 06.0), EB 63 Annex 29
/PRUL/	China National Action Plan for Recovery and Utilization of Landfill Gas (12/2001)
/TD/	Technical data (name plates of turbines and generators)

Reference	Document
/TA/	Combined tool to identify the baseline scenario and demonstrate additionality (Version 04.0.0)
/TBE/	Tool to determine the baseline efficiency of thermal or electric energy generation systems (version 01, EB48 Annex 12 on 2009-07-17)
/TEC/	Tool to calculate baseline project and/or leakage emission from electricity consumption (version 01, EB39 Annex 7 on 2008-05-16)
/TEF/	Tool to calculate the emission factor for an electricity system Ver.02.2.1
/TEFG/	Tool to determine project emissions from flaring gases containing methane, Version 01.0.0, EB 28
/TESW/	Methodological tool “Emissions from solid waste disposal sites” Version 06.0.1, EB66, 2 March 2012
/TFF/	A. Tool to calculate project or leakage CO ₂ emissions from fossil fuel combustion (Version 02)
/TMF/	Tool to determine the mass flow of a greenhouse gas in a gaseous stream (Version 02.0.0, EB 61, Annex 11 on 2011-06-03)
/TRCP/	Tool to assess the validity of the original/current baseline and to update the baseline at the renewal of the crediting period (Version 02.0.0, EB 63 Annex 20)
/TRLE/	Tool to determine the remaining lifetime of equipment (version 01, EB 50 Annex 15 on 2009-10-16)
/VR/	Validation and Verification Reports issued during the first crediting period
/VVM/	Validation and Verification Manual (Version 1.2, Annex 1; EB 55)

Table 7-3: Websites used

Reference	Link	Organisation
/dna/	http://cdm.ccchina.gov.cn/english/index.asp	National Development and Reform Commission (DNA of China)
/cd4cdm/	www.cd4cdm.org	UNEP Risoe Centre
/ipcc/	www.ipcc-nggip.iges.or.jp	IPCC publications

Reference	Link	Organisation
/gov/	http://english.gov.cn/	The Central People's Government of P. R. China
/stat/	http://www.stats.gov.cn/english/statisticaldata/yearlydata/	National Bureau of Statistics of China
/unfccc/	http://cdm.unfccc.int	UNFCCC

Table 7-4: List of interviewed persons

Reference	Mol ¹		Name	Organisation / Function
/IM01/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	HUANG Zengjin	PhasCon Meizhou Branch/ Project Manager
/IM01/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	RAN Bo	PhasCon / Technical Supervisor
/IM01/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	LIU Junsong	PhasCon / Assistant Engineer
/IM01/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	DING Yaoxin	PhasCon Meizhou Branch/ Technician
/IM01/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	XIE Fei	PhasCon Meizhou Branch

¹⁾ Means of Interview: (Telephone, E-Mail, Visit)

ANNEX

- A1:** Validation Protocol
- A2:** Appointment certificates of the
team members

ANNEX 1: VALIDATION PROTOCOL

Table A-1: Requirements Checklist

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (Means and results of assessment)	Ref.	Draft Concl.	Final Concl.
A. General Description of Project Activity				
A.1. PDD editorial aspects <i>The PDD used as a basis for validation shall be prepared in accordance with the latest template and guidance from the CDM Executive Board available on the UNFCCC CDM website.</i>				
A.1.1. Has the latest version of the PDD form been applied?	<p><i>Description:</i></p> <p>The latest PDD form (version 03, EB25/Annex 15) at the time of PDD preparing has been applied.</p> <p><i>Justification of evidences:</i></p> <p>The PDD template Ver.03 can be downloaded from the UNFCCC website. The PDD was cross-checked with the PDD template.</p> <p><i>Conclusion:</i></p> <p>Please refer to CL A2.</p>	/PDD/ /PDD-F/ /unfccc/	CL A2	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (Means and results of assessment)	Ref.	Draft Concl.	Final Concl.
A.1.2. Has the PDD been duly filled in accordance with the latest guidance(s)?	<p><i>Description:</i></p> <p>The latest version of PDD Guideline (Ver.07, EB41/Annex 12) was followed when completing the PDD. Some parts of the PDD need further explanation, thus CL A2 and CAR A3 are issued.</p> <p><i>Justification of evidences:</i></p> <p>The PDD was cross-checked with the PDD Guideline.</p> <p><i>Conclusion:</i></p> <p>Please refer to CL A2 and CAR B7.</p>	/PDD/ /GCP/	CL A2, CAR B7	OK
A.1.3. Is the information regarding the project participants listed in section A3 and in Annex 1 of the PDD internally consistent to each other?	<p><i>Description:</i></p> <p>The PP from non Annex 1 country is Shenzhen PhasCon Technologies Co., Ltd. and the buyer from the Annex 1 country is Kommunalkredit Public Consulting GmbH.</p> <p><i>Justification of evidences:</i></p> <p>By document check.</p> <p><i>Conclusion:</i></p> <p>The information regarding the project participants listed in section A3 and in Annex 1 of the PDD is internally consistent to each other.</p>	/PDD/ (A.3)& (Annex1) /KP/ /MA/ /PDDO/ /HCA/ /dna/ Cd4cdm/ /gov/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (Means and results of assessment)	Ref.	Draft Concl.	Final Concl.
A.2. Technology to be employed <i>Validation of project technology focuses on the project engineering, choice of technology and competence/maintenance needs. The DOE should ensure that environmentally safe and sound technology and know-how is used.</i>				
<p>A.2.1. Does the PDD contain a clear, accurate and complete project description?</p> <p><i>The PDD shall contain a clear description of the project activity which provides the reader with a clear understanding of the precise nature of the project activity and the technical aspects of its implementation.</i></p> <p><i>Pl. consider esp. Chapters A.2, A.4.2 and A.4.3 (in case of LSC PDD) for assessment.</i></p> <p><i>Describe the process undertaken to validate the accuracy and completeness of the project description.</i></p> <p><i>Contain the DOE's opinion on the accuracy and completeness of the project description.</i></p>	<p><i>Description:</i></p> <p>The proposed project is located in Meizhou City, Guangdong Province, People's Republic of China. The Project intends to utilize landfill gas recovered from eight landfills in the counties of Meizhou City, i.e., the Longfeng landfill at Meijiang District of Meizhou City, and other seven landfills in the Counties of Xingning, Meixian, Fengshun, Pingyuan, Jiaoling, Dapu, Wuhua respectively, reducing the GHG emissions through avoidance of methane emissions to the atmosphere directly and displacing the electricity imported from SCPG.</p> <p>The Project was registered on 2006-03-03 and the estimated annual emission reduction is 286,525 tCO₂ during the first crediting period.</p> <p><i>Justification of evidences:</i></p> <p>The technology employed was checked through document review and on-site audit.</p> <p><i>Conclusion:</i></p> <p>The project description and documents provided is incomplete, thus</p>	/PDDO/ /PDD/ /ACM1/ /GCP/ /MR/ /VR/ /AML/ /AUX/ /CMM/ /ECIL/ /ER/ /GCA/ /ICP/ /LIR/ /PEL/ /QAP/ /SEPC/ /SOMS/ /TC/ /PRUL/	GAR A+	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (Means and results of assessment)	Ref.	Draft Concl.	Final Concl.
	CAR A1 is issued.	/stat/		
A.2.2. Is this description in accordance with the real situation or (in case of greenfield projects) is it most likely that the project will be implemented acc to the project description?	<p><i>Description:</i></p> <p>The Project was registered on 2006-03-03. The starting date of Longfeng LFG project was on 2004-10-18, while Xingning LFG project started on 2008-07-31 and was put into operation on 2009-08-01.</p> <p><i>Justification of evidences:</i></p> <p>By means of on-site observation, interview and document review..</p> <p><i>Conclusion:</i></p> <p>Most likely that the project will be implemented as per the project description in the PDD.</p>	/PDD/ /IM01/ /MR/ /VR/	OK	OK
<p>A.2.3. In case the project involves alteration of the existing installation or process, is a clear description available regarding the differences between the project and the pre-project situation?</p> <p><i>Describe the steps taken to validate this issue.</i></p>	<p><i>Description:</i></p> <p>Please refer to CAR B1 and CL B2.</p> <p><i>Justification of evidences:</i></p> <p>By means of on-site observation, interview and document review.</p> <p><i>Conclusion:</i></p> <p>Please see CAR B1 and CL B2.</p>	/PDD/ /ACM1/ /IM01/ /PDDO/ /MR/ /VR/	CAR B1 and CL B2	OK
<p>A.2.4. Does the project design engineering reflect current good practices?</p> <p><i>Consider the equipment specifications, literature (e.g. EU BREF papers) and professional experiences. Describe the process undertaken to assess the engineering.</i></p>	<p><i>Description:</i></p> <p>The project design engineering reflects current good practices which were evidenced from the technical description of the boiler and steam turbine.</p> <p><i>Justification of evidences:</i></p>	/PDD/ /ACM1/ /IM01/ /PDDO/ /MR/ /VR/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (Means and results of assessment)	Ref.	Draft Concl.	Final Concl.
	<p>The project design engineering was verified by consulting the site engineer and the observation of the project site.</p> <p><i>Conclusion:</i></p> <p>The project design engineering reflects current good practices.</p>			
<p>A.2.5. Does the project make provisions for meeting training and maintenance needs?</p> <p><i>Describe the process undertaken to assess the maintenance and training needs.</i></p>	<p><i>Description:</i></p> <p>The project activity has made provisions for meeting training and maintenance needs. PP appoints trained staff for operation & maintenance of meters and generators, which was described in section B.7.1. and section B.7.2. of the PDD.</p> <p><i>Justification of evidences:</i></p> <p>By means of document check and on-site investigation.</p> <p><i>Conclusion:</i></p> <p>Yes, it is concluded that the project make provisions for meeting training and maintenance needs.</p>	<p>/PDD/ /ACM1/ /IM01/ /PDDO/ /MR/ /VR/</p>	OK	OK
<p>A.3. Small scale project activity</p> <p><i>It is assessed whether the project qualifies as small-scale CDM project activity</i></p>				
<p>A.3.1. Does the project qualify as a small scale CDM project activity as defined in decision 4 / CMP.1 annex II?</p> <p><i>Describe the steps taken to validate this issue.</i></p>	<p><i>Description:</i> N/A</p> <p><i>Justification of evidences:</i> -</p>	<p>/PDD/ /GCT/ /MR/ /VR/</p>	N/A	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (Means and results of assessment)	Ref.	Draft Concl.	Final Concl.
	<i>Conclusion: -</i>			
<p>A.3.2. Does the project apply one of the approved small scale categories and any methodology and tool referred therein?</p> <p><i>Describe the steps taken to validate this issue. Check, if applicable the expiry dates of the applied methodology.</i></p>	<p><i>Description: N/A</i></p> <p><i>Justification of evidences: -</i></p> <p><i>Conclusion: -</i></p>	/PDD/ /GCT/ /MR/ /VR/	N/A	OK
<p>A.3.3. Is the small scale project activity not a debundled component of a larger project activity?</p> <p><i>Describe the steps taken to validate this issue. Pl refer to the Compendium of guidance on debundling (EB 54, Annex 13).</i></p>	<p><i>Description: N/A</i></p> <p><i>Justification of evidences: -</i></p> <p><i>Conclusion: -</i></p>	/PDD/ /GCT/ /MR/ /VR/	N/A	OK
B. Project Baseline, Additionality and Monitoring Plan				
B.1. Application of the Methodology				
<p>B.1.1. Does the project apply an approved and applicable CDM methodology and a valid version thereof?</p> <p><i>Describe the steps taken to validate this issue.</i></p>	<p><i>Description:</i></p> <p>The methodology applicable to the project activity is "ACM0001 "Flaring or use of landfill gas," version 12.0.0 which is a valid version available on UNFCCC website.</p>	/PDD/ /unfccc/ /ACM1/ /TA/	CAR B1, CL-B2	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (Means and results of assessment)	Ref.	Draft Concl.	Final Concl.
	<p>To ensure that the methodology applied is approved by the executive board and the PP has chosen the latest version, the methodologies section of UNFCCC CDM website (http://cdm.unfccc.int/methodologies/PAmethodologies/approved) was visited.</p> <p><i>Justification of evidences:</i></p> <p>The UNFCCC pages of methodology and tools have been checked.</p> <p><i>Conclusion:</i></p> <p>The project applies the valid version of methodology and the tools, however, please refer to CAR B1 and CL B2.</p>			
<p>B.1.2. Is the applied CDM methodology identical with the version available on the UNFCCC website?</p> <p><i>Describe the steps taken to validate this issue.</i></p>	<p><i>Description:</i></p> <p>Please refer to section B.1.1. of this table.</p> <p><i>Justification of evidences:</i></p> <p>The consistency of the applied methodology and tools with the valid version was validated by consultation with relevant references on the UNFCCC website.</p> <p><i>Conclusion:</i></p> <p>Please refer to CAR B1 and CL B2.</p>	<p>/PDD/ /unfccc/ /ACM1/</p>	<p>CAR B1, CL B2</p>	OK
<p>B.1.3. Are all applicability criteria in the methodology, the applied tools or any other methodology component referred to therein fulfilled?</p> <p><i>Describe for each applicability criterion listed in the selected approved methodology the steps taken to assess the</i></p>	<p><i>Description:</i></p> <p>The applicability criteria as described in the PDD are not in line with ACM0001 "Flaring or use of landfill gas," version 12.0.0. The information in the PDD was also checked during the on-site visit to ensure such information is valid and reflects the reality of the project. However, please also refer to CAR B1, CL B2 and CL B4.</p>	<p>/unfccc/ /PDD/ /ACM1/ /IM01/ /GEF/ /PDDO/</p>	<p>CAR B1, CL B2, CL B4</p>	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (Means and results of assessment)	Ref.	Draft Concl.	Final Concl.
<i>information contained in the PDD.</i>	<p><i>Justification of evidences:</i></p> <p>The applicability assessment was conducted by means of cross-checking with the applied methodology and tools.</p> <p><i>Conclusion:</i></p> <p>CAR B1, CL B2 and CL B4 need further justification.</p>			
<p>B.1.4. Is the project in accordance to every other stipulation or requirement mentioned in all sections of the methodology?</p> <p><i>Describe the steps taken to check whether the proposed project activity meets <u>all the other possible stipulations and/or limitations</u> mentioned in all sections of the approved methodology selected.</i></p>	<p><i>Description:</i></p> <p>The other methodology criteria were assessed by the validation team through review of documents and evidences provided, site visit and interviews with operational and managerial personnel. This resulted in CAR B1, CL B2 and CL B4.</p> <p><i>Justification of evidences:</i></p> <p>The validation has been conducted by means of cross-checking with all other sectors in the applied methodology.</p> <p><i>Conclusion:</i></p> <p>Please refer to CAR B1, CL B2 and CL B4.</p>	<p>/unfccc/ /PDD/ /ACM1/ /IM01/ /GEF/ /PDDO/</p>	<p>CAR B1, CL B2, CL B4</p>	<p>OK</p>

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (Means and results of assessment)	Ref.	Draft Concl.	Final Concl.
B.2. Validity and update of the baseline <i>The assessment of the continued validity and update of the baseline at the renewal of the crediting period is carried out according to the stepwise approach given in the “tool to assess the validity of the original/current baseline and to update the baseline at the renewal of the crediting period”, EB63/Annex20.</i>				
B.2.1. Step 1: Assess the validity of the current baseline for next crediting period <i>The validity of the current baseline is assessed using the following Sub-steps:</i>				
B.2.1.1. What has been identified as original/current baseline scenario <i>Describe the chosen BL scenario.</i>	<p><i>Description:</i></p> <p>The original baseline was determined according to the UNFCCC approved large scale methodology ACM0001, version 12.0.0.</p> <p>The scenario existing prior to the start of the implementation of the project activity which is the same as baseline scenario, i.e., the Greenhouse Gas of landfill gas generated from the landfills is released to air without any recovery and the electricity supplied to the grid by the project activity that otherwise would have been generated by the operation of grid-connected power plants and by the addition of new generation sources.</p> <p><i>Justification of evidences:</i></p> <p>By means of document check and on-site investigation.</p>	/unfccc/ /CPM/ /PDD/ /ACM1/ /PRCP/ /TRCP/ /VVM/ /CMSW/ /SCLW/ /IM01/ /GEF/ /PDDO/	CAR B3	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (Means and results of assessment)	Ref.	Draft Concl.	Final Concl.
	<i>Conclusion:</i> However, CAR B3 was raised.			
B.2.1.2. Step 1.1: Assess compliance of the current baseline with relevant mandatory and/or sectoral policies Does the current baseline comply with all relevant mandatory national and/or sectoral policies which came into effect after the submission of the project activity for validation or the submission of the previous request for renewal of the crediting period and are applicable at the time of requesting renewal of the crediting period? <i>If yes go to step 1.2, otherwise the baseline needs to be updated.</i> <i>Describe how this issue was validated.</i>	<i>Description:</i> CAR B3 needs further justification. <i>Justification of evidences:</i> By means of document check and on-site investigation. <i>Conclusion:</i> The baseline scenario has not been changed during the second crediting period and is in compliance with sectoral policies applicable at the time of requesting renewal of the crediting period. But please refer to CAR B3.	/unfccc/ /PDD/ /ACM1/ /PRCP/ /TRCP/ /VVM/ /CMSW/ /SCLW/ /IM01/ /GEF/ /PDDO/	CAR B3	OK
B.2.1.3. Step 1.2: Assess the impact of circumstances Do new circumstances existing at the time of requesting renewal of the crediting period make the continued validity of the baseline not plausible? <i>Assess the impact of circumstances existing at the time of</i>	<i>Description:</i> CAR B3 needs further justification. <i>Justification of evidences:</i> By means of document check and on-site investigation. <i>Conclusion:</i> The new circumstances do not have an impact on the baseline	/unfccc/ /PDD/ /ACM1/ /PRCP/ /TRCP/ /VVM/ /CMSW/ /SCLW/	CAR B3	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (Means and results of assessment)	Ref.	Draft Concl.	Final Concl.
<p><i>requesting renewal of the crediting period on the current baseline emissions, without reassessing the baseline scenario. If new circumstances make the continued validity not plausible, then the current baseline needs to be updated for the subsequent crediting period.</i></p> <p><i>Describe how this issue was validated.</i></p>	<p>scenario.</p> <p>But please refer to CAR B3.</p>	<p>/IM01/ /GEF/ /PDDO/</p>		
<p>B.2.1.4. Step 1.3: Assess whether the continuation of the use of current baseline equipment(s) is technically possible –</p> <p>Does the remaining lifetime of the current equipment that would continue to be used exceeds the crediting period for which renewal is requested (more 7 years)?</p> <p><i>The step should only be applied if the identified baseline in the previous crediting period was the continuation of the current practice.</i></p> <p><i>Describe the steps taken to validate the remaining lifetime.</i></p>	<p><i>Description:</i></p> <p>CAR B3 needs further justification.</p> <p><i>Justification of evidences:</i></p> <p>By means of document check and on-site investigation.</p> <p><i>Conclusion:</i></p> <p>Referring to the applied methodology, the baseline scenario is the Greenhouse Gas of landfill gas (the main content is methane) generated from the landfills is released to air.</p> <p>The remaining lifetime of the equipment is 28 years as it has already been validated in the PDD applicable during the 1st crediting period at the time of registration. So the baseline equipments would continue to operate throughout the 2nd crediting period.</p> <p>But please refer to CAR B3.</p>	<p>/unfccc/ /PDD/ /ACM1/ /PRCP/ /TRCP/ /VVM/ /CMSW/ /SCLW/ /IM01/ /GEF/ /PDDO/ /TRLE/</p>	CAR B3	OK
<p>B.2.1.5. Step 1.4: Assessment of the validity of the data and parameters –</p>	<p><i>Description:</i></p> <p>CAR B3 and CL B4 need further justification.</p>	<p>/unfccc/ /PDD/ /ACM1/</p>	CAR B3, CL B4	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (Means and results of assessment)	Ref.	Draft Concl.	Final Concl.
<p>Are all data and parameters that were only determined at the start of the (previous) crediting period and not monitored during the (previous) crediting period still valid or should they be updated?</p> <p><i>Updates should be undertaken:</i></p> <ul style="list-style-type: none"> Where IPCC default values are used, the values should be updated if any default values have been adopted and published by the IPCC; Where emission factors, values or emission benchmarks are used and determined only once for the crediting period, they should be updated, except if the emission factors, values or emission benchmarks are based on the historical situation at the site of the project activity prior to the implementation of the project and cannot be updated because the historical emission does not exist anymore as a result of the CDM project activity <p><i>If any of the data and parameters that were only determined at the start of the crediting period and not monitored are not valid anymore, the current baseline needs to be updated for the subsequent crediting period.</i></p> <p><i>If the application of steps 1.1, 1.2, 1.3 and 1.4 confirm that the current baseline as well as data and parameters are still valid for the subsequent crediting period, then this baseline, data and parameters can be used for the renewed crediting</i></p>	<p><i>Justification of evidences:</i></p> <p>By means of document check and on-site investigation.</p> <p><i>Conclusion:</i></p> <p>As assessed from the section B.6.2. of the revised PDD, the parameters which remain fixed for the entire crediting period are instrumental in the determination of emission reductions.</p> <p>For the proposed second crediting period,</p> <ol style="list-style-type: none"> The grid emission factor is updated based on the most recent version of the official database for the Grid Emission Factor (CSPG) published by the Chinese DNA on 2011-10-20^{GEF}. The determination of baseline emission factor is assessed as correct and in line with the steps described under the "Tool to calculate the emission factor for an electricity system (version 02.2.1)"^{TEF}. The IPCC default values and the default value for the model correction factor to account for model uncertainties (ϕ_y) are updated for the second crediting period within the project boundary. <p>However, please refer to CAR B3 and CL B4.</p>	<p>/PRCP/ /TRCP/ /VVM/ /CMSW/ /SCLW/ /IM01/ /GEF/ /PDDO/</p>		

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (Means and results of assessment)	Ref.	Draft Concl.	Final Concl.
<i>period. Otherwise, proceed to Step 2.</i>				
B.2.2. Step 2: Update of the current baseline and the data and parameters <i>This step is only applicable if any of the Steps 1.1, 1.2, 1.3 and/or 1.4 showed that the current baseline needs to be updated.</i>				
B.2.2.1. Step 2.1: Update the current baseline – Have the baseline been updated according to the latest approved version of the methodology? <i>The procedure shall be applied in the context of the sectoral policies and circumstances that are applicable at the time of request for renewal of the crediting period. .</i>	<i>Description:</i> CAR B3 needs further justification. <i>Justification of evidences:</i> By means of document check and on-site investigation. <i>Conclusion:</i> The baseline has not been changed during the second crediting period and is in compliance with sectoral policies applicable at the time of requesting renewal of the crediting period..Please refer to CAR B3.	/unfccc/ /PDD/ /ACM1/ /PRCP/ /TRCP/ /VVM/ /CMSW/ /SCLW/ /IM01/ /GEF/ /PDDO/	CAR B3	OK
B.2.2.2. Step 2.2: Update the data and parameters Have all data and parameters that were identified in Step 1.4 above as not valid anymore been updated ? <i>Guidance in Step 1.4 shall be followed.</i>	<i>Description:</i> CAR B3 and CL B4 need further justification. <i>Justification of evidences:</i> By means of document check and on-site investigation. <i>Conclusion:</i>	/unfccc/ /PDD/ /ACM1/ /PRCP/ /TRCP/ /VVM/	CAR B3, CL B4	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (Means and results of assessment)	Ref.	Draft Concl.	Final Concl.
	Yes, the grid emission factor and the IPCC default values as well as the default value for the model correction factor to account for model uncertainties (ϕ) have been updated for the second crediting period as described in Table B-3 of the PDD. But please refer to CAR B3 and CL B4.	/CMSW/ /SCLW/ /IM01/ /GEF/ /PDDO/		
B.3. Ex-Ante Calculation of GHG Emission Reductions <i>It is assessed whether the ex-ante calculations of project emissions, baseline emissions, leakage emissions are stated according to the methodology and whether the argumentation for the choice of default factors and values – where applicable – is justified. Furthermore calculation of emission reductions shall be assessed.</i>				
B.3.1. Are the equations applied correctly according to the applied approved methodology? <i>Describe clearly the steps taken to assess whether The methodology has been applied correctly to calculate project emissions, baseline emissions, leakage and emission reductions.</i>	<input type="checkbox"/> The equations applied for calculation are correctly applied according to the approved methodology. <input checked="" type="checkbox"/> The following mistakes have been identified in this context: <i>Description:</i> Ex-ante estimation of amount of methane used for LFG power generation in section B.6.1 is totally different from the emission reduction calculation method addressed in ACM0001 version 12.0.0, please see CL B5. Also see CL B4, CAR B7, CAR B8 and CAR B9.	/PDD/ /ACM1/ /ER/ /LIR/ /IPCC/ /TEC/ /TEF/ /GEF/ /TEFG/ /TESW/	CL-B4, CL-B5, CAR B7, CAR B8, CAR B9	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (Means and results of assessment)	Ref.	Draft Concl.	Final Concl.
	<i>Justification of evidences:</i> By means of document check and on-site investigation. <i>Conclusion:</i> Please refer to CL B4, CL B5, CAR B7, CAR B8 and CAR B9.	/TFF/ /TMF/ /PDDO/		
<p>B.3.2. In case the methodology allows for different methodological choices, are the equations applied properly justified and have they been used reflecting the other methodological choices (i.e. baseline identification)?</p> <p><i>Describe whether proper justification has been provided (based on the choice of the baseline scenario, context of the project activity and other evidence provided) and whether the correct equations have been used reflecting the relevant methodological choices.</i></p>	<i>Description:</i> CL B4, CL B5, CAR B7, CAR B8 and CAR B9 need further justification. <i>Justification of evidences:</i> By document check and on-site validation. <i>Conclusion:</i> The applied methodology extends the GHG calculation approach “Tool to calculate baseline, project and/or leakage emissions from electricity consumption”, version 01, EB39 for the determination of emission reductions. Please refer to CL B4, CL B5, CAR B7, CAR B8 and CAR B9.	/PDD/ /ACM1/ /ER/ /LIR/ /IPCC/ /TEC/ /TEF/ /GEF/ /TEFG/ /ESW/ /TFF/ /TMF/ /PDDO/	CL B4, CL B5, CAR B7, CAR B8, CAR B9	
<p>B.3.3. Have conservative assumptions been used when calculating the project emissions?</p> <p><i>Describe clearly the steps taken to assess whether all the assumptions and data used by the PP are listed in the PDD including references and sources and are conservatively interpreted in the PDD.</i></p>	<i>Description:</i> CL B4, CL B5, CAR B7, CAR B8 and CAR B9 need further justification. <i>Justification of evidences:</i> By means of document check and on-site observation.	/PDD/ /ACM1/ /ER/ /LIR/ /IPCC/ /TEC/ /TEF/	CL B4, CL B5, CAR B7, CAR B8, CAR	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (Means and results of assessment)	Ref.	Draft Concl.	Final Concl.
	<p><i>Conclusion:</i></p> <p>The emission factors related to the project emission calculations have been taken from IPCC 2006 database and the quantity of electricity consumption has been directly taken from consumption data.</p> <p>However please refer to CL B4, CL B5, CAR B7, CAR B8 and CAR B9.</p>	/GEF/ /TEFG/ /TESW/ /TFF/ /TMF/ /PDDO/	B9	
<p>B.3.4. Are all data and parameters which remain fixed throughout the crediting period correct, applicable to the project and will lead to a conservative estimation of emission reductions?</p> <p><i>Describe clearly the steps taken to assess whether the values used for the fixed parameters are considered reasonable, correct and applicable in the context of the project activity. Check esp. chapter 6.2 of the PDD.</i></p>	<p><i>Description:</i></p> <p>The various parameters have been taken from the applied approved baseline and monitoring methodology ACM0001, version 12.0.0. The related data for these parameters is sourced from the official and publically available resources, IPCC, Chinese DNA and MESAB, etc.</p> <p><i>Justification of evidences:</i></p> <p>The validation is performed by means of cross-check of the methodology, emission reduction calculation, and the relevant evidences.</p> <p><i>Conclusion:</i></p> <p>Please refer to CL B4, CL B5, CAR B7, CAR B8 and CAR B9.</p>	/PDD/ /ACM1/ /ER/ /LIR/ /IPCC/ /TEC/ /TEF/ /GEF/ /TEFG/ /TESW/ /TFF/ /TMF/ /PDDO/	CL B4, CL B5, CAR B7, CAR B8, CAR B9	OK
<p>B.3.5. Are all ex-ante calculation values for monitoring parameters (as defined as per chapter B.7.1) reasonable?</p>	<input type="checkbox"/> All "Values of data to be applied for the purpose of calculating expected emissions reductions" are considered to be reasonable, applicable and	/PDD/ /ACM1/ /ER/	CL B4, CL B5, CAR	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (Means and results of assessment)	Ref.	Draft Concl.	Final Concl.
<i>Describe clearly the steps taken to assess whether the values used for the monitoring parameters are considered reasonable, applicable and conservative in the context of the project activity</i>	conservative. <input checked="" type="checkbox"/> The following mistakes have been identified in this context: Please refer to CL B4, CL B5, CAR B7, CAR B8 and CAR B9.	/LIR/ /IPCC/ /TEC/ /TEF/ /GEF/ /TEFG/ /TESW/ /TFF/ /TMF/ /PDDO/	B7, CAR B8, CAR B9	
B.3.6. Are the emission reductions real, measurable and give long-term benefits related to the mitigation of climate change. <i>Describe the steps taken to validate this issue.</i>	<i>Description:</i> The emission reductions are calculated in terms of replacing the same amount electricity generation by combustion of fossil fuels and avoiding of CH ₄ emissions during the project lifetime. <i>Justification of evidences:</i> The validation is performed by means of cross-check of methodology, emission reduction calculation and the relevant evidences. <i>Conclusion:</i> The emission reductions are real, measurable and give long-term benefits related to the mitigation of climate change. The baseline emissions are attributable to the net electricity exported to the grid while the project emissions are accountable for the on-site electricity consumption within the project boundary. But please refer to CL B4, CL B5, CAR B7, CAR B8 and CAR B9.	/PDD/ /ACM1/ /ER/ /LIR/ /IPCC/ /TEC/ /TEF/ /GEF/ /TEFG/ /TESW/ /TFF/ /TMF/ /PDDO/	CL B4, CL B5, CAR B7, CAR B8, CAR B9	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (Means and results of assessment)	Ref.	Draft Concl.	Final Concl.
B.4. Monitoring of Emission Reductions <i>It is assessed whether the monitoring plan is appropriate for the project activity and in line with the applied methodology.</i>				
<p>B.4.1. Are all monitoring parameters required by the applied methodology contained in the monitoring plan?</p> <p><i>Assess whether all applicable parameters listed in the methodology are included in the monitoring plan.</i></p> <p><i>Pl. check further whether the selection of parameters not to be monitored (section B.6.2) is appropriate and in line with the applied methodology.</i></p> <p><i>In case of different approaches can be chosen acc. to the methodology assess whether the selection of parameters is justified and correct.</i></p>	<p><i>Description:</i></p> <p>The monitoring parameters are listed in section B.7. of the PDD. Not all the monitoring parameters required by the applied methodology ACM0001, version 12.0.0 that are fixed ex-ante and that will be monitored during the crediting period are contained in the monitoring plan.</p> <p><i>Justification of evidences:</i></p> <p>By means of methodology and PDD checking, as well as on-site validation. It is observed that there are some mistakes are found and some information is missing in the Section B.7.</p> <p><i>Conclusion:</i></p> <p>Please refer to CAR B6, CAR B10 and CAR B11.</p>	/PDD/ /ACM1/ /ER/ /LIR/ /IPCC/ /TEC/ /TEF/ /GEF/ /TEFG/ /TESW/ /TFF/ /TMF/ /PDDO/	CAR B6, CAR B10, CAR B11	OK
<p>B.4.2. Are the means of monitoring of all parameters contained in the monitoring plan in accordance with the requirements of the applied methodology?</p> <p><i>Assess whether the provided information for all parameters</i></p>	<p><i>Description:</i></p> <p>The means of monitoring of all parameters contained in the monitoring plan are insufficient as per the requirements of the applied methodology.</p>	/PDD/ /ACM1/ /ER/ /LIR/ /IPCC/	CAR B6, CAR B10, CAR	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (Means and results of assessment)	Ref.	Draft Concl.	Final Concl.
<p>w.r.t.</p> <ul style="list-style-type: none"> a) Label (name of the data / parameter) b) data unit c) description d) source of data e) measurement equipment / method / procedure f) monitoring frequency g) QA/QC procedures <p>are appropriately described and in compliance with the requirements of the methodology..</p>	<p><i>Justification of evidences:</i></p> <p>By means of methodology and PDD checking, as well as on-site validation. It is observed that there are some mistakes found and some information is missing in Section B.7.</p> <p><i>Conclusion:</i></p> <p>Please refer to CAR B6, CAR B10 and CAR B11.</p>	<p>/TEC/ /TEF/ /GEF/ /TEFG/ /TESW/ /TFF/ /TMF/ /PDDO/</p>	B11	
<p>B.4.3. Have all equations necessary for ex-post emission reduction calculation been described clearly and in line with the methodology?</p> <p><i>Check whether all necessary equations have been provided in the PDD. Pl. consider that ex-post and ex-ante calculations might be different.</i></p> <p><i>Please consider that additional equations might be necessary to calculate auxiliary parameters.</i></p>	<p><i>Description:</i></p> <p>Some equations necessary for ex-post emission reduction calculation have not been described clearly and are not in line with the methodology.</p> <p><i>Justification of evidences:</i></p> <p>By means of methodology and PDD checking, as well as on-site validation.</p> <p><i>Conclusion:</i></p> <p>Please refer to CAR B6, CAR B10 and CAR B11.</p>	<p>/PDD/ /ACM1/ /ER/ /LIR/ /IPCC/ /TEC/ /TEF/ /GEF/ /TEFG/ /TESW/ /TFF/ /TMF/ /PDDO/</p>	CAR B6, CAR B10, CAR B11	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (Means and results of assessment)	Ref.	Draft Concl.	Final Concl.
<p>B.4.4. Is it likely that the monitoring arrangements described in the PDD can properly be implemented in the context of the project activity?</p> <p><i>Assess whether the described monitoring arrangements are sufficient and realistic to enable a thorough monitoring. Pl. consider also special monitoring conditions, e.g. downtimes of monitoring equipment etc.</i></p>	<p><i>Description:</i> CAR B6, CAR B10 and CAR B11 need further justification.</p> <p><i>Justification of evidences:</i> By means of methodology and PDD checking, as well as on-site validation.</p> <p><i>Conclusion:</i> Please refer to CAR B6, CAR B10 and CAR B11.</p>	<p>/PDD/ /ACM1/ /ER/ /LIR/ /IPCC/ /TEC/ /TEF/ /GEF/ /TEFG/ /TESW/ /TFF/ /TMF/ /PDDO/</p>	<p>CAR B6, CAR B10, CAR B11</p>	OK
<p>B.4.5. Are the QA/QC procedures appropriate sufficient to ensure the emission reductions achieved from the project activity can be reported ex-post and verified?</p> <p><i>Please consider the description given in section B.7.2. Describe which QA/QC provisions are considered. Address Quality Management System provisions, calibration and maintenance of equipment. Address further any review procedures.</i></p>	<p><i>Description:</i> CAR B6, CAR B10 and CAR B11 need further justification.</p> <p><i>Justification of evidences:</i> By means of methodology and PDD checking, as well as on-site validation.</p> <p><i>Conclusion:</i> The internal audit procedures are in place at site which are carried out every year at the site by the top management personnel who are not the part of direct monitoring. But please refer to CAR B6, CAR B10 and CAR B11.</p>	<p>/PDD/ /ACM1/ /ER/ /LIR/ /IPCC/ /TEC/ /TEF/ /GEF/ /TEFG/ /TESW/ /TFF/ /TMF/ /PDDO/</p>	<p>CAR B6, CAR B10, CAR B11</p>	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (Means and results of assessment)	Ref.	Draft Concl.	Final Concl.
<p>B.4.6. Are procedures identified for data management?</p> <p><i>Check whether appropriate provisions are considered for data management including responsibilities, what records to keep, storage area of records and how to process performance documentation</i></p> <p><i>Check further the data archiving provisions for the project activity and ensure that provisions are made to archive data for the whole crediting period + 2 years.</i></p>	<p><i>Description:</i></p> <p>The monitored data will be kept during the whole crediting period and 2 years after. Operational and management structure for data management at sites have been described appropriately and are continued as it is from the 1st crediting period. The revised PDD describes the same. This was verified at site during the on-site assessment and interviews with the plant as well as Shenzhen PhasCon Technologies Co., Ltd. personnel.</p> <p><i>Justification of evidences:</i></p> <p>By means of PDD, methodology checking and on-site investigation.</p> <p><i>Conclusion:</i></p> <p>Please refer to CAR B6, CAR B10 and CAR B11.</p>	<p>/PDD/ /ACM1/ /ER/ /LIR/ /IPCC/ /TEC/ /TEF/ /GEF/ /TEFG/ /TESW/ /TFF/ /TMF/ /PDDO/</p>	<p>CAR B6, CAR B10, CAR B11</p>	OK
<p>C. Duration of the Project/ Crediting Period</p> <p><i>It is assessed whether the temporary boundaries of the project are clearly defined.</i></p>				

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (Means and results of assessment)	Ref.	Draft Concl.	Final Concl.
<p>C.1. Is the start of the crediting period clearly defined and reasonable?</p> <p><i>Check whether the envisaged starting date of the crediting period is realistic, taking into consideration the times needed for validation and registration.</i></p>	<p><i>Description:</i></p> <p>The starting date of the second crediting period is 2012-09-01, which is appropriately and clearly defined. As per “Procedures for Renewal of the crediting period of a registered CDM project activity (version 06.0)” i.e., EB 63 Annex 29, the start date of the renewed crediting period is the first day after the end date of the previous crediting period. 2012-09-01, after the end date of the first crediting period 2012-08-31 is considered as reasonable.</p> <p><i>Justification of evidences:</i></p> <p>By means of document check.</p> <p><i>Conclusion:</i></p> <p>The start of the crediting period 2012-09-01 is reasonable.</p>	<p>/PDD/ /ACM1/ /unfccc/ /PRCP/</p>	<p>OK</p>	<p>OK</p>

ANNEX 2: APPOINTMENT CERTIFICATES OF TEAM MEMBERS**Statement of Competence**
Appointment and authorization according to the procedures
of the TÜV NORD JI/CDM Certification Program**Ms. Xuemei Li**

SCHEME	STATUS	VALID UNTIL
CDM	Lead Assessor (Validation, Verification)	2015-10-25
VCS / ISO 14064-2	Lead Assessor	2015-10-25

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
1.2	Renewable energies
13.2	Animal Waste Management
15.2	Animal Waste Management

285 – Rev. 3, Date: 2012-10-26

285_S01-F003_2012-10-26_rev3.doc

S01-F003 rev2 / 2012-04-05

Statement of Competence
Appointment and authorization according to the procedures
of the TÜV NORD JI/CDM Certification Program**Ms. Seifang Yu**

SCHEME	STATUS	VALID UNTIL
CDM	Assessor (Validation, Verification)	2014-09-21
VCS	Assessor	2014-09-21

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
13.1	Waste handling and disposal

286 – Rev. 0, Date: 2011-09-22

286_S01-F003_2011-09-22_rev0

S01-F003 rev1 / 2011-08-02

Statement of Competence
Appointment and authorization according to the procedures
of the TÜV NORD JI/CDM Certification Program**Mr. Yongjun Li**

SCHEME	STATUS	VALID UNTIL
CDM	Senior Assessor (Validation, Verification) Technical Reviewer	2013-06-26
VCS / ISO 14064-2	Senior Assessor (Validation, Verification) Technical Reviewer	2013-06-26

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA	TR SUBCATEGORIES
1.2	Renewable Energies	1.2.1 Hydro 1.2.2 Wind 1.2.3 Geothermal 1.2.4 Solar 1.2.5 Tidal
13.1	Waste Handling and Disposal	

039 – Rev. 1, Date: 2012-09-11

039_S01-F003_2012-09-11_rev1.doc

S01-F003 rev2 / 2012-04-05



Statement of Competence
Appointment and authorization according to the procedures
of the TÜV NORD JI/CDM Certification Program

Mr. Dr. Jochen Schubert

SCHEME	STATUS	VALID UNTIL
CDM	Senior Assessor (Validation, Verification) Technical Reviewer	2014-05-11
VCS	Senior Assessor (Validation, Verification) Technical Reviewer	2014-05-11

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA	TR INCLUDE SUB-AREAS
1.2	Renewable Energies	1.2.1 Hydro 1.2.2 Wind 1.2.3 Geothermal 1.2.4 Solar 1.2.5 Tidal
13.1	Waste handling and disposal	13.1.1 Waste management 13.1.2 Waste water management

056 – Rev. 2, Date: 2011-07-29

056_S01-F003_2011-07-29_rev2

S01-F003 rev2 / 2010-04-19

Statement of Competence
Appointment and authorization according to the procedures
of the TÜV NORD JI/CDM Certification Program

Ms. Büsran Grünwald

SCHEME	STATUS	VALID UNTIL
CDM	Lead Assessor (Validation, Verification)	2015-06-05
VCS / ISO 14064-2	Lead Assessor	2015-06-05

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA	TR SUBCATEGORIES
1.2	Renewable energies	1.2.1 Hydro 1.2.2 Wind 1.2.3 Geothermal 1.2.4 Solar 1.2.5 Tidal

245 – Rev. 2, Date: 2012-06-06

245_S01-F003_2012-06-06_rev2.doc

S01-F003 rev2 / 2012-04-05