

**Validation Report**



# **CDM PoA Validation Report**

## **SOUTH EAST ASIA BIOGAS PROGRAMME OF ACTIVITIES**

**GLC Report No: 178, Rev. 04**

# Validation Report

South East Asia Biogas Programme of Activities

GLC Report No. 178, Rev. 04



Organisational Unit Germanischer Lloyd Certification GmbH (GLC), Greenhouse Gas Services		
Client "South Pole Carbon Asset Management Ltd."	Client reference person Francisco Koch	
Summary:		
<b>PoA-DD:</b>	SOUTH EAST ASIA BIOGAS PROGRAMME OF ACTIVITIES	
<b>Generic CPA-DD:</b>	"South East Asia Biogas Programme of Activities : << >> Biogas to Electricity Project - CPA Number: << >>"	
<b>Project Host Country(ies):</b>	Party name Republic of Indonesia	Party directly involved as PP? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>Annex I Country(ies):</b>	Switzerland	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	Netherlands	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>Coordinating / Managing Entity (CME) and Project Participants (PP):</b>	CME: PT. Biogas Program International PP: South Pole Carbon Asset Management Ltd. PP: E.ON Carbon Sourcing GmbH	
<b>Sectoral Scope(s), Technical Area(s)</b>	CDM Sectoral Scope 1, Technical Area 1.1 CDM Sectoral Scope 13, Technical Area 13.1	
<b>Methodology(ies) / Version(s):</b>	AMS-III.H / version 16 and AMS I.D / version 17	
<b>Project Size:</b>	<input type="checkbox"/> Large Scale	<input checked="" type="checkbox"/> Small Scale
<b>ER Estimation of 1<sup>st</sup> CPA:</b>	134,890 t CO <sub>2eq</sub> (total over 1 <sup>st</sup> 7-year crediting period)	19,270t CO <sub>2eq</sub> (annual average over 1 <sup>st</sup> 7-year crediting period)
<b>Start date of the PoA and the crediting period:</b>	01/09/2012 (or on the date of registration, whichever is later)	
<b>PoA Duration:</b>	28 years (no longer than 28 years or 60 years for A/R PoA)	
<b>CPA Crediting Period:</b>	<input checked="" type="checkbox"/> Fixed (10 years)	<input checked="" type="checkbox"/> Renewable (7years)
<b>Validation opinion:</b>	<input checked="" type="checkbox"/> Positive <input type="checkbox"/> Negative	
<b>Project Assessment Team:</b> Jose Emilio Moreno, Ellen Goel Hang Zhou, Syaiful Hidayat Ravindra Kathale	<b>Technical Review Team:</b> Jun Wang, Stephen Etheridge, Markus Weber	<b>Final Approval by:</b> Markus Weber
Date of this revision:	Revision No.	Number of pages
2012-07-12	04	246
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## History of report revisions:

Rev.	Date	Person (short sign or name)	Function	Action
01	2012-02-10	Elgo/Jmor/Hang Zhou/ R. Kathale	Auditor/ATL/TE/FE	Preparation of Draft Report
02	2012-02-24	Jun Wang/ Stephen Etheridge	Reviewer/ Review expert	Review with comments
03	2012-07-12	Elgo/Jmor	Assessment team/ATL	TR comments addressed
04	2012-07-12	Markus Weber	Final Reviewer / Approver	Final review and approval

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## Abbreviations

CAR	Corrective Action Request
CDM	Clean Development Mechanism
CDM-EB	CDM Executive Board (the board)
CER	Certified Emission Reduction
CH <sub>4</sub>	Methane
CL	Clarification request
CME	Coordinating / Managing Entity
CMP	Meeting of the Parties to the Kyoto Protocol
CO <sub>2</sub>	Carbon dioxide
CO <sub>2</sub> eq	Carbon dioxide equivalent
COP/MOP	The Conference of the Parties to the United Nations Framework Convention on Climate Change serving as the Meeting of the Parties to the Kyoto Protocol
CPA	CDM programme activity
DNA	Designated National Authority
DOE	Designated Operation Entity
EC	Eligibility Criteria
EIA	Environmental Impact Assessment
FAR	Forward Action Request
gCPA	Generic CDM programme activity
GSC	Global Stakeholder Consultation
GHG	Greenhouse gas
GLC	Germanischer Lloyd Certification GmbH
GWP	Global Warming Potential
IPCC	Intergovernmental Panel on Climate Change
ISO	International Standard Organisation
LoA	Letter of Approval
NGO	Non-governmental Organisation
ODA	Official development assistance
O&M	Operation and maintenance
PDD	Project Design Document
PoA	Programme of activities
PP	Project Participant (s)
RKS	Record Keeping System
rCPA	real-case CDM programme activity
SEA	South East Asia
SSC	Small Scale
tbd	To be decided
UNFCCC	United Nations Framework Convention on Climate Change
w.r.t	With respect to

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## 1 INTRODUCTION

"South Pole Carbon Asset Management Ltd." has commissioned Germanischer Lloyd Certification GmbH (GLC) to perform the validation of the "South East Asia Biogas Programme of Activities" (hereafter called "the PoA"). This validation report summarizes the findings of the validation of the PoA, performed on the basis of UNFCCC criteria for the CDM and PoA, as well as criteria given to provide for consistent project operations, monitoring and reporting. UNFCCC criteria refer to Article 12 of the Kyoto Protocol, the CDM modalities and procedures and the subsequent decisions made by COP/MOP and the CDM Executive Board.

### 1.1 Objective

The purpose of a validation is to have an independent third party assess the project design. In particular, the project's baseline, monitoring plan, and the project's compliance with relevant UNFCCC and host Party criteria are validated by a Designated Operational Entity (DOE) in order to confirm that the project design, as described in the following documents:

- a completed Clean Development Mechanism Programme of Activities Design Document Form (the "PoA-DD");
- a completed PoA-specific Clean Development Mechanism Program Activity Design Document Form (the "CPA-DD form") with generic information relevant to all CPAs (the "generic CPA-DD");
- a completed CPA-DD which is to be based on the application of the PoA to one real case (the "specific (real case) CPA-DD")<sup>1</sup>, and
- relevant supporting documents,

is sound and reasonable and meets the identified criteria. Validation is a requirement for all CDM projects and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of certified emission reductions (CERs). The executing DOE can only provide a validation/inclusion opinion but the ultimate decision whether a PoA is registered or not rests with the CDM Executive Board (CDM-EB).

### 1.2 Scope and Criteria

The validation scope is defined as an independent and objective review of the PoA-DD, generic CPA-DD and the specific (real case) CPA-DD (together hereafter referred to as "PDDs") and supporting documentation. The PDDs and supporting documentation are reviewed against the criteria stated in Article 12 of the Kyoto Protocol, the CDM modalities and procedures as agreed in the Marrakech Accords and the relevant decisions by the CDM Executive Board, including the approved consolidated baseline and monitoring methodology AMS-III.H / version 16 and AMS I.D / version 17. The validation was based on the recommendations and guidance of the Validation and Verification Manual <sup>NVM</sup> and all PoA related CDM requirements.

<sup>1</sup> A separate validation report is provided for the inclusion of the specific (real case) CPA to the PoA.

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



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## 2 VALIDATION TEAM

### 2.1 Assessment Team

A competent team with relevant knowledge and experience in the specific scopes and sectors was appointed by GLC. The appointment of the team takes into account the required scope, technical area, knowledge of the host country and general project activity knowledge requirements for validating the PoA design and the relevant CERs will be achieved by the CPA(s) under the PoA. The appointment of the audit team also includes a screening of everyone involved against any conflict of interest. The assessment team is composed of an Assessment Team Leader (ATL), Auditors (A) and Host Country (LE) or Technology Expert (TE). Table 2-1 below shows the composition of the assessment team their qualifications and/or functions.

Table 2-1: Validation team members, qualification and knowledge

Name (Family name, given name)	Function <sup>2</sup>	Sectoral scope specific knowledge	Technical area specific knowledge	Local knowledge	Type of involvement				
					Desk review	On-site visit / interviews	Reporting	Supervision of work	Expert input
Moreno, Jose Emilio	ATL	X	X					X	X
Goel, Ellen	A				X	X	X		
Hidayat, Syaiful	LE			X	X	X			X
Kathale, Ravindra	FE				X				X
Zhou, Hang	TE	X	X		X	X	X		X

<sup>2</sup> ATL: Assessment Team Leader; A: Auditor; TA: Trainee auditor, LE: Local Expert, TE: Technical Expert, FE: Financial Expert;

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## 2.2 Technical Review and Final Approval Team

Before submission of the final Validation Report to the CDM EB of the UNFCCC, a technical review of the whole validation procedure and the draft report was carried out by GLC appointed Technical Review (TR) team. The TR team is composed of competent GHG auditors for the sectoral scope and technical area this PoA falls under. Each involved reviewer is not directly involved in the validation assessment up to the start of the internal technical review phase of this PoA.

As a result of the internal TR process, the validation opinion and the topic specific assessments as prepared by the validation's assessment team leader may be confirmed or revised. Furthermore, reporting improvements might be achieved. Finally, the PoA-DD, CPA-DD (generic and real case), validation report and any document to be submitted to the EB have to undergo an internal quality control and completeness check before they are approved to be uploaded to start the request for registration of the validated CDM project activity.

The Technical Review team and the person responsible for approval of the report are found in the table below:

Table 2-2: Technical Review and Approval Team.

Name (Family name, given name)	Qualification / Function <sup>3</sup>	Technical Area Knowledge	Sectoral Scope Expertise	Type of Involvement	
				Review	Approval
Wang, Jun	R			X	
Etheridge, Stephen	TE	X	X	X	
Weber, Markus	FR+FA	X	X	X	X

<sup>3</sup> T: Trainee, R: Reviewer, TE: Technical Expert, FR: Final Reviewer, FA: Final Approval.

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## 3 METHODOLOGY

The validation consists of the following phases:

- I Desk review of the PoA-DD, generic CPA-DD and specific (real case) CPA-DD documentation and supporting documents. This includes the preliminary compliance check of the PoA design against the applicability conditions and with regard to baseline identification and eligible project measures, monitoring of emission reductions, as well as completeness and sufficiency the Eligibility Criteria (EC) designed for CPA Inclusions.
- II On-site assessment and follow-up interviews (through email communications, telephone calls, etc.) with project stakeholders
- III Resolution of outstanding issues and the issuance of the final validation report and opinion
- IV Technical review of the draft validation report and other supporting documentation in order to ensure the correctness, completeness and comprehensiveness of the reporting.
- V Finally the report and supporting documentation has to be approved by a competent person before they are submitted to CDM-EB for request for registration.

This final validation report summarizes the findings after all phases of the validation. The following sections outline each step in more details.

### 3.1 Desk Review of the PDDs and Supporting Documents

The initial versions of the PDDs as well as supporting documents are assessed in the context of a desk-review in order to verify the correctness, credibility and interpretation of the presented information. A further crosscheck of the information provided was done with information from other sources as available. Preliminary findings from the desk review were sent to the PPs together with the audit plan to prepare for the subsequent on-site visit.

Desk review is based on the first versions of the PDDs which were uploaded for Global Stakeholder Consultation (GSC).

A complete list of documentation reviewed during the validation is presented in Section 6.

### 3.2 On-Site Assessment and Follow-Up Interviews with Project Stakeholders

From 12 October 2011 to 16 October 2011 Ellen Goel, Hang Zhou and Syaiful Hidayat from GLC's validation team conducted out an on-site visit to the local office of the CPA host:

- PT. Bahari Dwikencana Lestari, Jl. Kapt. Sumarsono No. 68 Helvetica, Medan, Republic of Indonesia;

to the first CPA's project location:

- PT. Bahari Dwikencana Lestari, Alur Manis Village, Rantau Subdistrict, Aceh Tamiang district, Nanggroe Aceh Darussalam province;

and to another baseline plant at:

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- PT Perkebunan Nusantara I (Persero) Tanjung Seumantoh Jl. Kebun Baru I Langsa 24451 Nanggroe Aceh Darussalam province.

In the context of such on-site visits, GLC performed visual inspection to the 1<sup>st</sup> CPA site, assessment of PoA and 1<sup>st</sup> CPA related documents provided by the project participants. The members of the validation team also conducted interviews with representative stakeholders in order to confirm selected information and to resolve issues earlier identified during the desk review of documents. The main topics of the interviews and interviewed persons are summarized in the Table 3-1.

- *PoA design and adopted technology*
- *Demonstration of additionality (including prior CDM consideration)*
- *GHG emission reduction calculations*
- *Application of the monitoring methodology as well as expected design and application of the monitoring plan*
- *List of monitoring parameters and location of measurements*
- *Assessment of environmental licensing and legal compliance*
- *Stakeholder consultation process*
- *Programme overview, and detailed explanation about the CPA's relevant technical aspects*
- *CPA implementation schedule*

Table 3-1: Interviewed Persons

Name	Organization/Function
Paul Butarbutar	PT. Biogas Program International, Director (CME)
Mahader Hassan	Green Energy Specialist Pte. Ltd., Managing Director (CPA implementer)
Tugimun	PT. Bahari Dwikencana Lestari, Engineering Head (Owner of Palm Oil Mill)
H. Samali	PT. Bahari Dwikencana Lestari, Mill Manager
Ratna Nawang Sari	South Pole Carbon Asset Management Ltd., CDM Project Manager (CDM Consultant)
Sandeep Kanda	South Pole Carbon Asset Management Ltd., Technical Portfolio Director (CDM Consultant)
<b>In addition to the above interviewed persons, 3 potential beneficiaries of biogas capturing technologies were interviewed in the 1<sup>st</sup> CPA project area in Medan, Republic of Indonesia in order to confirm the baseline.</b>	
M. Nasir	Head of Village
Miswan Z.	Head of Community
Iskandar	Representative of local government

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## 3.3 Resolution of Clarification and Corrective Action Requests

The objective of this phase of the validation was to resolve any outstanding issues which needed to be clarified prior to GLC's positive conclusion on the PoA and CPA design as described in the PDDs and supporting documentation. In order to ensure transparency, a validation questionnaire was customised for the PoA, according to the latest Validation and Verification Manual (VVM) <sup>/VVM/</sup> and all PoA related CDM requirements <sup>/EB01/-/EB16/</sup>. This questionnaire shows in transparent manner VVM and PoA requirements, source, means and findings of validation as well as the results from validating the identified criteria. The validation questionnaire serves the following purposes:

- It organises, details and clarifies the requirements a PoA expected to meet;
- It ensures a transparent validation process where the validators will document how a particular requirement has been validated and the result of validation.

The validation questionnaire consists of one table with sub-sections. These sections are related to the different topics which have to be validated and checked with respect to the VVM and PoA requirements. The completed validation questionnaire for the PoA is enclosed in Annex A to this report. The different columns of this questionnaire are explained in Table 3-2.

Findings established during the validation can either be seen as a non-fulfilment of criteria of the applicable CDM baseline and monitoring methodology, and/or applicable criteria of the CDM or where a risk to the fulfilment of PoA objectives is identified.

Corrective action requests (CAR) are issued, where:

- i) the project participants have made mistakes that will influence the ability of the PoA to achieve real, measurable additional emission reductions; or
- ii) applicable baseline and monitoring methodology, and/or applicable criteria of the CDM have not been met; or
- iii) there is a risk that emission reductions cannot be monitored or calculated or that the PoA would not be accepted as CDM project activity

A request for clarification (CL) may be used provided information is insufficient or not clear enough to determine whether the applicable CDM requirements have been met or where additional information is needed to fully clarify a particular issue.

The validation questionnaire consists of individual frames for each Corrective action requests (CAR) and request for clarification (CL) raised. The content of each frame is described in the figure below. To guarantee the transparency of the validation process, the concerns raised by GLC and the responses provided by the project participants are fully documented in Annex A of this report.

Forward Action Requests (FARs) are issued during validation to highlight issues related to PoA implementation that require review/assessment during the subsequent verification(s) of the PoA. FARs are not related to the CDM requirements for registration.

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The findings are separately presented in a findings list table which is also attached in Annex A. The different columns of this list are explained in Table 3-3.

The resolution of all raised CAR and CL for the PoA is enclosed in Annex A of this Validation Report.

Table 3-2: Structure of the Validation Questionnaire

CHECKLIST QUESTION / VVM and PoA REQUIREMENTS	SOURCE	MEANS AND FINDINGS OF VALIDATION	ASSESSMENT	FINAL CONCLUSION
Lists CDM requirements which the PoA should meet. The checklist is organised in several different sections. Each section is then further sub-divided. The lowest level constitutes a checklist question.	Gives reference to documents where the checklist question or item is from.	The section is used to elaborate and discuss the checklist question and/or the conformance to the question. It is further used to explain the conclusions reached.	This is either acceptable based on evidence provided (OK), or a Corrective Action Request (CAR), Clarification request (CL), or Forward Action Request (FAR).	This is either:  OK, when the Draft Conclusion is OK or raised CAR/CLs have been successfully closed out;  OK, with only FAR remaining;  Or: CAR/CLs

Table 3-3: Structure of the Findings List – Resolution of Corrective Action and Clarification Requests

Description of Finding (CAR, CL, FAR) <i>Describe the finding in a transparent manner i.e. state clearly what is required and why; address the context (e.g. section)</i>	Project Participants Response <i>This section shall be filled by the PP. The finding shall be addressed with suitable arguments and evidence</i>	GLC Assessment <i>The assessment shall include how the finding is closed i.e. how it is found that the response is assessed to be appropriate and meeting the specific requirement of the finding. In case the response is not satisfactory, additional response and DOE assessments (#2, #3, etc.) shall be sought.</i>	Final Conclusion (OK or not OK)
In this column a finding is described in a clear and transparent manner. It also shall be described which further information is needed or which correction must be applied. The date of issue is also indicated.	In this column the PP shall provide a clear statement how to close the finding. This statement shall be sustained with suitable arguments and evidence. The date of issue is also indicated. In case more rounds are necessary, it shall also be indicated.	In this column GLC shall provide the conclusion of the assessment. The finding can be close here or if the argumentation and/or evidence are not suitable a new line below with the continuation of the finding will be opened. The date of issue is also indicated. In case more rounds are necessary, it shall also be indicated.	GLC indicates whether the issue raised in the finding has been closed out or not by indicating OK for closed out or Not OK for not closed out.

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## 4 VALIDATION REPORTING

### 4.1 CME, PoA Participants and Parties Approval

Host country Approval for this PoA has been issued on 2011-12-19 vide official document “Letter of approval for South East Asia Biogas Programme of Activities” by the Indonesian DNA. The PoA complies with the permission requirements and assists the host country in achieving sustainable development. The approval also confirms the authorization to the CME (Coordinating / managing Entity) “PT. Biogas Program International” for its coordination of the PoA.

The first Annex-I country Approval for this PoA has been issued on 2011-12-14 vide official document<sup>/LoA1/</sup> by Netherlands’ Ministry of Infrastructure and the Environment which is confirmed as Netherland’s DNA. The letter has been issued to E.ON Carbon Sourcing GmbH.

The second Annex-I country Approval for this PoA has been issues on 2011-12-20 vide official document<sup>/LoA2/</sup> by Switzerland’s Federal Department of the Environment which is confirmed as Switzerland’s DNA. The letter has been issued to South Pole Carbon Asset Management Ltd.

Besides, all three letters also indicated the exact PoA title as “South East Asia Biogas Programme of Activities”, and that each of the participating Party is a Party to the Kyoto Protocol, and that the participation in this PoA is voluntary. Based on the information given in these letters, GLC considers the approval and the participation of each of the parties as complete and unconditional.

GLC received these letters from the project participants directly and after double checking with information found at the respective DNA’s website (Indonesian DNA website: <http://pasarkarbon.dnpi.go.id/web/index.php/dnacdm/cat/6/other-information.html>; Netherlands DNA website <http://www.agentschapnl.nl/content/overview-issued-written-approvals>; Swiss DNA website: <http://www.bafu.admin.ch/emissionshandel/05556/05558/index.html?lang=en>), considers the provided letters to be authentic according to VVM § 49(c).

The requirements of the VVM (§§ 45-48) are therefore considered to be complied with.

The LoA does not specify a version number of the PoA or of the validation report. However, all other references mentioned in the LoA, PDDs and validation report are consistent.

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

### 4.2 PoA and CPA Project Design Documents

The PoA-DD is using CDM-SSC-PoA-DD template version 01 and the generic and real case CPA-DDs are using CDM-SSC-CPA template version 01. GLC can confirm that the PoA-DD, generic CPA-DD and real case CPA-DD have been completed in accordance with relevant form and guidance as provided by UNFCCC.

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Correctness and completeness was assessed and documented through the questionnaire (section A.2) included in Annex A.

## 4.3 PoA and CPA Descriptions with technology to be applied

The PoA is designed to introduce biogas recovery processes to the wastewater treatment systems of Agro-industrial operations in South East Asia whereby the recovered biogas is used as a fuel to generate electricity for export to a regional or national grid and where any recovered gas in excess is combusted in a flare to prevent release of methane into the atmosphere.

The technology employed that captures the biogas will include but is not limited to any of the following technologies: Anaerobic Sequencing Batch Reactor (ASBR), Up flow Anaerobic Sludge Blanket (UASB) reactor and/or covered lagoon system.

The South East Asia Biogas Programme of Activities (SEA Biogas PoA) will be introduced in the Republic of Indonesia in the Agro industrial Sector. A typical CPA will be introduced to the existing waste water treatment ponds of the Palm Oil Mills or any other agro-industrial facility. By installing a new treatment system (biogas digester) with biogas recovery each CPA is expected to reduce up to 60,000 tCO<sub>2</sub>e of methane annually through the application of methodology AMS III.H. Furthermore the CPA aims to generate electricity from the recovered biogas and export it to the regional or national grid. The CPA included under this PoA will not exceed 15 MW (or an appropriate equivalent) of installed capacity through the application of methodology AMS I.D.

The first CPA will be introduced to a Palm Oil Mill in Sumatera, Republic of Indonesia which aims to reduce 13,672 tCO<sub>2</sub>e annually as part of the methane reduction through AMS III.H and 5,598 tCO<sub>2</sub>e as part of the electricity generation through AMS I.D.

The description of the PoA is complete, accurate and in compliance with the PoA-DD and CPA-DD templates and guidelines, and is likely to be implemented.

Besides, the technology employed is confirmed as environmentally safe and sound.

## 4.4 Eligibility Criteria for CPA Inclusion under the PoA

The Coordinating and Managing Entity (CME) has designed clear and unambiguous Eligibility Criteria (EC) for the inclusion of a CPA under this PoA.

The Eligibility Criteria as listed in PoA-DD section A.4.2.2 and section B.2 of the generic CPA-DD have been validated by GLC in accordance with the applicability of the applied methodology AMS III.H version 16 and AMS I.D version 17, the published "Procedures for Registration of a Programme of activities as a single CDM project activity and issuance of certified emission reductions for a programme of activities" version 04.1, EB 55 Annex 38 and also according to Verification and Validation Manual<sup>VVM</sup> paragraph 167.



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Correctness and completeness of the EC was assessed and documented through the questionnaire (section A.4.2) included in Annex A. The final assessment of ECs has been included in Annex B of this Report.

## 4.5 PoA Operational and Management Plan

Management plan is defined in Section A.4.4 of the PoA-DD and is assessed to be appropriate for the purpose of the projects implementation. The overall responsibility for the implementation will be held by the CME "PT. Biogas Program International". The CME aims to promote the PoA to potential CPA implementers who mainly develop and implement biogas digesters and power plants. The CPA implementer will be trained by the CME to be able to implement the CPA monitoring plan as described in the CPA-DD. A third entity is likely to come into picture which is the owner of the agro-industrial facility. The owner owns the wastewater treatment plant e.g. palm oil mill and steps into an agreement with the CPA implementer which allows the CPA implementer to build a biogas plant and use the wastewater coming from the agro-industrial plant and sell electricity to PLN. In return the agro-industrial plant owner shares the CERs with the CPA implementer. The contract between CME and the CPA implementer can be the ERPA as it is e.g. in the case of the first CPA.

The validation team identified that the presented operational and management arrangements for the implementation of CPAs within the Republic of Indonesia are in line with EB 55 Annex 38 para 6<sup>/EB07/</sup> and EB 55 Annex 1 para 165a<sup>/VVM/</sup>. Further it can be confirmed that it is ensured that the CPA implementer is aware and has agreed that their activity is being subscribed to the PoA since it is an eligibility criteria as per PoA-DD in line with EB 55 Annex 38 para 6(i).

By means of interviews with the CME the validation team confirms that the CME is clearly aware of their responsibility towards managing this PoA and has full control of all records and information related to the implementation of individual CPAs in the Republic of Indonesia.

Emission reduction calculation will be based on data monitored at each agro-industrial site which is eligible to be included as CPA under this PoA. Each CPA will collect the monitoring data separately and summarize the data in the Monitoring Report and Excel sheet. The Record Keeping System (RKS) is a consolidated system to monitor all CPAs. Each CPA will be individually verified. The RKS further summarizes the total Emission Reductions of each CPA, the monitoring period start and end date, date of inclusion etc.

## 4.6 Additionality of the PoA and a typical CPA

Additionality of the PoA and its CPAs has been demonstrated by establishing that in the absence of CDM, none of the implemented CDM Project Activity (CPA) would occur (EB 63 Annex 2 paragraph 6)<sup>/EB15/</sup>. Additionality will be demonstrated on CPA level which is in accordance with EB Meeting Report 47 § 73<sup>/EB12/</sup>. In order to comply EB 60 Annex 26 § 4<sup>/EB08/</sup> the additionality criteria has been included in

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the eligibility criteria. For project activities implemented at an existing wastewater treatment facility, the project proponent shall demonstrate that “the IRR of the proposed CPA (without CDM revenues) shall be below its benchmark.” For project activities implemented at a site where no wastewater treatment facility is existent (green-field) or where there is a plan to increase the wastewater treatment capacity, the project proponent shall demonstrate additionality in accordance with EB 61 Annex 21 and Attachment A of Appendix B of 4/CMP.1 Annex II. The validation team has assessed this approach to be viable and in accordance with the applied methodologies AMS-III.H / version 16 and AMS I.D / version 17.

## 4.6.1 Prior Consideration of the CDM

The first CPA starting date (estimated 2012-08-01) is defined as per CDM glossary of terms, and is later than the commencement of validation of the PoA, i.e., the date on which the PoA-DD is first published for global stakeholder consultation (2011-08-11), thus as per paragraph 7(d) of PoA Procedures (version 03.1, EB55 Annex 38) and paragraph 2 of Guidelines on the Demonstration and Assessment of Prior Consideration of the CDM (EB49 Annex22), the DOE has determined that the CDM was seriously considered in the decision to implement the project activity.

## 4.6.2 Barrier Analysis

Barrier analysis is chosen to demonstrate additionality of a typical CPA according to Attachment A to Appendix B/<sup>EB13/</sup> of UNFCCC's Simplified Modalities and Procedures for Small-scale CDM Project Activities.

The Investment barrier “a financially more viable alternative to the project activity would have led to higher emissions” has been chosen to prove additionality on CPA level. The barrier has been assessed and is deemed appropriate for this type of programme.

Additionality of a typical CPA will be demonstrated by applying the latest version of the “Guidance on the Assessment of Investment Analysis”/<sup>EB04/</sup> (EB 62 Annex 5 version 05). It has been demonstrated that the IRR of the proposed CPA without CDM revenues will be below its benchmark.

Concerning the first CPA, the calculation approach is assessed to be correct and conservative. All parameters are assessed to be plausible. The benchmark has been chosen to be the Weighted Average Cost of Capital (WACC). This type of benchmark has been assessed and is deemed appropriate since different entities are eligible to develop this type of project in the Republic of Indonesia. The parameters included in the benchmark calculation are based on parameters that are standard in the market. The references and sources have been assessed to be credible. The calculation is correct and complete. Further assessment if provided in the real-case CPA Validation Report.

Correctness and completeness of the investment barrier was assessed and documented through the questionnaire (section E.5.1) included in Annex A and related findings.

The justification of the barrier is supported by evidence and sufficiently substantiated.

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## 4.6.3 Investment Analysis

The additionality of a CPA included under this PoA will be demonstrated according to Attachment A to Appendix B/EB13/ of UNFCCC's Simplified Modalities and Procedures for Small-scale CDM Project Activities. Please see Section 4.6.2 "Barrier Analysis".

## 4.6.4 Micro scale CPA Additionality demonstration

Guidelines for demonstrating additionality of micro scale project activities have not been chosen to demonstrate additionality of the PoA.

## 4.6.5 Common Practice Analysis

Since it is a small scale PoA, common practice analysis is not required.

## 4.7 Application of the Baseline and Monitoring Methodology to a typical CPA

### 4.7.1 Applicability of the Selected Methodology to a typical CPA

GLC confirms that each CPA is bound to comply with the applicability criterion as listed in the applied baseline methodologies AMS-III.H / version 16 and AMS I.D / version 17. This criteria will be confirmed through eligibility criteria nb.3 "Demonstrate that the methane recovery component shall not exceed 60 ktCO<sub>2</sub>e/yr and that the output capacity of the electricity production component does not exceed 15 MW and [that any SSC-CPA to be included in the proposed PoA shall] comply with the applicability criteria of AMS III.H version 16 and AMS I.D version 17." Each CPA will be assessed whether it complies with the applicability criterion.

The version of the CDM methodologies approved by EB is valid during submission for registration.

The assessment was carried out for each applicability criterion and included, among others, the compliance check of the local project setting with the applicability conditions with regard to baseline setting and eligible project measures. This assessment also included the review of other sources not provided by PPs, and these sources could confirm that applicability conditions are complied with.

Furthermore, in case of the first CPA all applicability conditions of the applied methodologies have been met and the PoA design is in line with all requirements and stipulations mentioned in all sections of the applied methodologies. Besides, the PoA design is not expected to result in significant emissions – related both to project and leakage – other than those listed in the methodology.

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GLC has also confirmed that there are no emission sources, which are not addressed by the applied methodology, and are expected to contribute more than 1% of the overall expected annual average emission reductions.

The value of annual emission reductions of every CPA proposed under this PoA is no more than 60 kt CO<sub>2</sub> equivalent annually for the AMS III.H component. The first proposed CPA is estimated to have 13,672 tCO<sub>2e</sub> emission reductions annually for the AMS III.H component, which is further confirmed as less than 60 kt CO<sub>2</sub> equivalent annually;

The installed capacity of every CPA proposed under this PoA will not increase beyond 15 MW. The first proposed CPA is estimated to have an output capacity of 2 x 1.03 MW.

Therefore, the proposed PoA is a small scale PoA.

The DOE has also checked and confirms the CME has substantiated that the CPA is not a de-bundled component of large scale project through application of applicable EB 54, Annex 13 - "Guidelines on Assessment of Debundling for SSC Project Activities" (version 03)<sup>EB11/</sup>. In case of the first CPA this has been assessed by means of confirmation letter from the project implementer<sup>80/</sup> stating that the CPA is neither a standalone CDM project activity, nor a bundled CDM project activity, nor part of another registered CDM-PoA.

This project therefore fulfils all the applicability criteria of the applied methodology and the tools therein.

## 4.7.2 PoA and CPA Boundary

### 4.7.2.1 PoA Boundary

The physical/ geographical boundary of this PoA is correctly given in section A.4.1.2 of the PoA-DD. The geographical boundary of this PoA is the Republic of Indonesia.

### 4.7.2.2 CPA boundary and included sources and greenhouse gases

As per AMS III.H (version 16), the boundary of a typical CPA of this PoA is "the physical, geographical site where the wastewater and sludge treatment takes place, in the baseline and project situations. It covers all facilities affected by the project activity including sites where processing, transportation and application of disposal of waste products as well as biogas takes place."

According to AMS I.D (version 17) the boundary "is the spacial extent of the project boundary including the project power plant and all power plants connected physically to the electricity system that the CDM project power plant is connected to."

The information has been also correctly given in section A.4.1 of the generic CPA-DD.

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The physical delineation of the CPA under the PoA and the description of the emission sources and GHGs that are included in the CPA boundary are appropriate for the purpose of calculating project and baseline emissions for each CPA.

The methodology AMS III.H indicates following GHG sources to be included in the boundary:

	SOURCE	Gas	Included?	Appropriateness
Baseline	Wastewater treatment process	CO2	No	<input type="checkbox"/>
		CH4	Yes	<input type="checkbox"/>
		N2O	No	<input type="checkbox"/>
	Electricity consumption/ generation	CO2	Yes	<input type="checkbox"/>
		CH4	No	<input type="checkbox"/>
		N2O	No	<input type="checkbox"/>
Project Activity	Wastewater treatment process	CO2	No	<input type="checkbox"/>
		CH4	Yes	<input type="checkbox"/>
		N2O	No	<input type="checkbox"/>
	Electricity consumption/ generation	CO2	Yes	<input type="checkbox"/>
		CH4	No	<input type="checkbox"/>
		N2O	No	<input type="checkbox"/>

The methodology AMS I.D indicates following GHG sources to be included in the boundary:

	SOURCE	Gas	Included?	Appropriateness
Baseline	Sumatera grid electricity production	CO2	Yes	<input type="checkbox"/>
		CH4	No	<input type="checkbox"/>
		N2O	No	<input type="checkbox"/>
Project	Electricity consumption in project activity	CO2	Yes	<input type="checkbox"/>
		CH4	No	<input type="checkbox"/>
		N2O	No	<input type="checkbox"/>
	On-site fossil fuel consumption	CO2	Yes	<input type="checkbox"/>

GLC confirms that the justification by the PP is reasonable and evidenced. Besides, there are no other sources which are impacted by the project and not addressed by the applied methodology.

## 4.7.3 Baseline Identification of a typical CPA

The procedure to identify the most plausible baseline scenario derived from the applied methodologies has been applied correctly and is transparently and sufficiently documented in the PoA-DD.

In section E.4 of the PoA-DD a complete list of all realistic alternatives to the project scenario is included:

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According to AMS III.H the baseline scenario falls under either one of the following two categories:

- The continuation of the operation of the existing waste water treatment facilities and the release of the biogas generated to atmosphere or;
- The expansion of an existing waste water treatment capacity or the installation of a new water treatment at a site where no waste water treatment exists prior

By means of interviews with the CME and through confirmation during onsite visit it has been identified that both options could apply for a potential CPA baseline.

The baseline scenario according to AMS I.D has been identified to be:

- Electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources into the grid.

The baseline scenario has been identified to be CPA specific and therefore the baseline scenario will be identified on CPA level.

## 4.7.4 Algorithms and Formulae used to Determine Emission Reductions

The PoA-DD applies steps and equations to calculate project emissions, baseline emissions, leakage and emission reductions as per the requirements of the applied methodology.

Detailed information on the validation of the parameters used in the equations can be found in Annex A – Validation Questionnaire. The algorithms for the determination of the baseline, project, and leakage emissions are discussed below in subsequent sections of this report.

### Baseline Emission of a typical CPA:

The baseline emissions as per AMS III.H are calculated as follows:

$$BE_y = BE_{\text{power},y} + BE_{\text{ww,treatment},y} + BE_{\text{ww,discharge},y} + BE_{\text{s,treatment},y} + BE_{\text{s,final},y}$$

Where

$BE_y$  = Baseline emissions in year  $y$  (tCO<sub>2</sub>e)

$BE_{\text{power},y}$  = Baseline emissions from electricity or fuel consumption in year  $y$  (tCO<sub>2</sub>e)

$BE_{\text{ww,treatment},y}$  = Baseline emissions of the wastewater treatment systems affected by the project activity in year  $y$  (tCO<sub>2</sub>e)

$BE_{\text{ww,discharge},y}$  = Baseline methane emissions from degradable organic carbon in treated wastewater discharged into sea/river/lake in year  $y$  (tCO<sub>2</sub>e).

$BE_{\text{s,treatment},y}$  = Baseline emissions of the sludge treatment systems affected by the project activity in year  $y$  (tCO<sub>2</sub>e)

$BE_{\text{s,final},y}$  = Baseline methane emissions from anaerobic decay of the final sludge produced in year  $y$  (tCO<sub>2</sub>e). If the sludge is controlled combusted, disposed in a landfill with biogas

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recovery, or used for soil application in the baseline scenario, this term shall be neglected

## BE<sub>power,y</sub>

Baseline emissions from electricity and fossil fuel consumption (BE<sub>power,y</sub>) are determined as per the procedures described in the “Tool to calculate baseline, project and/or leakage emissions from electricity consumption”<sup>/EB05/</sup> (EB 39 Annex 7 version 01) and “Tool to calculate project or leakage CO2 emissions from fossil fuel combustion” (EB 41 Annex 11 version 02)<sup>/EB06/</sup>, respectively. The energy consumption shall include all equipment/devices in the baseline wastewater treatment system. As indicated in paragraph 1 of Section E.6.2 of PoA-DD the methodological choices, equations to be applied, monitored and fixed ex-ante parameters depend on the specific CPA baseline scenario. It is therefore deemed reasonable and justified that formulae and equations to calculate BE<sub>power,y</sub> will be presented on CPA level. Provisions for inclusion of monitored parameters due to the application of the “Tool to calculate baseline, project and/or leakage emissions from electricity consumption”<sup>/EB05/</sup> (EB 39 Annex 7 version 01) and/or “Tool to calculate project or leakage CO2 emissions from fossil fuel combustion” (EB 41 Annex 11 version 02)<sup>/EB06/</sup> have been provided in Section E.6.3 and E.7.1 of the PoA-DD and Section B.5.1 and B.6.1 of gCPA..

## BE<sub>ww,treatment,y</sub>

The calculation of Baseline emissions of the wastewater treatment systems affected by the project activity (BE<sub>ww,treatment,y</sub>) has been correctly presented in the PoA-DD in accordance with the methodology AMS III.H version 16. The generic CPA and PoA-DD correctly state the formula as following:

$$BE_{ww,treatment,y} = \sum_i (Q_{ww,i,y} \times COD_{inflow,i,y} \times \eta_{COD,BL,i} \times MCF_{ww,treatment,BL,i}) \times B_{o,ww} \times UF_{BL} \times GWP_{CH4}$$

Where

$Q_{ww,i,y}$	= Volume of wastewater treated in baseline wastewater treatment system $i$ in year $y$ (m <sup>3</sup> ).
$COD_{inflow,i,y}$	= Chemical oxygen demand of the wastewater inflow to the baseline treatment system $i$ in year $y$ (t/m <sup>3</sup> ).
$\eta_{COD,BL,i}$	= COD removal efficiency of the baseline treatment system $i$
$MCF_{ww,treatment,BL,i}$	= Methane correction factor for baseline wastewater treatment systems $i$ ( $MCF$ values as per Table III.H.1 of AMS III.H)
$B_{o,ww}$	= Methane producing capacity of the wastewater (IPCC value of 0.25 kg CH <sub>4</sub> /kg COD)
$i$	= Index for baseline wastewater treatment system
$UF_{BL}$	= Model correction factor to account for model uncertainties (0.89)
$GWP_{CH4}$	= Global Warming Potential for methane (value of 21)

It can be confirmed that the parameters  $MCF_{ww,treatment,BL,i}$ ,  $B_{o,ww}$ ,  $UF_{BL}$ ,  $GWP_{CH4}$ ,  $\eta_{COD,BL,i}$  have been listed in the Sections E.6.3 of PoA-DD and  $Q_{ww,i,y}$  has been listed in Section E.7.1 of PoA-DD

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respectively. Parameter  $COD_{inflow,i,y}$  will be estimated ex-ante based on sampling with 90/10 confidence/precision level in accordance with the methodology. Ex-post the parameter  $COD_{inflow,i,y}$  will be set equal to  $COD_{ww,untreated,y}$  "The Chemical Oxygen Demand (COD) of the untreated wastewater in the project scenario in year y ( $t/m^3$ ).". It has been correctly indicated in Section E.7.1 that this parameter will be monitored before the biogas digester. Thus GLC confirms by means of local and sectoral knowledge that this approach is accurate and in accordance with the methodology. Further it has been correctly indicated that parameter  $\eta_{COD,BL,i}$  will be determined according to paragraphs 26, 27 or 28 of AMS III.H Version 16.

## $BE_{ww,discharge,y}$

The calculation of Baseline methane emissions from degradable organic carbon in treated wastewater discharged into sea/river/lake ( $BE_{ww,discharge,y}$ ) has been correctly presented in the PoA-DD in accordance with the methodology AMS III.H version 16. The generic CPA and PoA-DD correctly state the formula as following:

$$BE_{ww,discharge,y} = Q_{ww,y} \times GWP_{CH_4} \times B_{o,ww} \times UF_{BL} \times COD_{ww,discharge,BL,y} \times MCF_{ww,BL,discharge}$$

Where

$Q_{ww,y}$	= Volume of treated wastewater discharged in year y ( $m^3$ )
$COD_{ww,discharge,BL,y}$	= Chemical oxygen demand of the treated wastewater discharged into sea, river or lake in the baseline situation in the year y ( $t/m^3$ ). If the baseline scenario is the discharge of untreated wastewater, the COD of untreated wastewater shall be used
$MCF_{ww,BL,discharge}$	= Methane correction factor based on discharge pathway in the baseline situation (e.g. into sea, river or lake) of the wastewater (fraction) ( $MCF$ values as per Table III.H.1 of AMS III.H)

It can be confirmed that the parameters  $MCF_{ww,BL,discharge}$ ,  $B_{o,ww}$ ,  $UF_{BL}$ ,  $GWP_{CH_4}$  have been listed in the Sections E.6.3 of PoA-DD and  $Q_{ww,i,y}$  has been listed in Section E.7.1 of PoA-DD respectively. It has been correctly indicated in paragraph 4 of Section E.6.2 that the determination of  $COD_{ww,discharge,BL,y}$  depends on whether the baseline wastewater treatment system is different from the project treatment system. The calculation of  $COD_{ww,discharge,BL,y}$  is correctly stated and in accordance with the methodology:

$$\begin{aligned} COD_{ww,discharge,BL,y} &= \prod_i (1 - \eta_{COD,BL,i}) * COD_{ww,untreated,y} \\ &= (1 - \eta_{COD,BL,1}) * (1 - \eta_{COD,BL,2}) * \dots * (1 - \eta_{COD,BL,n}) * COD_{ww,untreated,y} \end{aligned}$$

Thus GLC identified that  $COD_{ww,discharge,BL,y}$  is a calculated parameter and it is correct not to state it in Section E.6.3. Further it has been clearly indicated in Section E.6.3 under parameter  $\eta_{COD,BL,i}$  and in Section E.7.1 under parameter  $COD_{ww,untreated,y}$  that these parameters are used to calculate  $COD_{ww,discharge,BL,y}$  ex-post.



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## BE<sub>s,final,y</sub>

The calculation of Baseline methane emissions from anaerobic decay of the final sludge (BE<sub>s,final,y</sub>) has been correctly presented in the PoA-DD in accordance with the methodology AMS III.H version 16. The generic CPA and PoA-DD correctly state the formula as following:

$$BE_{s,final,y} = S_{final,BL,y} \times DOC_s \times UF_{BL} \times MCF_{s,BL,final} \times DOC_F \times F \times 16/12 \times GWP_{CH_4}$$

Where

$S_{final,BL,y}$  = Amount of dry matter in the final sludge generated by the baseline wastewater treatment system in the year y (t). In SSC-CPAs included under this PoA where the baseline wastewater treatment system is different from the project system, this parameter will be estimated using the monitored amount of dry matter in the final sludge generated by the project activity ( $S_{final,PJ,y}$ ) corrected for the sludge generation ratios of the project and baseline system s as per following equation:

$$S_{final,BL,y} \text{ (ex-post)} = S_{final,PJ,y} \times SGR_{BL} / SGR_{PJ}$$

$MCF_{s,BL,final}$  = Methane correction factor of the disposal site that receives the final sludge in the baseline situation, estimated as per the procedures described in the "Emissions from solid waste disposal sites" Version 06.0.1. Application A (final sludge disposed and left on dry on land), to determine the  $MCF_{s,BL,final}$  has been chosen to determine MCF default values of the referred tool which is deemed appropriate.

$UF_{BL}$  = Model correction factor to account for model uncertainties (0.89)

$SGR_{BL}$  = Sludge generation ratio of the wastewater treatment plant in the baseline scenario (tonne of dry matter in sludge/t COD removed). This ratio will be determined as per paragraph 26, 27 or 28 of approved AMS-III.H version 16

$SGR_{PJ}$  = Sludge generation ratio of the wastewater treatment plant in the project scenario (tonne in dry matter in sludge/t COD removed). Calculated using the monitored values of COD removal (i.e.  $COD_{inflow,i}$  minus  $COD_{outflow,i}$ ) and sludge generation in the project scenario.

$DOC_s$  = Degradable organic content of the untreated sludge generated in the year y (fraction, dry basis). Default values of 0.5 for domestic sludge and 0.257 for industrial sludge shall be used

$DOC_F$  = Fraction of DOC dissimilated to biogas (IPCC default value of 0.5)

$F$  = Fraction of CH<sub>4</sub> in biogas (IPCC default value of 0.5)

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It can be confirmed that the parameters  $MCF_{s,BL,final}$ ,  $UF_{BL}$ ,  $DOC_s$ ,  $DOC_F$ ,  $F$  and  $SGR_{BL}$  have been listed in the Sections E.6.3 of PoA-DD and B.5.1 of gCPA and  $S_{final,PJ,y}$  has been listed in Section E.7.1 of PoA-DD and B.6.1 of gCPA respectively.  $S_{final,BL,y}$  and  $SGR_{PJ}$  are calculated parameters and thus have neither been indicated in Section E.6.3 nor in E.7.1 of PoA-DD which is deemed appropriate. It has been correctly indicated under parameter  $SGR_{BL}$  and parameter  $S_{final,PJ,y}$  that these parameters are used to calculate  $S_{final,BL,y}$  ex-post.

## $BE_{s,treatment,y}$

As indicated in Section E.6.2 of the PoA-DD the parameter  $BE_{s,treatment,y}$  "Baseline emissions of the sludge treatment systems affected by the project activity in year y (tCO<sub>2</sub>e)" is not considered under this PoA due to simplicity. GLC identified that the exclusion of this baseline emission parameter is conservative and thus acceptable.

For Greenfield and capacity addition projects the procedures to determine baseline emissions have been correctly stated in the PoA-DD and are in line with AMS III.H.

The baseline emissions as per AMS I.D are calculated as follows:

$$BE_y = EG_{BL,y} \times EF_{CO2,grid,y}$$

Where

$BE_y$  = Baseline Emissions in year y (tCO<sub>2</sub>)

$EG_{BL,y}$  = Quantity of net electricity supplied to the grid as a result of the implementation of the CDM project activity in year y (MWh)

$EF_{CO2,grid,y}$  = CO<sub>2</sub> emission factor of the grid in year y (tCO<sub>2</sub>/MWh)

It can be confirmed that the parameter  $EG_{BL,y}$  has been listed in Section E.7.1 of the PoA-DD.

The grid emission factor  $EF_{CO2,grid,y}$  of the Sumatera grid has been listed in Section E.6.3 of the PoA-DD and is fixed ex-ante for the first crediting period of the PoA. In case the CPA is connected to the Sumatera grid and the CPA will be included within the first crediting period of the PoA, this grid emission factor (0.743 tCO<sub>2</sub>/MWh) shall be used. During renewal of the crediting period of the PoA, the grid Emission factor calculation will be revised as per the latest data available in accordance with the latest tools/procedures/guidance. All CPAs exporting electricity to the Sumatera grid included or renewing their crediting period within the second crediting period of the PoA, shall apply the value given in the corresponding PoA-DD.

GLC identified that determining the grid emission factor on PoA level (valid for the first crediting period of the PoA) is in accordance with the requirements set by the UNFCCC. In accordance with paragraph 24 of the "procedures for the registration of a programme of activities as a single CDM project activity and issuance of CERs for a PoA" (EB 55 Annex 38) <sup>/EB07/</sup>, the "Procedures for Renewal of a Crediting

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Period of a Registered CDM project activity" (EB 63 Annex 29) <sup>/EB20/</sup> shall be applied to the PoA every seven years. According to the "Tool to assess the validity of the original/current baseline and to update the baseline at the renewal of a crediting period" (EB 63 Annex 20) <sup>/EB21/</sup> in the "Procedures for Renewal of a Crediting Period of a Registered CDM project activity" (EB 63 Annex 29) <sup>/EB20/</sup> data and parameters that were only determined at the start of the crediting period and not monitored during the crediting period will have to be updated. Hence, updating the grid emission factor at the renewal of the PoA is in accordance with the above stated requirements.

Moreover by means of assessing the registered PoA reference number 2535 <sup>4</sup> "CUIDEMOS Mexico (Campana De Uso Inteligente De Energia Mexico) - Smart Use of Energy Mexico" GLC identified that a request for review has been sent by the CDM-EB as follows:

"The PDD and the VR should reflect that the ex-ante grid emission factor will be revised at the point of renewal of the crediting period of the PoA as it could be interpreted at present that it is intended that the emission factor will be fixed for the lifetime of the PoA."

Thus GLC identified that the approach by the PP is acceptable: the grid emission factor for Sumatera grid can be fixed ex-ante for the first crediting period of the PoA.

CPAs connected to grids other than Sumatera shall use a grid emission factor calculated on CPA level based on latest data available and fixed ex-ante for the first crediting period of the CPA. Each CPA connected to grids other than Sumatera grid is thus obliged to calculate the grid emission factor for the respective grid based on latest data available.

The grid emission factors for grids in Indonesia, other than Sumatera, will be determined on CPA level because data for calculation of grid emissions factors is not publicly available and could thus not be provided to GLC and further be available to UNFCCC. Thus it is deemed appropriate to determine the grid emission factors for Java-Bali (Jamali), East, West, Central and South Kalimantan, North and West Sulawesi (Sulenttengo) and South, West and Sout-East Sulawesi (Sultanbatara) on CPA level.

The grid emission factor for Sumatera grid (0.743 tCO<sub>2</sub>/MWh) has been published by the Indonesian DNA (<http://pasarkarbon.dnpi.go.id/web/index.php/dnacdm/cat/6/other-information.html>). It has been confirmed by a letter of the Indonesian DNA<sup>/35/</sup> dated 2011-12-27 that the published factors have been calculated with latest data available. Further it has been identified that the published grid emission factor has been calculated with the "Tool to calculate the emission factor for an electricity system" (version 01.1). The CME provided a comparison of tool version 01.1 with tool version 02.2.1<sup>/36/</sup> and identified that the grid EF would not have changed. This has been confirmed by GLC's assessment. Further the CME provided the re-calculation of grid emission factor in an Excel calculation. The input data is also attached in Annex 3 to the PoA-DD. GLC confirms that the calculation is correct and in line with the grid emission factor published by the DNA. Therefore GLC confirms that the Sumatera grid emission factor has been correctly determined on PoA-level and is fixed ex-ante for the first crediting period of the PoA. The parameter has been correctly indicated in Section E.6.3 of the PoA-DD and the calculation has been correctly indicated in Annex 3 of the PoA-DD.

The methodological choices of the "Tool to calculate the emission factor for an electricity system" (version 02.2.1) have been correctly indicated in Section E.6.2 of the PoA-DD.

<sup>4</sup> Source: [http://cdm.unfccc.int/ProgrammeOfActivities/poa\\_db/17BH6AJX524TYQUZF8KGCWV3OIPSE9/view](http://cdm.unfccc.int/ProgrammeOfActivities/poa_db/17BH6AJX524TYQUZF8KGCWV3OIPSE9/view)

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## Project Emission of a typical CPA:

The project emissions as per AMS III.H are calculated as follows:

$$PE_y = PE_{power,y} + PE_{ww,treatment,y} + PE_{ww,discharge,y} + PE_{fugitive,y} + PE_{flaring,y} + PE_{s,treatment,y} + PE_{s,final,y} + PE_{biomass,y}$$

Where

$PE_y$  = Project activity emissions in the year  $y$  (tCO<sub>2</sub>e)

$PE_{power,y}$  = Emissions from electricity or fuel consumption in the year  $y$  (tCO<sub>2</sub>e)

$PE_{ww,treatment,y}$  = Methane emissions from wastewater treatment systems affected by the project activity, and not equipped with biogas recovery, in year  $y$  (tCO<sub>2</sub>e)

$PE_{ww,discharge,y}$  = Methane emissions on account of inefficiency of the project activity wastewater treatment systems and presence of degradable organic carbon in treated wastewater in year  $y$  (tCO<sub>2</sub>e)

$PE_{fugitive,y}$  = Methane emissions from biogas release in capture systems in year  $y$  (tCO<sub>2</sub>e)

$PE_{flaring,y}$  = Methane emissions due to incomplete flaring in year  $y$  (tCO<sub>2</sub>e)

$PE_{s,treatment,y}$  = Methane emissions from sludge treatment systems affected by the project activity, and not equipped with biogas recovery in the project situation (tCO<sub>2</sub>e)

$PE_{s,final,y}$  = Methane emissions from the decay of the final sludge generated by the project activity treatment systems (tCO<sub>2</sub>e)

$PE_{biomass,y}$  = Methane emissions from biomass stored under anaerobic conditions which would not have occurred in the baseline situation (tCO<sub>2</sub>e)

### $PE_{power,y}$

The calculation of  $PE_{power,y}$  has been described in the PoA-DD as per the methodology AMS III.H version 16. Project emissions from electricity and fossil fuel consumption ( $PE_{power,y}$ ) are determined as per the procedures described in the "Tool to calculate baseline, project and/or leakage emissions from electricity consumption"<sup>/EB05/</sup> (EB 39 Annex 7 version 01) and "Tool to calculate project or leakage CO<sub>2</sub> emissions from fossil fuel combustion" (EB 41 Annex 11 version 02)<sup>/EB06/</sup>, respectively. The energy consumption shall include all equipment/devices in the project wastewater facility. If recovered biogas in the project activity is used to power auxiliary equipment it should be taken into account accordingly, using zero as its emission factor.

As indicated in paragraph 9 of Section E.6.2 of PoA-DD the methodological choices, equations to be applied, monitored and fixed ex-ante parameters depend on the specific CPA project scenario. It is therefore deemed reasonable and justified that formulae and equations to calculate  $PE_{power,y}$  will be presented on CPA level. Provisions for inclusion of monitored parameters due to the application of the "Tool to calculate baseline, project and/or leakage emissions from electricity consumption"<sup>/EB05/</sup> (EB 39 Annex 7 version 01) and/or "Tool to calculate project or leakage CO<sub>2</sub> emissions from fossil fuel combustion" (EB 41 Annex 11 version 02)<sup>/EB06/</sup> have been provided in Section E.6.3 and E.7.1 of the PoA-DD.

### $PE_{ww,treatment,y}$

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The calculation of  $PE_{ww,treatment,y}$  has been presented in the PoA-DD as per methodology. The generic CPA and PoA-DD correctly state the formula as following:

$$PE_{ww,treatment,y} = \sum_k (Q_{ww,k,y} \times COD_{inflow,k,y} \times \eta_{PJ,k,y} \times MCF_{ww,treatment,PJ,k}) \times B_{o,ww} \times UF_{PJ} \times GWP_{CH4}$$

Where

$PE_{ww,treatment,y}$	= Methane emissions from wastewater treatment systems affected by the project activity, and not equipped with biogas recovery, in year $y$ (tCO <sub>2e</sub> )
$Q_{ww,k,y}$	= Volume of wastewater treated in project wastewater treatment system $k$ in year $y$ (m <sup>3</sup> )
$COD_{inflow,k,y}$	= Chemical oxygen demand of the wastewater inflow to the project treatment system $k$ in year $y$ (t/m <sup>3</sup> )
$\eta_{PJ,k,y}$	= Chemical oxygen demand removal efficiency of the project wastewater treatment system $k$ in year $y$ (t/m <sup>3</sup> ), measured based on inflow COD and outflow COD in system $k$
$MCF_{ww,treatment,PJ,k}$	= Methane correction factor for project wastewater treatment system $k$ (MCF values as per Table III.H.1 of AMS III.H)
$k$	= Index for project wastewater treatment system
$B_{o,ww}$	= Methane producing capacity of the wastewater (IPCC value of 0.25 kg CH <sub>4</sub> /kg COD)
$UF_{PJ}$	= Model correction factor to account for model uncertainties (1.12)
$GWP_{CH4}$	= Global Warming Potential for methane (value of 21)

It can be confirmed that the calculation of  $PE_{ww,treatment,y}$  presented in the PoA is correct and in line with AMS III.H. Further it has been correctly explained under paragraph 10 in Section E.6.2 of PoA-DD that the calculation of  $PE_{ww,treatment,y}$  depends on whether different wastewater treatment systems are existent in the project scenario and not equipped with biogas recovery (i.e.  $k > 1$ ).

If, for example, an anaerobic treatment system affected by the project activity and not equipped with biogas recovery is followed by an aerobic treatment system affected by the project activity and not equipped with biogas recovery, then following formulae apply:

$$COD_{inflow,k,y} = COD_{ww,treated,y}$$

$$\eta_{PJ,k,y} = \frac{(COD_{inflow,k,y} - COD_{outflow,k,y})}{COD_{inflow,k,y}}$$

$$= \frac{(COD_{ww,treated,y} - COD_{outflow,k,y})}{COD_{ww,treated,y}}$$

Where

$COD_{ww,treated,y}$	= Chemical Oxygen Demand (COD) of the wastewater after the treatment system affected by the project activity and equipped with biogas digester. This parameter is measured after the biogas digester. (t/m <sup>3</sup> )
$COD_{outflow,k,y}$	= Chemical Oxygen Demand (COD) of the treated wastewater in system $k$ in year $y$ . This parameter is measured after each project wastewater treatment system affected by the project activity and not equipped with biogas recovery. (t/m <sup>3</sup> )

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In case only one project wastewater treatment system affected by the project activity and not equipped with biogas recovery (i.e.  $k = 1$ ) exists, then following formulae apply:

$$\begin{aligned} \text{COD}_{\text{inflow},k,y} &= \text{COD}_{\text{ww,treated},y} \\ \text{COD}_{\text{outflow},k,y} &= \text{COD}_{\text{ww,discharge},PJ,y} \\ \eta_{PJ,k,y} &= (\text{COD}_{\text{ww,treated},y} - \text{COD}_{\text{ww,discharge},PJ,y}) / \text{COD}_{\text{ww,treated},y} \end{aligned}$$

Where

$\text{COD}_{\text{ww,discharge},PJ,y}$  = Chemical Oxygen Demand (COD) of the treated wastewater discharged to the river in the project scenario in year  $y$ . It is measured after the last anaerobic pond or aerobic pond (in case existent) ( $\text{t/m}^3$ )

The parameters  $Q_{\text{ww},k,y}$ ,  $\text{COD}_{\text{ww,treated},y}$  and  $\text{COD}_{\text{ww,outflow},k,y}$  and  $\text{COD}_{\text{ww,discharge},PJ,y}$  have been correctly listed under parameters that will be monitored in Section E.7.1 of the PoA-DD and Section B.6.1 of gCPA-DD. Further  $\text{MCF}_{\text{ww,treatment},PJ,k}$ ,  $B_{o,ww}$ ,  $\text{UF}_{PJ}$  and  $\text{GWP}_{\text{CH}_4}$  have been correctly listed in Section E.6.3 of the PoA-DD and Section B.5.1 of gCPA-DD.

$\text{PE}_{\text{s,treatment},y}$

The calculation of  $\text{PE}_{\text{s,treatment},y}$  has been correctly presented in the PoA-DD in accordance with the methodology AMS III.H version 16. The generic CPA and PoA-DD correctly state the formula as following:

$$\text{PE}_{\text{s,treatment},y} = \sum_I (S_{I,PJ,y} \times \text{MCF}_{\text{s,treatment},I} \times \text{DOC}_s \times \text{UF}_{PJ} \times \text{DOC}_F \times F \times 16/12 \times \text{GWP}_{\text{CH}_4})$$

Where

$\text{PE}_{\text{s,treatment},y}$  = Methane emissions from sludge treatment systems affected by the project activity, and not equipped with biogas recovery in the project situation ( $\text{tCO}_2\text{e}$ )

$S_{I,PJ,y}$  = Amount of dry matter in the sludge treated by the sludge treatment system  $I$  in the project scenario in year  $y$  ( $\text{t}$ )

$\text{MCF}_{\text{s,treatment},I}$  = Methane correction factor for the project sludge treatment system  $I$  (MCF values as per Table III.H.1 of AMS III.H version 16)

$\text{DOC}_s$  = Degradable organic content of the untreated sludge generated in the year  $y$  (fraction, dry basis). Default values of 0.5 for domestic sludge and 0.257 for industrial sludge shall be used. The IPCC default values of 0.05 for domestic sludge (wet basis, considering a default dry matter content of 10%) or 0.09 for industrial sludge (wet basis, assuming dry matter content of 35%), were corrected for dry basis.

$\text{UF}_{PJ}$  = Model correction factor to account for model uncertainties (1.12)

$\text{DOC}_F$  = Fraction of DOC dissimilated to biogas (IPCC default value of 0.5)

$F$  = Fraction of  $\text{CH}_4$  in biogas (IPCC default value of 0.5)

If the sludge is composted following equation shall be applied:

$$\text{PE}_{\text{s,treatment},y} = \sum_I (S_{I,PJ,y} \times \text{EF}_{\text{composting}} \times \text{GWP}_{\text{CH}_4})$$

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Where

$EF_{\text{composting}}$  = Emission factor for composting organic waste (tCH<sub>4</sub>/t waste treated).  
Emission factors can be based on facility/site-specific measurements, country specific values or IPCC default values. IPCC default value is 0.01 t CH<sub>4</sub>/ t sludge treated on a dry weight basis

The parameters  $MCF_{s,\text{treatment},y}$ ,  $DOC_s$ ,  $UF_{PJ}$ ,  $DOC_F$ ,  $F$ ,  $GWP_{CH_4}$  and  $EF_{\text{composting}}$  have been correctly listed in Section E.6.3 of the PoA-DD and Section B.5.1 of gCPA. The monitored parameter  $S_{i,PJ,y}$  has been correctly indicated in Section E.7.1 of the PoA-DD and Section B.6.1 of gCPA.

$PE_{\text{ww,discharge},y}$

The calculation of  $PE_{\text{ww,discharge},y}$  has been presented in the PoA-DD as per methodology. The generic CPA and PoA-DD correctly state the formula as following:

$$PE_{\text{ww,discharge},y} = Q_{\text{ww},y} \times GWP_{CH_4} \times B_{o,ww} \times UF_{PJ} \times COD_{\text{ww,discharge},PJ,y} \times MCF_{\text{ww,PJ,discharge}}$$

Where

$PE_{\text{ww,discharge},y}$  = Methane emissions from degradable organic carbon in treated wastewater in year  $y$  (tCO<sub>2e</sub>)  
 $COD_{\text{ww,discharge},PJ,y}$  = Chemical oxygen demand of the treated wastewater discharged into the sea, river or lake in the project scenario in year  $y$  (t/m<sup>3</sup>)  
 $MCF_{\text{ww,PJ,discharge}}$  = Methane correction factor based on the discharge pathway of the wastewater in the project scenario (e.g. into sea, river or lake) ( $MCF$  values as per Table III.H.1 of AMS III.H)

It can be confirmed that the calculation of  $PE_{\text{ww,treatment},y}$  presented in the PoA and generic CPA is correct and in line with AMS III.H. Further the parameter  $COD_{\text{ww,discharge},PJ,y}$  has been correctly listed in the list of parameters that will be monitored in Section E.7.1 of the PoA-DD. Further  $MCF_{\text{ww,PJ,discharge}}$  has been correctly listed in Section E.6.3 of the PoA-DD.

$PE_{s,\text{final},y}$

The calculation of  $PE_{s,\text{final},y}$  has been presented in the PoA-DD as per methodology. The generic CPA and PoA-DD correctly state the formula as following:

$$PE_{s,\text{final},y} = S_{\text{final},PJ,y} \times DOC_s \times UF_{PJ} \times MCF_{s,PJ,\text{final}} \times DOC_F \times F \times 16/12 \times GWP_{CH_4}$$

Where

$PE_{s,\text{final},y}$  = Methane emissions from the decay of the final sludge generated by the project activity treatment systems (tCO<sub>2e</sub>)  
 $S_{\text{final},PJ,y}$  = Amount of dry matter in final sludge generated by the project wastewater treatment system in the year  $y$  (t)  
 $MCF_{s,PJ,\text{final}}$  = Methane correction factor of the disposal site that receives the final sludge in the project situation, estimated as per the procedures described in the

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“Emissions from solid waste disposal sites” version 06.0.1. Application A, MCF default value, of the referred tool will be used to determine  $MCF_{s,PJ,final}$

The parameter  $S_{final,PJ,y}$  has been correctly listed in the list of parameters that will be monitored in Section E.7.1 of the PoA-DD and B.6.1 of gCPA-DD. Further  $MCF_{s,PJ,final}$  has been correctly listed in Section E.6.3 of the PoA-DD and Section B.5.1 of gCPA.

## PE<sub>fugitive,y</sub>

The calculation of  $PE_{fugitive,y}$  has been presented in the PoA-DD as per methodology. The PoA and generic CPA correctly state the formula as following:

$$PE_{fugitive,y} = PE_{fugitive,ww,y} + PE_{fugitive,s,y} = (1 - CFE_{ww}) \times MEP_{ww,treatment,y} \times GWP_{CH4} + 0$$

Where

$PE_{fugitive,y}$	= Methane emissions from biogas release in capture systems in year y (tCO <sub>2</sub> e)
$PE_{fugitive,ww,y}$	= Fugitive emissions through capture inefficiencies in the anaerobic wastewater treatment systems in the year y (tCO <sub>2</sub> e)
$PE_{fugitive,s,y}$	= Fugitive emissions through capture inefficiencies in the anaerobic sludge treatment systems in the year y (tCO <sub>2</sub> e)
$CFE_{ww}$	= Capture efficiency of the biogas recovery equipment in the wastewater treatment systems (a default value of 0.9 shall be used)
$MEP_{ww,treatment,y}$	= Methane emission potential of wastewater treatment systems equipped with biogas recovery system in year y (t)

It has been correctly stated in paragraph 14 in Section E.6.2 of the PoA-DD that parameter  $PE_{fugitive,s,y}$  is considered to be zero because the PoA does not introduce biogas recovery measures to sludge treatment systems (either existent or new). Scenario 1(b) and 1(c) of the methodology AMS III.H (version 16) have been excluded from the list of applicable baseline and project scenarios. Thus the parameter  $S_{I-bio,PJ,y}$ <sup>5</sup> “Amount of sludge treated in the project sludge treatment system / equipped with a biogas recovery system in year y” is zero. This parameter is used in the formula to calculate  $MEP_{s,treatment,y}$  “Methane emission potential of the sludge treatment systems equipped with a biogas recovery system in year y.” Therefore  $MEP_{s,treatment,y}$  is zero which ultimately turns  $PE_{fugitive,s,y}$  zero. GLC confirms by means of local and sectoral expertise that the parameter  $PE_{fugitive,s,y}$  can be considered zero under the current setting of the SEA Biogas PoA.

Further the calculation of  $MEP_{ww,treatment,y}$  has been correctly presented as follows:

<sup>5</sup> It shall be noted that the parameter  $S_{I,PJ,y}$  used in the calculation of  $MEP_{s,treatment,y}$  (formula 13 of AMS III.H Version 16) has been re-named by GLC into  $S_{I-bio,PJ,y}$  “Amount of sludge treated in the project sludge treatment system I equipped with a biogas recovery system in year y” to be able to distinguish this parameter from the parameter  $S_{I,PJ,y}$  “Amount of dry matter in the sludge treated by the sludge treatment system I in year y in the project scenario” which is used to calculate  $S_{j,BL,y}$  “Amount of dry matter in the sludge that would have been treated by the sludge treatment system j in the baseline scenario (Formula (5) of AMS III.H version 16). Note that both parameters are using the same parameter name ( $S_{I,PJ,y}$ ) by the methodology, however have different definitions.



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$$MEP_{ww,treatment,y} = Q_{ww,y} \times B_{o,ww} \times UF_{PJ} \times \sum_k (COD_{removed,PJ,k,y} \times MCF_{ww,treatment,PJ,k})$$

Where

$COD_{removed,PJ,k,y}$  = The chemical oxygen demand removed by the treatment system  $k$  of the project activity equipped with biogas recovery in the year  $y$  (t/m<sup>3</sup>)  
 $MCF_{ww,treatment,PJ,k}$  = Methane correction factor for the project wastewater treatment system  $k$  equipped with biogas recovery equipment ( $MCF$  values as per Table III.H.)

This PoA considers for  $k$ =biogas digester:

$$COD_{removed,PJ,k,y} = COD_{ww,treated,y} - COD_{ww,untreated,y}$$

Where

$COD_{ww,treated,y}$  = The Chemical Oxygen Demand (COD) of the treated wastewater in the project scenario in year  $y$  (outlet biogas digester)  
 $COD_{ww,untreated,y}$  = The Chemical Oxygen Demand (COD) of the untreated wastewater in the project activity in year  $y$  (t/m<sup>3</sup>) (inlet biogas digester)

Optionally a default value of 0.05 m<sup>3</sup> biogas leaked/m<sup>3</sup> biogas produced may be used as an alternative to calculation as per equations above.

It can be confirmed that the calculation of  $PE_{fugitive,y}$  presented in the PoA and generic CPA is correct and in line with AMS III.H. Further the parameters  $COD_{ww,treated,y}$  and  $COD_{ww,untreated,y}$  have been correctly listed in the list of parameters that will be monitored in Section E.7.1 of the PoA-DD and Section B.6.1 of gCPA. Further  $CFE_{ww}$  and  $MCF_{ww,treatment,PJ,k}$  have been correctly listed in Section E.6.3 of the PoA-DD and B.5.1 of gCPA-DD.

## $PE_{flaring,y}$

The calculation of  $PE_{flaring,y}$  has been presented in the PoA-DD in accordance with the methodology AMS III.H version 16 and the “Tool to determine project emissions from flaring gases containing methane” (EB 28 Annex 13 version 01)<sup>EB02/</sup>. The flaring device of a SSC-CPA eligible under this PoA may either have an open flare or an enclosed flare. However enclosed flares with continuous monitoring are not applicable under this PoA and therefore steps 3 and 4 of the above mentioned tool have been excluded. The PoA and generic CPA correctly state the formula as following:

$$PE_{flaring,y} = \sum_{h=1,...,8760} (TM_{RG,h} \times (1 - \eta_{flare,h}) \times (GWP_{CH4} / 1000))$$

Where

$PE_{flaring,y}$  = Methane emissions due to incomplete flaring in year  $y$  (tCO<sub>2</sub>e)  
 $TM_{RG,h}$  = Mass flow rate of methane in the residual gas in the hour  $h$  (kg/h)  
 $\eta_{flare,h}$  = Flare efficiency in hour  $h$

The default values for the flare efficiency  $\eta_{flare,h}$  have been indicated correctly in Section E.7.1 of the PoA-DD under parameters  $\eta_{open\ flare,h}$  and  $\eta_{enclosed\ flare,h}$ . Based on “Other flare operating parameters” and

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the temperature in the exhaust gas of the flare ( $T_{\text{flare}}$ ) the corresponding flare efficiency can be selected. Both parameters "Other flare operating parameters" and  $T_{\text{flare}}$  have been correctly indicated in Section E.7.1 of the PoA-DD and Section B.6.1 of gCPA.

The mass flow rate of methane in the residual gas  $TM_{\text{RG,h}}$  has been presented as per the tool:

$$TM_{\text{RG,h}} = FV_{\text{RG,h}} \times fv_{\text{CH}_4, \text{RG,h}} \times \rho_{\text{CH}_4, \text{n}}$$

Where

$FV_{\text{RG,h}}$  = Volumetric flow rate of the residual gas in dry basis at normal conditions in hour h

$fv_{\text{CH}_4, \text{RG,h}}$  = Volumetric fraction of methane in the residual gas on dry basis in hour h

$\rho_{\text{CH}_4, \text{n}}$  = Density of methane at normal conditions (0.716)

It can be confirmed that the calculation of  $PE_{\text{flaring,y}}$  presented in the PoA and generic CPA is correct and in line with AMS III.H and the "Tool to determine project emissions from flaring gases containing methane" (EB 28 Annex 13 version 01)<sup>EB02/</sup>. Further the parameters  $FV_{\text{RG,h}}$  and  $fv_{\text{CH}_4, \text{RG,h}}$  have been correctly listed in the list of parameters that will be monitored in Section E.7.1 of the PoA-DD and Section B.6.1 of gCPA. Further  $\rho_{\text{CH}_4, \text{n}}$  has been correctly listed in Section E.6.3 of the PoA-DD and B.5.1 of gCPA.

## $PE_{\text{biomass,y}}$

The calculation of  $PE_{\text{biomass,y}}$  "Methane emissions from biomass stored under anaerobic conditions" will be described on CPA level if applicable. Project emissions from biomass stored under anaerobic conditions are determined as per the procedures described in the tool "Emissions from solid waste disposal sites" (version 06.0.1). As indicated in paragraph 16 of Section E.6.2 of PoA-DD the methodological choices, equations to be applied, monitored and fixed ex-ante parameters depend on the specific CPA project scenario. It is therefore deemed reasonable and justified that formulae and equations to calculate  $PE_{\text{biomass,y}}$  will be presented on CPA level. Provisions for inclusion of monitored parameters due to the application of the tool "Emissions from solid waste disposal sites" (version 06.0.1) have been provided in Section E.7.1 of the PoA-DD and Section B.6.1 of gCPA.

## The project emissions as per AMS I.D are calculated as follows:

As per AMS I.D paragraph 17 most renewable project activities do not consider project emissions ( $PE_y = 0$ ). However it has been correctly indicated in the PoA and generic CPA that the "Tool to calculate project or leakage CO<sub>2</sub> emissions from fossil fuel combustion" (EB 41 Annex 11 version 02)<sup>EB06/</sup> will be applied in case CO<sub>2</sub> emissions from on-site consumption of fossil fuel occur in the project activity. Provisions for inclusion of parameters available at validation and monitored parameters due to the application of the "Tool to calculate project or leakage CO<sub>2</sub> emissions from fossil fuel combustion" (EB 41 Annex 11 version 02)<sup>EB06/</sup> have been provided in Section E.6.3 and E.7.1 of the PoA-DD and Section B.5.1 and B.6.1 of gCPA..

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## Leakage of a typical CPA:

As per methodology AMS III.H leakage needs to be considered if the technology is using equipment transferred from another activity. As per methodology AMS I.D leakage needs to be considered if the energy generating equipment is transferred from another activity. Due to eligibility criteria nb. 6 which ensures that CPAs included under this PoA will only employ new equipment, leakage can be considered zero.

## Emission Reductions of a typical CPA:

The emission reduction is calculated as baseline emission deducted by project emission and leakage.

The emission reductions as per AMS III.H are calculated as follows:

*Ex-ante:*

$$ER_{y,ex\ ante} = BE_{y,ex\ ante} - (PE_{y,ex\ ante} + LE_{y,ex\ ante})$$

Where

$ER_{y,ex\ ante}$  = *Ex ante* emission reduction in year  $y$  (tCO<sub>2</sub>e)

$BE_{y,ex\ ante}$  = *Ex ante* baseline emissions in year  $y$  calculated as per paragraph 18 of AMS III.H (tCO<sub>2</sub>e)

$PE_{y,ex\ ante}$  = *Ex ante* project emissions in year  $y$  calculated as paragraph 29 of AMS III.H (tCO<sub>2</sub>e)

$LE_{y,ex\ ante}$  = *Ex ante* leakage emissions in year  $y$  (tCO<sub>2</sub>e)

*Ex-post:*

For SSC-CPAs falling under paragraph 1 (a) and 1 (e) of the methodology, emission reductions will be calculated as follows:

$$ER_{y,ex\ post} = BE_{y,ex\ post} - (PE_{y,ex\ post} + LE_{y,ex\ post})$$

For SSC-CPAs falling under paragraph 1 (d) and 1 (f) of the methodology, Emission Reductions will be calculated as follows:

$$ER_{y,ex\ post} = \min[(BE_{y,ex\ post} - PE_{y,ex\ post} - LE_{y,ex\ post}), (MD_y - PE_{power,y} - LE_{y,ex\ post})]$$

Where

$ER_{y,ex\ post}$  = Emission reductions achieved by the project activity based on monitored values for year  $y$  (tCO<sub>2</sub>e)

$BE_{y,ex\ post}$  = Baseline emissions calculated as per paragraph 18 using *ex post* monitored values

$PE_{y,ex\ post}$  = Project emissions calculated as per paragraph 29 using *ex post* monitored values

$LE_{y,ex\ post}$  = *Ex post* leakage emissions in year  $y$  (tCO<sub>2</sub>e)

$MD_y$  = Methane captured and destroyed/gainfully used by the project activity in the year  $y$  (tCO<sub>2</sub>e)

Further the calculation of  $MD_y$  is as follows:

$$MD_y = BG_{burnt,y} \times w_{CH_4,y} \times D_{CH_4} \times FE \times GWP_{CH_4}$$

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Where

$BG_{burnt,y}$  = Biogas flared/combusted in year  $y$  ( $m^3$ )  
 $w_{CH_4,y}$  = Methane content of the biogas in the year  $y$  (volume fraction)  
 $D_{CH_4}$  = Density of methane at the temperature and pressure of the biogas in the year  $y$  ( $t/m^3$ )  
FE = Flare efficiency in year  $y$  (fraction). If the biogas is combusted for gainful purposes, e.g. fed to an engine, an efficiency of 100% may be applied

It can be confirmed that the calculation of  $ER_{y,ex\ ante}$  and  $ER_{y,ex\ post}$  as per AMS III.H presented in the PoA and generic CPA is correct and in line with methodology. Further the parameters  $BG_{burnt,y}$  and  $w_{CH_4,y}$ , “Temperature of the biogas in °C” (T) and “Pressure of the biogas” (P) have been correctly listed in the list of parameters that will be monitored in Section E.7.1 of the PoA-DD and Section B.6.1 of gCPA..

The emission reductions as per AMS I.D are calculated as follows:

$$ER_y = BE_y - PE_y - LE_y$$

For the data and parameters not to be monitored throughout the crediting period (i.e. they are determined only once and thus remain fixed throughout the crediting period), it is assessed that all data sources, assumptions and calculations are correct, applicable to the project and contribute to a conservative estimate of the emission reductions. For the data and parameters subject to monitoring, it is confirmed that the ex-ante estimated values for the monitoring parameters are plausible, and the emission reduction estimates provided in the PoA-DD are reasonable and conservative. In conclusion, all values used in the PoA-DD and CPA-DD to calculate emission reductions are considered reasonable in the context of the proposed SSC-CPA project activity and calculation approach is correct.

## 4.8 PoA and CPA Monitoring Plan

### 4.8.1 PoA Monitoring Plan

The PoA monitoring will be undertaken for each CPA. The CME will maintain an Excel sheet “the Record Keeping System” (RKS) listing all real-case CPAs uniquely identified with the CPA number (e.g. CPA number 001). Each CPA refers to one biogas recovery facility. Thus a monitoring plan and emissions reduction calculation will be provided for each CPA separately.

The CME will create, manage and continuously update electronic records (database) for each CPA under the PoA, which will be summarized in the RKS and contain the following information per CPA:

1. Name and ID of the CPA

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2. Name of CPA implementer
3. Location
4. CPA start date
5. Type of the waste water treatment systems installed
6. Type of the waste water treated
7. Installed capacity of the energy generating device
8. Inclusion status
9. CPA inclusion date
10. Start and End date of CPA crediting and monitoring period
11. Type of baseline scenario
12. Amount of CERs as per Monitoring Report
13. Amount of CERs issued per verification

GLC can therefore confirm that the CME, with the structure in place, will be able to manage and coordinate the PoA as described in the PoA-DD according to the requirements of Validation and Verification Manual, paragraph 166<sup>VVM</sup>, since the structure is “sufficient to ensure that the coordinating/managing entity will have control of all records and information related to the implementation of individual CPAs and will be in a position to ensure each CPA is being operated in accordance with the specific requirements of the programme”.

## 4.8.2 Monitoring Plan of a typical CPA

All parameters to be monitored for each CPA as detailed in section E.7.1 of PoA-DD will be monitored according to the Monitoring Plan outlined in E.7.2 of PoA-DD.

Primary data will be collected by CPA implementers stored according to the procedures defined in section E.7.1 of the PoA-DD. This will include the monitoring of the following parameters:

Data or Parameter to be monitored		Procedure or means of measurement
1	Volume of wastewater treated in baseline wastewater treatment system i in year y ( $Q_{ww,i,y}$ )* *This parameter is same as $Q_{ww,k,y}$ (Volume of wastewater treated in the project wastewater treatment system k in year y) *This parameter is also equal to $Q_{ww,y}$ (Volume of treated wastewater discharged in year y)	Monitored continuously and recorded daily. In case totalized volumes are not measured, at least hourly measurements are undertaken, if less, confidence/precision level of 90/10 shall be attained. Measurements are undertaken using Flow meters
2	The Chemical Oxygen Demand of the untreated wastewater in the project activity in year y ( $COD_{ww,untreated,y}$ )* *This parameter will be used to determine $COD_{inflow,i,y}$ (“Chemical Oxygen demand of the wastewater inflow to the baseline treatment system i in year y (t/m <sup>3</sup> ) ex-post.	To be measured before the biogas digester. Measurement according to national or international standards. COD is measured through representative sampling. Samples and measurements shall ensure a 90/10 confidence/ precision level.
3	The Chemical Oxygen Demand (COD) of wastewater measured after the treatment system affected by the project activity and equipped with biogas	To be measured after the biogas digester. Measurement according to national or international standards. COD is measured through representative sampling. Samples and measurements shall ensure

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	recovery in year y ( $COD_{ww,treated,y}$ )	a 90/10 confidence/ precision level
4	The outflow Chemical Oxygen Demand of the treated wastewater in system k not equipped with biogas recovery in year y ( $COD_{ww,outflow,k,y}$ )	To be measured after the project wastewater treatment system affected by the project activity and not equipped with biogas recovery (e.g. after the last anaerobic pond). Measurement according to national or international standards. COD is measured through representative sampling. Samples and measurements shall ensure a 90/10 confidence/ precision level
5	The Chemical Oxygen Demand (COD) of the wastewater after the treatment system affected by the project activity discharged to the river ( $COD_{ww,discharge,PJ,y}$ )	To be measured after the last anaerobic pond or aerobic pond (in case existent). Measurement according to national or international standards. COD is measured through representative sampling. Samples and measurements shall ensure a 90/10 confidence/ precision level.
6	Amount of dry matter in the sludge treated by the sludge treatment system l in the project scenario in year y ( $S_{l,PJ,y}$ )	Monitoring of 100% of the sludge amount through continuous or batch measurements and moisture content through representative sampling to ensure 90/10 confidence/precision level.
7	Amount of dry matter in the final sludge generated in the project wastewater treatment system in year y ( $S_{final,PJ,y}$ )	Monitoring of 100% of the sludge amount through continuous or batch measurements and moisture content through representative sampling to ensure 90/10 confidence/precision level.
8	Biogas volume in year y ( $BG_{Burnt,y}$ )	Monitored continuously. If the biogas streams flared and fuelled (or utilized) are monitored separately, the two fractions can be added together to determine the total biogas recovered, without the need to monitor the recovered biogas before the separation.
9	<ul style="list-style-type: none"> <li>- Methane content in biogas in the year y (<math>w_{CH4,y}</math>)</li> <li>- Volumetric flow rate of the residual gas in dry basis at normal conditions in hour h (<math>fv_{CH4,RG,h}</math>)</li> </ul>	<p>The fraction of methane in the gas will be measured with a continuous gas analyser or alternatively, with periodical measurement at a 90/10 confidence/precision level. It will be measured using equipment that can directly measure methane content in the biogas.</p> <p>Biogas volume (<math>BG_{burnt,y}</math>) and methane content measurements (<math>w_{CH4,y}</math> and <math>fv_{CH4,RG,h}</math>) will be carried out on the same basis (dry or wet) if the biogas temperature exceeds 60°C.</p>
10	Temperature of the biogas (T)	<p>Shall be measured at the same time when methane content in biogas is measured. The temperature of the gas is required to determine the density of the methane combusted.</p> <p>If the biogas flow meter employed measure flow, pressure and temperature and display or output the normalised flow of biogas, then there is no need for separate monitoring of pressure and temperature of</p>

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		the biogas.
11	Pressure of the biogas ( <b>P</b> )	Shall be measured at the same time when methane content in biogas is measured. The pressure of the gas is required to determine the density of the methane combusted. If the biogas flow meter employed measure flow, pressure and temperature and display or output the normalised flow of biogas, then there is no need for separate monitoring of pressure and temperature of the biogas.
12	Volumetric flow rate of the residual gas in dry basis at normal conditions in hour h ( <b>FV<sub>RG,h</sub></b> )	Parameter monitored continuously. Values to be averaged hourly or at shorter time interval. Biogas volume ( <b>FV<sub>RG,h</sub></b> ) and methane content measurements ( <b>w<sub>CH4,y</sub></b> and <b>f<sub>CH4,RG,h</sub></b> ) will be carried out on the same basis (dry or wet) if the biogas temperature exceeds 60°C.
13	The flare efficiency (open flare) ( <b>η<sub>open flare,h</sub></b> )	Determined based on "other flaring operation parameters" as per the "Tool to determine project emissions from flaring gases containing methane" (EB 28 Annex 13 version 01) <sup>/EB02/</sup>
14	The flare efficiency (enclosed flare) ( <b>η<sub>enclosed flare</sub></b> )	Determined based on "other flare operation parameters" and flare exhaust temperature ( <b>T<sub>flare</sub></b> ) readings as per the "Tool to determine project emissions from flaring gases containing methane" (EB 28 Annex 13 version 01) <sup>/EB02/</sup>
15	Temperature in the exhaust of the enclosed flare ( <b>T<sub>flare</sub></b> )	Measure the temperature of the exhaust gas stream in the flare by Type N thermocouple. A temperature above 500 °C indicates a significant amount of gases are still being burnt and that the flare is operating
16	Other flare operation parameters	This should include all data and parameters that are required to monitor whether the flare operates within the range of operating conditions according to manufacturer's specification including flame detector in case of open flares.
17	Parameters related to emissions from electricity consumption in year y	In accordance with the "Tool to calculate baseline, project and/or leakage emissions from electricity consumption" <sup>/EB05/</sup> (EB 39 Annex 7 version 01) parameters will be monitored if applicable to the real-case CPA.
18	Parameters related to emission from fossil fuel consumption in year y	In accordance with the "Tool to calculate project or leakage CO <sub>2</sub> emissions from fossil fuel combustion" (EB 41 Annex 11 version 02) <sup>/EB06/</sup> parameters will be monitored if applicable to the real-case CPA.
19	Parameters related to emissions from biomass stored under anaerobic	In accordance with the tool "Emissions from solid waste disposal sites" (version 06.0.1) parameters will

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	conditions which does not occur in the baseline situation	be monitored if applicable to the real-case CPA.
20	Quantity of net electricity supplied to the grid as a result of the implementation of the CDM project activity in year y ( $EG_{BL,y}$ )	Parameter monitored continuously and monthly recorded.

## The Sampling Method that would be applied:

The CME does not apply sampling. All parameters of each CPA will be monitored and submitted to the verifying DOE. Each CPA will undergo verification.

## 4.9 PoA Duration and CPA Crediting Period

As per the PoA requesting registration uploading procedures, the start date of the PoA is defined as the starting date of the whole PoA crediting period. The start date of crediting period has been unambiguously stated in the PoA-DD section B.1, i.e. 2012-09-01 or on the date of registration, whichever is later. The PoA duration is stated in the PoA-DD section B.2 as 28 years, which is deemed appropriate.

The CPA crediting period will either be 10 years fixed or 7 years renewable.

## 4.10 Local and Global Stakeholder Consultations

### 4.10.1 Local Stakeholder Consultation

The PP followed the invitation procedure for stakeholder comments on the CPA level in line with relevant requirements.

A local stakeholder meeting was held on 2011-08-05, and relevant stakeholders were invited for comments through interviews. The invitation to invite stakeholder comments has been provided to GLC.

Based on the on-site validation investigation, all relevant local stakeholders have been invited to comment on the PoA and the first CPA, and a summary of comments is available in section D.3 of the specific CPA-DD. And given the positive comments received, no significant comment was necessary to be taken into account.

### 4.10.2 Global Stakeholder Consultation

GLC published the project documents on UNFCCC's website

(<http://cdm.unfccc.int/ProgrammeOfActivities/Validation/DB/REKUSXC1LPW3KEK8RG3GSAJBOO6P10/view.html>) on 2011-08-11 and invited comments within the period from 2011-08-11 to 2011-09-09 by Parties, stakeholders and non-governmental organisations. One comment has been received which has been assessed in PoA-CL 6 and was successfully closed.

## 4.11 Environmental Impacts Analysis (EIA)

Environmental Analysis is chosen to be done at CPA level.



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The validation team assessed based on local and sectoral knowledge and background research that an environmental impact assessment is not required for the first specific CPA due to Government Regulation PP NO. 11/2006. Appendix 1 of Regulation of the State Minister of Environment No. 11/2006<sup>/64b//64c/</sup> has been assessed and identified that the biogas power plant falls under section “other power plants” which need to conduct an EIA if the installed capacity is greater than 10 MW. Since the first CPAs capacity is smaller than 10 MW, an EIA is not required as per Indonesian law.

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## 5 VALIDATION OPINION

Germanischer Lloyd Certification GmbH has performed a validation of “South East Asia Biogas Programme of Activities.” The validation was performed on the basis of UNFCCC criteria and host country criteria, as well as criteria given to provide consistent project operations, monitoring and reporting.

The review of the project design documentation and the subsequent follow-up interviews have provided Germanischer Lloyd Certification GmbH with sufficient evidence to determine the fulfilment of stated criteria. In the course of the validation 27 Corrective Action Requests (CARs) and 6 Clarification Requests (CLs) were raised for the PoA Validation. Another 6 Corrective Action Requests (CARs) have been raised for the generic CPA Validation. All Findings have been successfully closed.

In detail the conclusions can be summarised as follows:

- The PoA is in line with all relevant host country criteria of the (Republic of Indonesia) and all relevant UNFCCC requirements for CDM. PoA approvals have been obtained from DNA of the Republic of Indonesia vide the Letter of Approval (HCA) dated 2011-12-19<sup>HCA/</sup>. Letter of approval from Annex I countries Switzerland and Netherlands (LOAs) dated 2011-12-14 and 2011-12-20 have been provided as well<sup>/LoA1//LoA2/</sup>.
- The PoA and CPA additionality is sufficiently justified in the PoA-DD.
- The eligibility criteria established for CPA inclusion are deemed appropriate and sufficient.
- A typical CPA is likely to be implemented as designed in the PoA-DD and the generic CPA-DD to achieve the estimated amount of emission reductions.
- The claimed emission reductions are real, measurable and give long-term benefits to the mitigation of climate change.
- The monitoring plan is transparent and adequate.
- The calculation of the emission factors and the CPA emission reductions is carried out in a transparent and conservative manner.
- Information on the local stakeholders' consultation by the project participants prior to submitting the PoA for validation is sufficiently provided in the real-case CPA.
- No relevant negative environmental impacts are expected from the implementation of the PoA.
- All information has been also consistently applied in the generic CPA-DD form.

Hence, it is GLC's opinion that the PoA as described in the revised design document of “South East Asia Biogas Programme of Activities” (version 07), meets all relevant UNFCCC requirements for the CDM and all relevant host Party criteria, And the PoA will be recommended by Germanischer Lloyd Certification GmbH for registration.

Hamburg, 2012-07-12

Assessment Team Leader

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## 6 REFERENCES

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/1b/	Technology Specifications by Papop: Consulting Proposal Biogas Production Plant for 60 Tons FFB/d (File name: "1.b_Technology provider Proposal.pdf"), Feb 2011	2011-02-01
/1c/	Technology Specifications by Papop: Email from Technology Provider Papop (File name: "1.c_Email from technology provider.pdf")	2011-04-07
/1d/	Technology Specifications by Papop: Excel Sheet from Technology Provider (File name: "1.d_IRR for 60 tFFB-2011-04-05.xls")	2011-04-07
/1e/	Registered CDM Project 4589 regarding project life time (File name: 1.e_Project lifespan_Ref No.4589 registered project.pdf)	
/1f/	Technology Specifications by Papop: Excel calculation sheet (File name: "1.f_Calculation genset install power.pdf")	2011-04-07
/5/	Project Implementation Plan by PT. Green Energy Specialist One (File name: "5_Project time plan.pdf")	
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/26b/	Supporting Documents for Calculation of Benchmark Analysis: Beta: Aswath Damodaran (File name: "26.b_Supporting doc for determining Beta value from Damodaran.pdf") dated 2011-01-01	2011-01-01
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/EB19/	CDM EB 50 Annex 15 "Tool to determine the remaining lifetime of equipment" (version 01)	2009-10-16
/EB20/	CDM EB 63 Annex 29 "Procedures for Renewal of a Crediting Period of a Registered CDM project activity" (version 06)	2011-09-29
/ER/	: Spreadsheet with ex-ante estimations of emission reductions v.01 (file name: 20110729ER Calculation 0001 Bahari Biogas to Electricity V1.xlsx)	2011-07-26
	: Spreadsheet with ex-ante estimations of emission reductions v.02 (file name: 111007_ER Calculation 0001 Bahari Biogas to Electricity V2.xlsx)	2011-10-07
	: Spreadsheet with ex-ante estimations of emission reductions v.03 (file name: 111108_ER Calculation 0001 Bahari Biogas to Electricity V3.xlsx)	2011-11-08
	: Spreadsheet with ex-ante estimations of emission reductions v.04 (file name: 20120403_ER Calculation 0001 Bahari Biogas to Electricity V4_final.xls)	2012-04-03
/gCPA/	: CDM Programme Activity generic (gCPA-DD), version 1	2011-07-26
	: CDM Programme Activity generic (gCPA-DD), version 2	2011-10-07
	: CDM Programme Activity generic (gCPA-DD), version 3	2011-11-08
	: CDM Programme Activity generic (gCPA-DD), version 4	2011-12-10
	: CDM Programme Activity generic (gCPA-DD), version 5	2012-03-06
	: CDM Programme Activity generic (gCPA-DD), version 6	2012-05-21
	: CDM Programme Activity generic (gCPA-DD), version 7	2012-06-13
/GoT/	CDM EB: Glossary of CDM Terms (Version 05).	
/HCA/	Host Country Approval (HCA) of the Indonesian DNA	2011-12-19
/IPCC/	IPCC: 2006 IPCC Guidelines for National Greenhouse Gas Inventories Reference Manual. 2006.	2006
/LoA1/	Letter of Approval (LoA) of the Dutch DNA	2011-12-14
/LoA2/	Letter of Approval (LoA) of the Swiss DNA	2011-12-20
/MoC/	: Completed modalities of communication (MoC)	2012-02-06
/PoA/	: CDM Programme of Activities (PoA-DD) version 01	2011-07-26
	: CDM Programme of Activities (PoA-DD) version 02	2011-10-07
	: CDM Programme of Activities (PoA-DD) version 03	2011-11-08
	: CDM Programme of Activities (PoA-DD) version 04	2011-12-10
	: CDM Programme of Activities (PoA-DD) version 05	2012-03-06
	: CDM Programme of Activities (PoA-DD) version 06	2012-05-21
	: CDM Programme of Activities (PoA-DD) version 07	2012-06-13
/rCPA/	: CDM Programme Activity real-case (rCPA-DD), version 1	2011-07-21
	: CDM Programme Activity real-case (rCPA-DD), version 2	2011-10-07
	: CDM Programme Activity real-case (rCPA-DD), version 3	2011-11-08
	: CDM Programme Activity real-case (rCPA-DD), version 4	2011-12-10
	: CDM Programme Activity real-case (rCPA-DD), version 5	2012-03-06
	: CDM Programme Activity real-case (rCPA-DD), version 6	2012-05-21
	: CDM Programme Activity real-case (rCPA-DD), version 7	2012-06-13
/VVM/	CDM EB 55 Annex 1: Validation and Verification Manual (version 01.2)	2010-07-30
/WACC/	: Spreadsheet with investment analysis calculations v.01 (file name: 20110229WACC_IRR_analysis_bahari_biogas_to_electricity_V1.xlsx)	2011-07-26

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	: Spreadsheet with investment analysis calculations v.02 (file name: 111007_WACC_IRR_analysis_bahari_biogas_to_electricity_V2.xlsx)	2011-10-07
	: Spreadsheet with investment analysis calculations v.03 (file name: 111108_WACC_IRR_analysis_bahari_biogas_to_electricity_V3.xlsx)	2011-11-08
	: Spreadsheet with investment analysis calculations v.04 (file name: 120307_WACC_IRR_analysis_bahari_biogas_to_electricity_V4.xls)	2012-03-07



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### ANNEX A: VALIDATION QUESTIONNAIRE AND RESOLUTION OF CORRECTIVE ACTION AND CLARIFICATION REQUESTS (FINDINGS'S LIST)

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## A. 1 Validation Questionnaire

QUESTIONS / VVM / METHODOLOGY REQUIREMENT	SOURCE / REF.	VALIDATION TEAM'S FINDINGS / COMMENTS / REQUESTS	GSC PoA	FINAL PoA
<b>1 GENERAL DESCRIPTION OF PROGRAMME OF ACTIVITIES (POA)</b>				
<b>1.1 Title of the Programme of Activities (PoA)</b>				
1.1.1 Are title, current version number and the date of document completion given in section A.1 of the PoA-DD?	PoA-DD EB41 Annex 12	Yes, the title is indicated in section A.1 of the PoA-DD as "South East Asia Biogas Programme of Activities", which is consistent with the GSC version of the PoA-DD in the following link: <a href="http://cdm.unfccc.int/ProgrammeOfActivities/Validation/DB/REKUSXC1LPW3KEK8RG3GSAJBOO6P10/view.html">http://cdm.unfccc.int/ProgrammeOfActivities/Validation/DB/REKUSXC1LPW3KEK8RG3GSAJBOO6P10/view.html</a> Besides, the current version number and the date of document completion have been duly indicated in section A.1 of the PoA-DD..	OK	OK
<b>1.2 PROGRAMME DESIGN DOCUMENT (PoA-DD) and DESCRIPTION of the PROGRAMME of ACTIVITY</b>				
1.2.1 Has the PoA-DD been prepared in accordance with the latest template and guidance from the EB? <i>Please refer also to</i> <a href="http://cdm.unfccc.int/Reference/PDDs_Forms/PoA/index.html">http://cdm.unfccc.int/Reference/PDDs_Forms/PoA/index.html</a>	EB 55 Annex 1, §55	The latest template available on the unfccc website (i.e. SSC-PoA-DD version 01 EB 33 Annex 43) has been used for the PoA-DD.	OK	OK
1.2.2 Has a sufficient description of general operating and implementing framework of the PoA been given?	EB 55 Annex 38, § 6	The general operating and implementing framework of the PoA has been described in Section A.2 of PoA-DD. However the roles and functions of the CME, other PPs, CPA owner resp. project host and project implementer has not been sufficiently explained. Following findings have been raised: <b>PoA-CAR 1</b> The PoA-DD v.01. refers to a SSC-CPA owner, site owner, implementer,	<b>PoA-CAR 1</b> <b>PoA-CL 3</b>	OK

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		<p>developer, etc. whereas the CPA-DD v.01 indicates the project implementer and project host. All entities shall be referred precisely and consistently throughout the documentation.</p> <p><b>PoA-CL 3</b></p> <p>Please clarify the contractual agreements between the CME, the implementing entity, the operating entity and in case activities are outsourced the third party.</p>		
1.2.3 Is the PoA describing the policy/measure or stated goal that the PoA seeks to promote in a transparent and sufficient manner?	EB 55 Annex 38, §6 (c)	<p>The stated goal of the PoA is described in Section A.2. The aim is to recover biogas from biogenic organic matter in waste water and thus prevent the release of methane to the atmosphere and to further encourage the use of the gas as a fuel to generate Renewable Electricity for export to a grid and flare any biogas recovered in excess. Further it has been explained that till date no regulations are in place that require biogas resulting from waste water treatment systems to be captured and destroyed. The state owned electricity company (PLN) has been obliged to buy electricity from renewable energy with an installed capacity lower than 1 MW since 2002. In 2006 another government decision introduced a feed in tariff for RE projects between 1 MW to 10 MW. In 2009 another feed in tariff was introduced thus not resulting in increased RE projects. This information has been crosschecked with "Regulation of the Ministry of Energy and Mineral Resources" NO.2/2006<sup>10b/</sup> stating the feed in tariff for renewable energy projects supplying renewable energy to the low-voltage tension and medium-voltage tension grids. Further the "Regulation of the Ministry of Energy and Mineral Resources" NO.31/2009<sup>11b/</sup> states that PLN is obliged to purchase electricity from small scale and medium scale electric power plants using renewable energy with a capacity of up to 1 MW.</p> <p>The description of the stated goal of the PoA is sufficiently described as per Section A.2 of PoA-DD v.02 and in line with EB 55 Annex 38 para 6c.</p>	OK	OK

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1.2.4 Has a confirmation been given that the proposed PoA is a voluntary action by the coordinating/managing entity?	EB 55 Annex 38, §6(d)	The confirmation has been given in Section A.2. Since no mandatory laws are in place in Indonesia that require waste water treatment facilities to capture biogas and destroy it, the CME confirms they are acting voluntarily. This information has been double checked with interviews during onsite visit and it has been confirmed from our local Expert. Further it has been crosschecked with "Standards for Wastewater for Industrial Activities" by the Ministerial Decree 51/1995 <a href="http://www.cets-iii.org/BML/Air/BMLC/kepmen5195/">http://www.cets-iii.org/BML/Air/BMLC/kepmen5195/</a> which does not mandate the implementation of biogas capturing systems.  The description in A.2 of PoA-DD v.01 is in line with EB 55 Annex 38, §6(d).	OK	OK
1.2.5 Will the PoA create other environmental or social benefits than GHG emission reductions?	EB 55 Annex 1, §§ 125 – 127	As per Section A.2 the PoA creates environmental, economic, social and technological sustainability. Each CDM project has to comply with these 4 goals set by the Indonesia DNA ( <a href="http://pasarkarbon.dnpi.go.id/web/index.php/dnacdm/cat/5/sustainable-development-criteria-.html">http://pasarkarbon.dnpi.go.id/web/index.php/dnacdm/cat/5/sustainable-development-criteria-.html</a> )	OK	OK
1.2.6 Has information regarding the annual average emission reductions of the PoA or the 1st CPA over the first crediting period been included in the description of the PoA?	PoA Requesting for Registration on uploading step 4	The information has not been included in the PoA. CAR is raised.	PoA-CAR-6	OK
<b>1.3 Coordinating/managing entity and participants of PoA</b>				
1.3.1 Are the PPs listed correctly in a tabular form in section	EB41 Annex 12	Yes, the PPs are listed in a tabular form which is in line with EB 33 Annex 34.	OK	OK

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A.3 of the CDM-PoA-DD?				
1.3.2 Is the listed information in the table consistent with the contact details provided in Annex I of the PoA-DD?	PoA-DD	The information in the table is not consistent with Annex 1. Throughout the whole PoA the PPs shall be consistently indicated and referred. CAR has been raised.	<b>PeA-CAR-1</b>	<b>OK</b>
1.3.3 Has the participation of each PP been approved by at least one party involved, either in a letter of approval or in a separate letter? <i>Indicate whether a letter of approval has been received, with a clear reference to the supporting documentation. Indicate whether this letter was provided to the validation team by the project participants or directly by the DNA. Letters of approval shall be issued in accordance with the guidance provided by the CDM Executive Board (EB16, Annex 6)</i>	EB 55 Annex 38, §9; EB 55 Annex 1 §44, 51, 52	The letters of approvals are pending. CAR has been raised.	<b>PeA-CAR-5</b>	<b>OK</b>
1.3.4 Are the approvals issued from organisations listed as DNAs on the UNFCCC CDM website?	EB 55 Annex 1 §47	The letters of approval are pending. CAR has been raised.	<b>PeA-CAR-5</b>	<b>OK</b>
1.3.5 Does each of the written approvals confirm the following information: (1) that the corresponding party is a Party to the Kyoto Protocol; (2) that the participation is voluntary; (3) that the project contributes to the sustainable development in the country (only for host country approval(s)); (4) that the project participant's information is exactly the same as in the PoA-DD; (5) that the PoA title referred in the approvals is consistent	EB 55 Annex 1 §45 (a-d), 46, EB 55 Annex 38 §10	The letters of approvals are pending. CAR has been raised.	<b>PeA-CAR-5</b>	<b>OK</b>

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QUESTIONS / VVM / METHODOLOGY REQUIREMENT	SOURCE / REF.	VALIDATION TEAM'S FINDINGS / COMMENTS / REQUESTS	GSC PoA	FINAL PoA
<p>with the one in the POA-DD submitted for registration, or is there an additional specification of the PoA, e.g. POADD version number;</p> <p>(6) that the CME is authorized for its coordination and implementation of the PoA from each Host Party (only for host country approval(s));</p> <p>(7) that the approvals are unconditional w.r.t. the above points?</p> <p><i>CME's coordination of the PoA can be authorized in the letters of approval from each Host Party or in a separate confirmation letter from each Host Party.</i></p>				
1.3.6 Is it clearly stated in section A.3 of the PoA-DD that the coordinating or managing entity of the PoA is the entity which communicates with the Executive Board (EB)?	EB 55 Annex 38, §11	It has been clearly mentioned in Section A.3 of PoA-DD that PT. Biogas Program International (CME) will communicate with the CDM EB. However the meaning of following sentence shall be clarified: "other Managing Entities may however be set up to manage day to day operation of the programme in such host countries". CL has been raised.	<del>PoA-CL</del> 4	OK
<p>1.3.7 As per the UNFCCC secretariat/CDM Team's request, has following points been fulfilled by the MoC before submitting request for registration:</p> <p>(1) Title of the project and names of project participants and focal points should be fully consistent with those indicated in all other project documentation submitted at the request for registration stage (e.g., PDD, LOAs, etc.);</p> <p>(2) Coordinating/managing entity of the PoA is either sole or joint focal point for each area of communication with the Board, and the limit of joint focal points for the programme shall be 5, or equal to the number of host Parties if greater than 5;</p> <p>(3) No modifications to the template/form (e.g., modifying</p>	EB 55 Annex 38, §11 UNFCCC secretariat/CDM Team's request	The Modalities of Communication is pending.	<del>PoA-CAR</del> 4	OK

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<p>or deleting sections of the form) should been made;</p> <p>(4) Each document (MOC statement including the Annex 1) should be clearly dated;</p> <p>(5) Focal point scopes should be clearly and correctly indicated (e.g., one focal point entity cannot be designated with 'sole' authority while another focal point entity is designated with 'joint' authority for the same scope);</p> <p>(6) Contact details and specimen signatures of focal point entities including those of project participants in Annex 1 should be correctly entered:</p> <p>(7) only one telephone, fax, e-mail contact should be entered per authorized signatory. In cases where additional contact details are included, only the first indicated information will be taken into account and only the official business address of the proposed entity should be provided on the F-CDM-MOC form;</p> <p>(8) the Statement of Agreement in Section 3 should be signed by one authorized signatory for each project participant;</p> <p>(9) signatures made available in Section 3 should correspond to those indicated in the related Annex 1 document;</p> <p>(10) focal point entities who are not designated as project participants should not sign Section 3.</p>				

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<b>1.4 Technical description of the PROGRAMME of ACTIVITY (PoA)</b>				
<b>1.4.1 Location of the PoA</b>				
<b>1.4.1.1</b> Have all host countries been correctly listed in section A.4.1.1 of the PoA-DD?	EB 55 Annex 1, § 52	The host country of the PoA-DD v.01 is the Republic of Indonesia. However, the documentation is not consistent w.r.t. the naming of the country. As stated in the PoA-DD v.01 the PP anticipates including other countries within the ASEAN region at a later stage which is in line with EB 60 Annex 26. A CAR has been raised regarding inconsistency of country name and PP shall clearly indicate whether other countries within ASEAN region or within SEA shall be included.	<del>PoA-CAR 2</del>	OK
<b>1.4.1.2</b> Does the information on the location of the PoA allow for a clear identification of the boundary for the PoA in terms of the geographical area, within which all CPAs included in this PoA will be implemented? e.g., maps in English and /or GSP Coordinates given in following formats: Latitude: 31.125833, Longitude: 30.125833	EB 55 Annex 38, §6(b)	The physical/geographical boundary of the PoA-DD v.01 is Indonesia. However, the documentation is not consistent w.r.t. the naming of the country. As stated in the PoA-DD v.01 the PP anticipates including other countries within the ASEAN region at a later stage which is in line with EB 60 Annex 26. A CAR has been raised regarding inconsistency of country name and PP shall clearly indicate whether other countries within ASEAN region or within SEA shall be included.	<del>PoA-CAR 2</del>	OK
<b>1.4.1.3</b> Have all applicable national and/or sectoral policies and regulations of each host country within the boundary been considered and/or substantiated?	EB 55 Annex 38 §6(b)	In Section A.4.1.2 of PoA-DD v.01 confirmation that all applicable national and/or sectoral policies and regulations of each host country within that chosen boundary have been taken into account is missing. CAR 7 has been raised. Further it shall be clear whether the determination of the baseline considers all applicable national and/or sectoral policies and regulations. CAR 18 point 4 has been raised.	<del>PoA-CAR 7</del> <del>PoA-CAR 18</del>	OK
<b>1.4.2 Description of a typical programme activity (CPA):</b>				
<b>1.4.2.1</b> Has it been stated in a clear, accurate and	EB 55 Annex 38	The PoA seeks to introduce less GHG intensive forms of wastewater treatment in Agro industrial operations. Each SSC-CPA under the PoA will	<del>PoA-CAR 2</del>	OK



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complete manner which technology or measures are to be employed by a typical CPA?	§ 6 (f), EB 55 Annex 1 § 58	<p>generate biogas from the waste water treatment process.</p> <p>A typical SSC-CPA has been described in Section A.4.2.1. It has been described that the PoA will introduce biogas recovery processes whereby the recovered biogas is used as a fuel to generate electricity for export to a regional or national grid. In case excess gas is recovered, this is combusted in a flare to prevent the release of methane into the atmosphere. More specifically the example of the Palm Oil Industry has been described. It is anticipated that a typical SSC-CPA will recover biogas in the Agro-Industrial sector in ASEAN countries. The waste water from the Palm Oil mill is generated due to the processing of the Fresh Fruit Bunches (FFB) of palm into Crude Palm Oil (CPO). This process generates solid and liquid wastes. This wastewater is generally treated in open pond (lagoons). These are anaerobic ponds producing CH<sub>4</sub> and CO<sub>2</sub>. The SSC-CPA introduces Anaerobic Sequencing Batch Reactors (ASBR) ponds, Up flow Anaerobic Sludge Blanket (UASB) reactors or covered lagoon systems which have all the same purpose which is to recover the biogas. The biogas will be used to produce electricity for export to the grid. Any recovered gas in excess is combusted in a flare to prevent the release of methane into the atmosphere. The information given in the PoA has been crosschecked with interviews during the onsite visit and is in line with the Feasibility study<sup>/1a/</sup> and the Consulting Proposal for the CPA implementation<sup>/1b/</sup>.</p> <p>The description is accurate and complete, hence in line with EB 55 Annex 1 para 59.</p> <p>However CAR 2 has been raised to define the region where a CPA will be implemented.</p> <p>Further CAR 27 has been raised because the description of a typical CPA shall include further details, e.g. the average emission reductions; typical COD removal rate, etc. shall be included in Section A.4.2.1.</p>	<del>PoA-</del> <b>CAR 27</b>	

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1.4.2.2 Is this description in accordance with the real situation or, in case of Greenfield CPAs, is it most likely that the CPA will be implemented acc. to the description?	EB 55 Annex 1, §§63, 64	<p>During onsite visit several palm oil mills have been visited to identify the baseline. All of the mills were producing wastewater and treating this in attached anaerobic lagoons. Mostly each mill treated the wastewater in 5-7 anaerobic ponds linked to each other in sequence. No biogas recovery and combustion has been discovered. No sludge treatment or sludge re-use has been observed. Summarizing the baseline scenario in terms of AMS III.H was identified to be anaerobic lagoons and the baseline scenario in terms of AMS I.D is Greenfield as per on-site visit.</p> <p>Since the project start date is after Validation start, the project activity description can only be validated by means of document review and interviews with the PP. During onsite visit no biogas plant has been installed yet.</p> <p>Concerning the project description the Feasibility Study of the first CPA<sup>1a/</sup>, the baseline waste water treatment layout<sup>40/</sup>, the consulting proposal for the Biogas plant<sup>1b/</sup> and the technical details provided by the technology provider<sup>1c/</sup> have been assessed.</p> <p>As per document review, local and sectoral expertise and interviews during onsite visit, it can be confirmed that the project description is accurate and complete, and the CPA will be implemented according to the description.</p>	OK	OK
1.4.2.3 In case the CPA involves alteration of the existing installation or process, is a clear description available regarding the differences between the proposed CPA and the pre-project situation?	EB 55 Annex 1, §§63, 64	<p>As per PoA-DD v.01 a typical SSC CPA baseline in terms of AMS III.H is treatment of wastewater in open ponds (lagoons) which releases GHGs due to the decomposition of organic matter in the liquid waste. The baseline of a typical SSC CPA in terms of AMS I.D is a Greenfield because no biogas has been recovered and combusted in the pre-project situation. This has been confirmed during onsite visit and interviews with the 1<sup>st</sup> CPA implementer, Agro-industrial facility owner and the CME.</p> <p>However PoA-CAR 8 has been raised because the ECs do not state whether an alteration of the existing installation or process will be excluded from a</p>	PoA-CAR 8	OK

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		potential scenario.		

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1.4.2.4 Does a typical CPA qualify as a small scale CDM project activity as defined in decision 4/CMP.1 annex 11? <i>Check if the proposed CPAs qualify within the threshold of one or more of the three possible types of small scale project activities.</i>	EB 55 Annex 1, § 136 (a) and EB 47 Annex 32 § 3	As per Section A.4.2.1. of PoA-DD v.01 the project description does not provide information on how many tons of CO2e will be recovered by a typical CPA. CAR 6 has been raised and following CAR 27.	<del>PoA-CAR 6</del> <del>PoA-CAR 27</del>	OK
1.4.2.5 The <b>geographical boundary</b> of the CPA including any time-induced boundary shall be consistent with the geographical boundary set in the PoA. Is this criteria included in the list of eligibility criteria?	EB 63 Annex 3 § 13(a)	It shall be noted that EB 64 Annex 2 explains that PoA Standards released in EB 63 are not applicable for PoAs which have been webhosted before EB 65. Since this project falls under this category, EB 64 Annex 2 explains that an 8 month grace period applies for implementation of EB 63 resp. EB 65 PoA Standards.  This criteria has not been included in PoA-DD v.01. CAR 8 has been raised.	<del>PoA-CAR 8</del>	OK
1.4.2.6 Have <b>Conditions to avoid double-counting, e.g. to avoid the case of including a new CPA that has been already registered either as CDM project activity or as a CPA of another PoA, as well as internal double counting within all CPAs of this PoA</b> been described in the eligibility criteria for inclusion of a CPA under the PoA?	EB 63 Annex 3 § 13(b)	This criteria has not been included in PoA-DD v.01. Please see question 7.4.2.5.. CAR 8 has been raised.	<del>PoA-CAR 8</del>	OK
1.4.2.7 Have specifications of <b>technology/measure incl. level and type of service, performance specifications including compliance with testing/certifications</b> been included in the eligibility criteria for inclusion of a CPA under the PoA?	EB 63 Annex 3 § 13(c)	This criteria has not been included in PoA-DD v.01. Please see question 7.4.2.5.. CAR 8 has been raised.	<del>PoA-CAR 8</del>	OK

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QUESTIONS / VVM / METHODOLOGY REQUIREMENT	SOURCE / REF.	VALIDATION TEAM'S FINDINGS / COMMENTS / REQUESTS	GSC PoA	FINAL PoA
1.4.2.8 Have conditions to check the <b>CPA start date through documentary evidence been described</b> in the eligibility criteria for inclusion of a CPA under the PoA? <i>CPA start date not before PoA webhosting date</i>	EB 63 Annex 3 § 13(d)	This criteria has not been included in PoA-DD v.01. . Please see question 7.4.2.5. CAR 8 has been raised.	<del>PoA-</del> <b>CAR 8</b>	OK
1.4.2.9 Have conditions that ensure <b>compliance with applicability and other requirements of single or multiple methodology/ies and tools applied by CPAs</b> been described in the eligibility criteria for inclusion of a CPA under the PoA?	EB 63 Annex 3 § 13(e) and EB 55 Annex 1 §167	This criteria has not been included in PoA-DD v.01. Please see question 7.4.2.5. CAR 8 has been raised	<del>PoA-</del> <b>CAR 8</b>	OK
1.4.2.10 Have conditions that ensure that CPAs meet the requirements pertaining to the <b>demonstration of additionality</b> been included in the eligibility criteria for inclusion of a CPA under the PoA? <i>Please refer to "Standard for demonstration of additionality of a PoA"</i>	EB 63 Annex 3 § 13(f)	This criteria has not been included in PoA-DD v.01 . Please see question 7.4.2.5. CAR 8 has been raised.	<del>PoA-</del> <b>CAR 8</b>	OK
1.4.2.11 Have <b>Local stakeholder consultation prior to inclusion of the CPA</b> been included in the eligibility criteria for inclusion of a CPA under the PoA?	EB 63 Annex 3 § 13(g)	This criteria has not been included in PoA-DD v.01. Please see question 7.4.2.5. CAR 8 has been raised.	<del>PoA-</del> <b>CAR 8</b>	OK
1.4.2.12 Have <b>Environmental analysis requirement of the CPA</b> been included in the eligibility criteria for inclusion of a CPA under the PoA?	EB 63 Annex 3 § 13(g)	This criteria has not been included in PoA-DD v.01. Please see question 7.4.2.5. CAR 8 has been raised.	<del>PoA-</del> <b>CAR 8</b>	OK

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1.4.2.13 If applicable, has a <b>target group</b> (e.g. domestic/commercial/industrial, rural/urban, grid-connected/off-grid) and distribution mechanisms (e.g. direct installation) been defined in the eligibility criteria?	EB 63 Annex 3 § 13(h)	This criteria has not been included in PoA-DD v.01.. Please see question 7.4.2.5. CAR 8 has been raised.	<del>PoA-CAR 8</del>	OK
1.4.2.14 If applicable, have the <b>conditions related to sampling requirements for a PoA in accordance with the approved guidelines /standard from the Board pertaining to sampling and surveys</b> been included in the eligibility criteria for inclusion of a CPA under the PoA?	EB 63 Annex 3 § 13(i)	This criteria has not been included in PoA-DD v.01. Please see question 7.4.2.5. CAR 8 has been raised.	<del>PoA-CAR 8</del>	OK
1.4.2.15 If applicable, have the conditions that ensure that CPA in aggregate meets the <b>small-scale or micro-scale threshold criteria</b> and remain within those thresholds throughout the crediting period of the CPA?	EB 63 Annex 3 § 13(j)	This criteria has not been included in PoA-DD v.01. . Please see question 7.4.2.5. CAR 8 has been raised.	<del>PoA-CAR 8</del>	OK
1.4.2.16 If applicable, have <b>De-bundling criterion for the CPA</b> been included in the eligibility criteria for inclusion of a CPA under the PoA?	EB 63 Annex 3 § 13(k)	This criteria has not been included in PoA-DD v.01. . Please see question 7.4.2.5. CAR 8 has been raised.	<del>PoA-CAR 8</del>	OK
1.4.2.17 Have <b>Public funding requirement of the CPA</b> (e.g. conditions to provide affirmation that funding from Annex 1 parties does not result in a diversion of ODA) been included in the eligibility criteria for inclusion of a CPA under the PoA?	EB 63 Annex 3 § 13(l)	This criteria has not been included in PoA-DD v.01. Please see question 7.4.2.5. CAR 8 has been raised.	<del>PoA-CAR 8</del>	OK

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1.4.2.18 Have <b>provisions to ensure that those operating the CPA are aware and have agreed that their activity is being subscribed to the PoA</b> been included in the eligibility criteria for inclusion of a CPA under the PoA?	EB 55 Annex 38 §6(i)	It has been stated in the PoA-DD v.01 that a cooperation agreement with the CME shall be established. However it is not clear who will enter in that arrangement and what the arrangement's content is.  CAR has been raised	<del>PoA-</del> <b>CAR 8</b>	OK
1.4.2.19 Have the provisions to ensure that the <b>CPA crediting period not exceed the PoA end date</b> been included in the eligibility criteria for inclusion of a CPA under the PoA?	EB 55 Annex 38, §7(c)	This criteria has not been included in PoA-DD v.01. Please see question 7.4.2.5. CAR 8 has been raised.	<del>PoA-</del> <b>CAR 8</b>	OK
1.4.2.20 Has it been included that <b>the CPA shall be approved by the coordinating entity</b> in the eligibility criteria for inclusion of a CPA under the PoA?	EB 63 Annex 3 § 9	This criteria has not been included in PoA-DD v.01. Please see question 7.4.2.5. CAR 8 has been raised.	<del>PoA-</del> <b>CAR 8</b>	OK
1.4.2.21 Are the eligibility criteria specified in the PoA-DD sufficient <b>objective and comprehensive</b> to ensure that all CPAs would comply with the CDM requirements applicable to the PoA?  <i>If more requirements are necessary to be included in the eligibility criteria but not covered by the abovementioned questions, please describe.</i>	EB 55 Annex 1 § 167 EB63 Annex 3 §8	As per PoA-DD v.01 only 3 eligibility criteria have been indicated in Section A.4.2.2. The first criteria comprises the legal framework i.e. a CPA shall be included where no mandatory requirements are in place that prohibit or limit the amount of GHG from being released to the atmosphere. The second criteria ensures that the CPA implementer has a contractual agreement with the CME and the third criteria ensures that there is no leakage. These criteria are deemed insufficient w.r.t. EB 55 Annex 1 § 167. CAR 8 has been raised.	<del>PoA-</del> <b>CAR 8</b>	OK
1.4.2.22 Are all listed eligibility criteria verifiable?	EB 63 Annex 3 § 7	The criteria as per PoA-DD v.01 are not complete. Assessment can be done only after CAR 8 is closed.	<del>PoA-</del> <b>CAR 8</b>	OK



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<b>1.4.3 Assessment and Demonstration of Additionality:</b>				
1.4.3.1 Has it formally been stated that the proposed PoA is a voluntary coordinated action?	EB 55 Annex 38 § 4	It has been stated in Section A.4.3. that the proposed PoA is a voluntary coordinated action which implements a stated goal which leads to emission reductions. Since no mandatory laws are in place in Indonesia that require waste water treatment facilities to capture biogas and destroy it, the CME confirms they are acting voluntarily. This information has been double checked with interviews during onsite visit and it has been confirmed from our local Expert. Further it has been crosschecked with "Standards for Wastewater for Industrial Activities" by the Ministerial Decree 51/1995 <a href="http://www.cets-iii.org/BML/Air/BMLC/kepmen5195/">http://www.cets-iii.org/BML/Air/BMLC/kepmen5195/</a> which does not mandate the implementation of biogas capturing systems.	OK	OK
1.4.3.2 Has it been demonstrated that in the absence of the CDM incentives the proposed voluntary measure would not be implemented? How?	EB 55 Annex 38 §6(e)(i) EB 63 Annex 2 §6	It has been stated in Section A.4.3 that the project would not have been implemented in the absence of the PoA. This is due to high investment and O&M costs resulting in the absence of investors willing to invest in such kind of projects. Since the PP decided to show additionality on CPA level, further assessment is demonstrated on CPA level.	OK	OK
1.4.3.3 Is the PoA assisting in the implementation of a mandatory policy or regulation that would not have been enforced otherwise and that non-compliance with those requirements is widespread in the country/region?	EB 55 Annex 38 §6(e)(ii)	It is stated in PoA-DD v.01 that there is no mandatory regulation in the host country for this kind of project. This information has been double checked with interviews during onsite visit and it has been confirmed by our local Expert.(Please refer to A.4.3.1) Hence EB 55 Annex 38 §6(e)(i) is applicable instead of (ii)	OK	OK
1.4.3.4 Has it been demonstrated that the PoA would lead to greater level of enforcement of the mandatory policy or regulation?	EB 55 Annex 38 §6(e)(iii)	It is stated in PoA-DD v.01 that there is no mandatory regulation in the host country for this kind of project. This information has been double checked with interviews during onsite visit and it has been confirmed by our local Expert. Please refer to A.4.3.1.	OK	OK



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		Hence EB 55 Annex 38 §6(e)(i) is applicable instead of (iii)		
1.4.3.5 In case additionality is demonstrated at PoA level, has it been sufficiently justified considering all applicable EB standards, guidelines and procedures?	EB 47 § 73	As per EB 47 § 73 Additionality can be demonstrated on PoA or CPA level. In this project additionality shall be proven on CPA level. Hence, not applicable.	OK	OK
<b>1.4.4 Operational, management and monitoring plan of the PoA:</b>				
<b>1.4.4.1 Operation and management plan</b>				
1.4.4.1.1 <i>Has the CME established operational and management arrangements for the implementation of the PoA?</i>	EB 55 Annex 38 § 6(i)	<p>In Section A.4.4.1 of PoA-DD v.01 a description of the operational and management plan has been given.</p> <p>It is not clear what kind of activities “may be outsourced to specialist third parties” and whether the CME will have control of all records and information related to the implementation of individual CPAs and will be in a position to ensure each CPA is being operated in accordance with the specific requirements of the programme. CL 3 has been raised.</p> <p>Further the identification of the “specific Programme Manager” is not clear, i.e. to which entity he belongs since he shall ensure that the programme is operated in line with the Operational and Management Plan. CAR 26 has been raised.</p> <p>The roles and functions of the CME, other PPs, CPA owner resp. project host and project implementer has not been sufficiently explained. The PoA-DD v.01. refers to a SSC-CPA owner, site owner, implementer, developer, etc. whereas the CPA-DD v.01 indicates the project implementer and project host. All entities shall be referred precisely and consistently throughout the documentation. PoA-CAR 1 has been raised.</p>	<p><del>PoA-CAR 1</del></p> <p><del>PoA-CAR 26</del></p> <p><del>PoA-CAR CL 3</del></p>	OK

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1.4.4.1.2 <i>Are the arrangements sufficient to ensure that the CME will have control of all records and information related to the implementation of individual CPAs and will be in a position to ensure each CPA is being operated in accordance with the specific requirements of the programme?</i>	EB 55 Annex 1 § 166 and EB63 Annex 3 9(e)	It is not clear what kind of activities “may be outsourced to specialist third parties” and whether the CME will have control of all records and information related to the implementation of individual CPAs and will be in a position to ensure each CPA is being operated in accordance with the specific requirements of the programme. CL 3 has been raised.	<del>CAR-CL</del> 3	OK
1.4.4.1.3 <i>Has a clear definition of roles and responsibilities of personnel involved in the process of inclusion of CPAs, including a review of their competencies made available to the DOE at time of validation of the PoA?</i>	EB 63 Annex 3 § 9(a)	It shall be noted that EB 64 Annex 2 explains that PoA Standards released in EB 63 are not applicable for PoAs which have been webhosted before EB 65. Since this project falls under this category, EB 64 Annex 2 explains that an 8 month grace period applies for implementation of EB 63 resp. EB 65 PoA Standards.  However, as per current requirements, the Operational and Management arrangements have been assessed:  In Section A.4.4.1 of PoA-DD v.01 Table 1 provides key operational roles and management responsibilities. However clear description of different entities is requested. CAR 1 has been raised.  Supporting evidence is pending. CL 4 Further clarification is requested how the management plan makes provisions for meeting training and maintenance needs of the implementation of the PoA	<del>PoA-</del> <del>CAR-1</del> <del>PoA-CL</del> 4	OK
1.4.4.1.4 <i>Have records of arrangements for training and capacity development for personnel made available</i>	EB 63 Annex 3 § 9(b)	Please refer to 7.4.4.1.3. Evidence is pending. CL 4 has been raised: Further clarification is requested how the management plan makes	<del>PoA-CL</del> 4	OK

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<i>to the DOE at time of validation?</i>		provisions for meeting training and maintenance needs of the implementation of the PoA.		
1.4.4.1.5 <i>Have procedures for technical review of inclusion of CPAs made available to the DOE at time of validation of PoA</i>	EB 63 Annex 3 § 9(c)	It shall be noted that EB 64 Annex 2 explains that PoA Standards released in EB 63 are not applicable for PoAs which have been webhosted before EB 65. Since this project falls under this category, EB 64 Annex 2 explains that an 8 month grace period applies for implementation of EB 63 resp. EB 65 PoA Standards. However, as per current requirements, the Operational and Management arrangements have been assessed: The procedures for CPA inclusion are not clear. CAR 1 and CL 4 have been raised.	<del>PoA-CAR 1</del> <del>PoA-CL 4</del>	OK
1.4.4.1.6 <i>Have procedures to avoid double counting made available?</i>	EB 63 Annex 3 § 9(d)	An explanation to avoid double counting has been described in Section A.4.4.1 of PoA-DD v.01. However, it is not a procedure and not clear how it can be monitored. CAR is raised	<del>PoA-CAR 9</del>	OK
1.4.4.1.7 <i>Have measures for continual improvement of PoA management made available to DOE at time of validation of PoA?</i>	EB 63 Annex 3 § 9(f)	It shall be noted that EB 64 Annex 2 explains that PoA Standards released in EB 63 are not applicable for PoAs which have been webhosted before EB 65. Since this project falls under this category, EB 64 Annex 2 explains that an 8 month grace period applies for implementation of EB 63 resp. EB 65 PoA Standards. However, as per current requirements, the Operational and Management arrangements have been assessed: The management of the PoA is not clearly described. CAR 1 and CL 4 have been raised.	<del>PoA-CAR 1</del> <del>PoA-CL 4</del>	OK
1.4.4.1.8 <i>Is there a sound record keeping system for each CPA under the PoA?</i>	EB 55 Annex 38 § 6(i)	A record keeping system has been described in Section A.4.4.1. It is explained that each CPA receives a serial number and baseline and monitoring data will be recorded in a MS Excel database. However the description is deemed not sufficient, CAR 9 has been raised:	<del>PoA-CAR 9</del>	OK

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		<p>1. The serial number shall be included in the Excel database. However it shall be uniquely designed in combination with information of this PoA/CME so that no double counting can be ensured.</p> <p>2. Information regarding e.g. date of inclusion, project start date and monitoring period shall be included</p> <p>3. CPA database shall identify the type of wastewater and unique location of waste water treatment plant.</p> <p>4. CPA database shall summarize all monitoring parameter values during verification, e.g. electricity generated etc.</p> <p>5. It is not clear how the "certification of the CPA implementer that the proposed project is not yet registered under a CDM project or a CPA of another PoA" can be monitored.</p> <p>6. It is not clear how "certification that the SSC-CPA is not a de-bundled part of a larger project" can be monitored.</p> <p>7. It is not clear how it is ensured that energy generating equipment is not transferred from another activity.</p> <p>PP shall include further information in the PoA and if possible give examples of type of evidences so that the record keeping system can be verified.</p>		
1.4.4.1.9 Does the management plan have a procedure to avoid double accounting, i.e. to avoid that CPA already included under this PoA is NOT a registered CDM project or CPA in another PoA?	EB 55 Annex 38 § 6(i)	An explanation to avoid double counting has been described in Section A.4.4.1 of PoA-DD v.01. However, it is not a procedure and not clear how it can be monitored. CAR is raised Please see question 7.4.4.1.6.	PoA-CAR 9	OK
1.4.4.1.10 Does the management plan have a procedure to detect de-bundling i.e. to detect that a SSC-CPA to	EB 55 Annex 38 § 6(i)	An explanation to detect de-bundling has been described in Section A.4.4.1. However, it is not clear how it can be verified. CAR is raised.	PoA-CAR 9	OK

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<i>be included in the PoA is not a de-bundled component of another CPA or CDM project?</i>		As per EB 54 Annex 13 "GUIDELINES ON ASSESSMENT OF DEBUNDLING FOR SSC PROJECT ACTIVITIES" (version 3) para 7: "If each of the independent subsystems/measures (e.g., biogas digester, solar home system) included in the CPA of a PoA is no larger than 1% of the small-scale thresholds defined by the methodology applied, then that CPA of PoA is exempted from performing de-bundling check i.e., considering as not being a debundled component of a large scale activity." 1% of the small-scale thresholds defined by the methodology applied for this PoA is 1% of 60,000 tCO <sub>2</sub> e/yr, i.e. 600 tCO <sub>2</sub> e/yr. However the CPA-DD v.01 estimates to reduce more than 600 tCO <sub>2</sub> e/yr, hence it is not applicable. In the case of the type I threshold of 15 MW, 1% is 1.5MW. Again this exemption does not apply because the CPA anticipates an installed capacity of more than 1.5MW.		
1.4.4.1.11 <i>Are there proofs and/or agreements that those operating the CPA are aware of and have agreed that their activity is being subscribed to the PoA?</i>	EB 55 Annex 38 § 6(i)	A contractual arrangement is mentioned in Section A.4.4.1 of PoA-DD v.01 to ensure that the SSC-CPA operator is aware of including their project into the PoA. The content of this agreement shall be further clarified. CL has been raised.	<b>PeA-CL 3</b>	<b>OK</b>
1.4.4.1.12 <i>Are procedures identified for data management (incl. data collection, data transfer and data archive, etc.)?</i>	EB 55 Annex 1 123 (b)	In Section A.4.4.2 and E.7.2. of PoA-DD v.01 it has been described that data will be recorded as per methodology. The data will be collected by the operator of the biogas facility and provided to the CME. The data will be archived electronically by the CME for 2 years after the end of the crediting period of each CPA. The description has been crosschecked during interviews with the CME during onsite visit. It has been crosschecked with the Monitoring Chart <sup>75/</sup> for the first CPA implementation and identified to be feasible within the project design. However CAR 11 has been raised because the section A.4.4.2 is not clearly structured and the collection of	<b>PeA-CAR 11</b>	<b>OK</b>

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		monitoring parameters shall be clear to ensure that status of verification can be determined any time for each CPA.		
<b>1.4.4.2 PoA monitoring plan</b>				
<p>1.4.4.2.1 <i>If the CME does not wish to have all CPAs verified, has a description of the proposed statistically sound sampling method/procedure to be used by DOEs for verification of the CPA GHG emission reductions been provided?</i></p> <p><i>Please refer to latest EB guidance on sampling. The request for issuance of a PoA shall relate to all CPAs included in the PoA during the specified monitoring period. The monitoring periods shall be consecutive. A request for issuance shall relate to the certified emission reductions verified as per above. (EB55 Annex 38 §37)</i></p>	EB 55 Annex 38, §6(k)	During onsite visit it has been identified that each CPA will be verified. Each CPA refers to one biogas recovery facility. For each CPA a Monitoring Report and emission reduction calculation in an Excel sheet will be provided to DOE. Thus sampling of monitored parameters will not be applied. Each monitored parameter will be monitored as outlined in the monitoring plan. However this approach has not been clearly described in the PoA-DD. CAR 11, CAR 12 and CAR 13 have been raised.	<p><del>PoA-CAR 11</del></p> <p><del>PoA-CAR 12</del></p> <p><del>PoA-CAR 13</del></p>	OK
<p>1.4.4.2.2 <i>Does the monitoring plan for the PoA avoid internal double accounting of emission reduction calculations in case the CME would opt for a verification method that does not use sampling but verifies each CPA; and that the status of verification for each CPA can be determined any time?</i></p>	EB 33 Annex 43	Each CPA is one waste water treatment plant with a biogas digester and power generating device installed. Internal double counting is avoided since the RKS lists each CPA separately. However PoA-CAR 9 has been raised to further clarify the design and purpose of the RKS.	<del>PoA-CAR 9</del>	OK

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<b>1.4.5 Public Funding of the PoA</b>				
1.4.5.1 Is there any public funding used for implementation of this PoA?		It is stated that the PoA does not receive any public funding. This has been confirmed during interviews with PPs. This has also been included as Eligibility criteria. PoA-CAR 8 has been raised.	<b>PoA-CAR 8</b>	<b>OK</b>
1.4.5.2 If public funding is granted was a written confirmation from the relevant Annex I country DNA provided with the content that such funding does not result in a diversion of official development assistance (ODA)?	EB 55 Annex 38, §6(n))	It is stated that the PoA does not receive any public funding. This has been confirmed during interviews with PPs. This has also been included as Eligibility criteria. PoA-CAR 8 has been raised	<b>PoA-CAR 8</b>	<b>OK</b>
1.4.5.3 Is any further information provided in PoA-DD annex 2 on public funding used for the PoA? If any, is this consistent with the actual situation presented by the project participants?		Annex 2 states that no public funding is received for this PoA.	<b>OK</b>	<b>OK</b>
1.4.5.4 Has it been confirmed whether there are any bilateral or multilateral fund project participants involved in the PoA, and if yes, the following information shall be provided to the DOE:  <ul style="list-style-type: none"> <li>- Full official name of the entity fund;</li> <li>- Name of company managing the fund;</li> <li>- Party(ies) authorizing participation of the Fund;</li> <li>- DNA approval of voluntary participation in the PoA and confirmation that it has ratified the Kyoto Protocol;</li> <li>- DNA authorization of the fund to the project participant (can be combined with the approval document)</li> </ul>	EB 55 Annex 1, § 100 (b)	<p><i>Multilateral funds do not necessarily require written approval from each participant's DNA. However those not providing a written approval may be giving up some of their rights and privileges in terms of being a Party involved in the project. (Glossary of CDM terms (version 5))</i></p> <p>No multilateral or bilateral funds are used for this PoA. This has been confirmed during interviews during on-site visit.</p>	<b>OK</b>	<b>OK</b>



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<i>Multilateral funds do not necessarily require written approval from each participant's DNA. However those not providing a written approval may be giving up some of their rights and privileges in terms of being a Party involved in the project. (Glossary of CDM terms (version 5))</i>				
<b>2 DURATION of the PROGRAMME of ACTIVITIES</b>				
<b>2.1 Starting date of the programme of activities</b>				
2.1.1 Has the start date of the PoA been indicated using the dd/mm/yyyy?	PoA request registration uploading step 4 requirement	The start date of the PoA has been indicated in Section B.1. However not in the format DD/MM/YYYY. CAR has been raised.	<b>PoA-CAR 14</b>	<b>OK</b>
2.1.2 Is this start date reasonably defined?  <i>The crediting period of the PoA should be renewed every seven years (every 20 years for A/R PoA) from the start date of the lifetime of the PoA. Life time of the PoA starts on the date specified in the PoADD section B.1 or on the date of registration, whichever is later. In case of small-scale PoA, the start date must be stated as at least 4 weeks after the estimated submission date; In case of large-scale PoA, the start date must be stated as at least 8 weeks after the estimated submission date.</i>	PoA request registration uploading step 4 requirement	As per PoA-DD v.01 start date is not in line with PoA registration uploading requirement step 4. CAR has been raised.	<b>PoA-CAR 14</b>	<b>OK</b>



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<b>2.2 Length of the programme of activities</b>				
2.2.1 Is the indicated duration of the PoA by the coordinating and managing entity reasonable? <i>PoA duration should not exceeding 28 years (60 years for A/R)</i>	EB 55 Annex 38, §6(h) and 7(d))	As per PoA-DD v.01 the length of the PoA is 28 years.	OK	OK
<b>3 ENVIRONMENTAL IMPACT ANALYSIS (EIA)</b>				
<b>3.1 Definition of the level EIA as per requirements of the CDM modalities and procedures</b>				
3.1.1 Has the level of environmental analysis been defined (at PoA or CPA level)?	EB 55 Annex 38 § 6(l)	The documentation of the analysis of environmental impacts is conducted at CPA level as indicated in Section C.2.	OK	OK
3.1.2 Has any justification been provided for the choice of the level of environmental analysis?	EB 55 Annex 38 § 6(l)	Yes, due to site specificity of each CPA, EIA is conducted on CPA level. This is deemed appropriate.	OK	OK
<b>3.2 Documentation on the EIA including transboundary impacts</b>				
3.2.1 Has any documentation on environmental analysis of the PoA as per requirements of the CDM modalities and procedures been described in the PoA-DD?	EB 55 Annex 38, §6(l)	The documentation of the analysis of environmental impacts is conducted at CPA level as indicated in Section C.2.	OK	OK
3.2.2 Were transboundary environmental impacts identified in the environmental analysis and addressed?	EB 55 Annex 1, §§ 131 – 133	Since environmental analysis will be done at each CPA level, the transboundary impacts will be also addressed at each CPA level.	OK	OK
<b>3.3 EIA required by Host Country</b>				
3.3.1 If there are any Host Party requirements for an Environmental Impact Assessment (EIA) at the PoA	EB 55 Annex 1,	The documentation of the analysis of environmental impacts is conducted at CPA level as indicated in Section C.2.	OK	OK

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level, are there proofs that the EIA was done according to these laws?	§ 136 (d)	However it has been indicated that EIA is not required for biogas power plants less than or equal to 10 MW as per Government Regulation PP NO. 11/2006. Appendix 1 of Regulation of the State Minister of Environment No. 11/2006 <sup>/64b//64c/</sup> has been checked and identified that biogas power plants fall under section "other power plants" which need to conduct an EIA if the installed capacity is greater than 10 MW. This has been confirmed by our local expert.		
3.3.2 If there are any Host Party requirements for an Environmental Impact Assessment (EIA) at the PoA level, has the outcome of such impact assessment been summarized and a description of the planned monitoring and remedial measures to address the negative impacts been included in section C of the PoA-DD?	EB 55 Annex 1, § 162	Please see C.3.1.	OK	OK
3.3.3 If an EIA is necessary for a typical CPA according to the host country laws, has it been indicated in section C.3 of the PoA-DD?		Please refer to C.3.1.	OK	OK
<b>4 Local Stakeholders' consultation and comments</b>				
<b>4.1 Level of Local Stakeholder Consultation</b>				
4.1.1 Is it indicated whether the Local Stakeholder Comments will be invited at PoA or CPA level?	EB 55 Annex 1, §§ 127–129)	LSC are invited on CPA level.	OK	OK
4.1.2 Has any justification been provided for the choice of the level of Local Stakeholder Comments being invited?	EB 55 Annex 38 § 6(m))	Due to raising awareness to the local community and other stakeholders and in order to discuss the benefits that accrue to them at local, regional and national level, the LSC is conducted at CPA level as described in PoA-DD.v	OK	OK

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		01. This justification is deemed sufficient.		
<b>4.2 Description how comments have been invited</b>				
4.2.1 If the stakeholder comments will be invited at PoA level, has it been indicated how local stakeholders' comments were invited prior to the publication of the PoA-DD?	EB 55 Annex 38, §6(m); EB 55 Annex 1, §§128–130)	The stakeholder comments will be invited at CPA level, hence this question is not applicable.	OK	OK
4.2.2 Can the local stakeholder consultation process be deemed as adequate?	EB 55 Annex 1, §130)	The stakeholder comments will be invited at CPA level, hence this question is not applicable.	OK	OK
<b>4.3 Summary of comments</b>				
4.3.1 If the stakeholder comments will be invited at PoA level, has any summary of the contents been sufficiently provided?	EB 55 Annex 1, §§ 128–130)	The stakeholder comments will be invited at CPA level, hence this question is not applicable.	OK	OK
<b>4.4 Report on how due account was taken of any comments received</b>				
4.4.1 If the stakeholder comments will be invited at PoA level, has it been indicated how due account was taken of any comments received?	EB 55 Annex 1, §§ 128–130)	The stakeholder comments will be invited at CPA level; hence this question is not applicable.	OK	OK

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<b>5 Application of a baseline and monitoring methodology to a typical CPA</b>				
5.1 Title and reference of the approved SSC Baseline and Monitoring Methodology applied to SSC-CPA included in the PoA				
5.1.1 Does the PoA-DD correctly quote the methodology(ies)? Is a valid version of the methodology(ies) applied? Has a reference been indicated in the PoA-DD?	EB 55 Annex 1 § 70, 71	<p>The title of the methodology AMS III.H is "Methane Recovery in Wastewater Treatment" (Version 16) which is correctly indicated in the PoA-DD. The Version 16 was approved at EB 58 and is the latest available.</p> <p>The title of the methodology AMS I.D is "Grid connected renewable electricity generation" (Version 17) which is correctly indicated in the PoA-DD. The Version 17 was approved at EB 61 and is the latest available.</p> <p>The reference has been indicated in the PoA-DD.</p>	OK	OK
5.1.2 Has the methodology or the combination of multiple methodologies applied been approved by the EB for use of a PoA?	EB 47 Annex 31 EB 61 Annex 21 § 11a)	The PoA "SEA Biogas PoA" applies multiple methodologies for each CPA i.e. AMS III.H and AMS I.D. According to EB 61 Annex 21 § 11a) "the Board approved the combination of any one of the Type III methodologies where activities lead to generation of methane, i.e. AMS-III.H, AMS-III.D, AMS-III.F and AMS-III.G, with any one of the Type I methodologies for utilising the methane generated for generation of renewable energy, i.e. AMS-I.A, AMS-I.C, AMS-I.D and AMS-I.F. These combinations can be applied in PoAs without each PoA specifically requesting the approval of the combination of the Board." Hence, the request for approval is not necessary. Application of the combination of AMS III.H and AMS I.D is deemed suitable.	OK	OK
5.1.3 Does the PoA-DD correctly quote the tools/guidelines referred in the methodology (ies)? Is the list of tools/guidelines complete? Are the valid versions of the tool(s) /guidelines applied? Has a reference been indicated in the PoA-DD?	EB 55 Annex 1 § 68	<p>The PoA-DD lists 4 tools out of which 2 are referred in AMS I.D. and 3 are referred in AMS III.H as following:</p> <p><u>"Tool to calculate the emission factor for an electricity system" Version 02.2.1:</u></p> <p>This tool is referred in AMS I.D. The title is correctly quoted. The Version 02.2.1 is the latest version available.</p>	<del>PoA-</del> <b>CAR 8</b>	OK

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		<p><u>"Tool to determine project emissions from flaring gases containing methane" Version 01</u>: This tool is referred in AMS III.H. The title is correctly quoted. The Version is the latest available and came into effect with EB 28 Annex 13.</p> <p><u>"Tool to calculate baseline, project and/or leakage emissions from electricity consumption" Version 01</u>: This tool is referred in AMS III.H. The title is correctly quoted. The Version 01 is the latest available and came into effect with EB 39 Annex 7.</p> <p><u>"Tool to calculate project or leakage CO2 emissions from fossil fuel combustion" Version 02</u>: This tool is referred in AMS III.H and AMS I.D. The title is correctly quoted. The version 02 is the latest available and came into effect with EB 41 Annex 11.</p> <p>The reference has been indicated in the PoA-DD.</p> <p>AMS III.H also refers to the "Tool to determine methane emissions avoided from disposal of waste at a solid waste disposal site". This tool has not been listed in the PoA-DD. It is not justified why this tool is not applicable. PoA-CAR 8 has been raised to identify whether sludge treatment systems are excluded from the project.</p>		
5.2 Justification of the choice of the Methodology and why it is applicable to a CPA				
Please list all <b>Applicability Criteria</b> of the approved methodology or any other tool or other methodology component referred to therein.				
<b>Applicability of AMS III.H Version 16</b>				
This methodology comprises measures that recover biogas from biogenic organic matter in wastewater by means of one, or a combination, of the following options:				
5.2.1 Does the SSC methodology account for leakage in the	EB 33 Annex 43	Methodology AMS I.D accounts for leakage in case the project activity involves biomass project activities (para 25 and 26) and the replacement of	<b>PoA-CAR 9</b>	<b>OK</b>

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context of a SSC-CPA?		<p>equipment (para 27). Para 27 has been assessed: “In case the project activity involves the replacement of equipment, and the leakage from the use of the replaced equipment in another activity is neglected because the replaced equipment is scrapped, an independent monitoring of scrapping of replaced equipment needs to be implemented. The monitoring should include a check if the number of project activity equipment distributed by the project and the number of scrapped equipment correspond with each other. For this purpose scrapped equipment should be stored until such correspondence has been checked. The scrapping of replaced equipment should be documented and independently verified.”</p> <p>Methodology AMS III.H covers leakage in case of usage of bottles for gas storage. Since there is no usage of gas bottles, this kind of leakage does not apply to the SEA Biogas PoA. Para 38 of AMS III.H states: “In case the project activity involves the replacement of equipment, and the leakage effect of the use of the replaced equipment in another activity is neglected, because the replaced equipment is scrapped, an independent monitoring of scrapping of replaced equipment needs to be implemented. The monitoring should include a check if the number of project activity equipment distributed by the project and the number of scrapped equipment correspond with each other. For this purpose scrapped equipment should be stored until such correspondence has been checked. The scrapping of replaced equipment should be documented and independently verified.”</p> <p>Therefore CAR 9 has been raised to address potential leakage.</p>				
5.2.2 Criterion 1: Project involves a substitution of aerobic wastewater or sludge treatment systems with anaerobic systems with biogas recovery and combustion.	AMS-III.H § 1a	<table><tr><td>Applicability checklist</td><td>YES / NO / NA</td></tr></table>	Applicability checklist	YES / NO / NA	<del>PoA-</del> <b>CAR 15</b> <del>PoA-</del>	OK
Applicability checklist	YES / NO / NA					

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		<table><tr><td>Criterion discussed in the PoA-DD?</td><td>yes</td></tr><tr><td>Compliance verified and validated?</td><td>No</td></tr></table>	Criterion discussed in the PoA-DD?	yes	Compliance verified and validated?	No		<del>CAR 18</del> <del>PoA-</del> <del>CAR 22</del> <del>PoA-</del> <del>CAR 25</del>			
Criterion discussed in the PoA-DD?	yes										
Compliance verified and validated?	No										
		<p>Comments:</p> <p>As per the PoA-DD v.01 all measures to be introduced as part of the “SEA Biogas PoA” shall include any of the identified technologies/measures under paragraph 1. of AMS III.H version 16.</p> <p>However during onsite visit PP explained that no biogas recovery system will be introduced to sludge treatment systems (either existent or new). It is not clear whether sludge treatment systems are included as potential baseline or project scenarios.</p> <p>CAR 18, CAR 22 and CAR 25 have been raised. And at a later stage CAR 15.</p>									
5.2.3 Criterion 2: Project introduces anaerobic sludge treatment system with biogas recovery and combustion to a wastewater treatment plant without sludge treatment;	AMS-III.H § 1b	<table><tr><td>Applicability checklist</td><td>YES / NO / NA</td></tr><tr><td>Criterion discussed in the PoA-DD?</td><td>yes</td></tr><tr><td>Compliance verified and validated?</td><td>No</td></tr></table>	Applicability checklist	YES / NO / NA	Criterion discussed in the PoA-DD?	yes	Compliance verified and validated?	No		<del>PoA-</del> <del>CAR 15</del> <del>PoA-</del> <del>CAR 18</del> <del>PoA-</del> <del>CAR 22</del> <del>PoA-</del> <del>CAR 25</del>	OK
Applicability checklist	YES / NO / NA										
Criterion discussed in the PoA-DD?	yes										
Compliance verified and validated?	No										
		<p>Comments:</p> <p>As per the PoA-DD v.01 all measures to be introduced as part of the “SEA Biogas PoA” shall include any of the identified technologies/measures under point 1. of AMS III.H version 16.</p> <p>However during onsite visit PP explained that no biogas recovery system will be introduced to sludge treatment systems (either existent or new). It is not clear whether sludge treatment systems are included as potential baseline or project scenarios.</p> <p>CAR 18, CAR 22 and CAR 25 have been raised. And at a later stage CAR</p>									

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		15.									
5.2.4 Criterion 3: Project introduces biogas (methane) recovery and combustion to a sludge treatment system;	AMS-III.H § 1c	<table><tr><td>Applicability checklist</td><td>YES / NO / NA</td></tr><tr><td>Criterion discussed in the PoA-DD?</td><td>yes</td></tr><tr><td>Compliance verified and validated?</td><td>No</td></tr></table> <p>Comments: As per the PoA-DD v.01 all measures to be introduced as part of the “SEA Biogas PoA” shall include any of the identified technologies/measures under point 1. of AMS III.H version 16. However during onsite visit PP explained that no biogas recovery system will be introduced to sludge treatment systems (either existent or new). It is not clear whether sludge treatment systems are included as potential baseline or project scenarios. CAR 18, CAR 22 and CAR 25 have been raised. And at a later stage CAR 15.</p>		Applicability checklist	YES / NO / NA	Criterion discussed in the PoA-DD?	yes	Compliance verified and validated?	No	<del>PoA-CAR 15</del> <del>PoA-CAR 18</del> <del>PoA-CAR 22</del> <del>PoA-CAR 25</del>	OK
Applicability checklist	YES / NO / NA										
Criterion discussed in the PoA-DD?	yes										
Compliance verified and validated?	No										
5.2.5 Criterion 4: Project introduces biogas (methane) recovery and combustion to an anaerobic wastewater treatment system such as anaerobic reactor, lagoon, septic tank or an on site industrial plant	AMS-III.H § 1d	<table><tr><td>Applicability checklist</td><td>YES / NO / NA</td></tr><tr><td>Criterion discussed in the PoA-DD?</td><td>yes</td></tr><tr><td>Compliance verified and validated?</td><td>yes</td></tr></table> <p>Comments: As per the PoA-DD v.01 all measures to be introduced as part of the “SEA Biogas PoA” shall include any of the identified technologies/measures under point 1. of AMS III.H version 16.</p>		Applicability checklist	YES / NO / NA	Criterion discussed in the PoA-DD?	yes	Compliance verified and validated?	yes	OK	OK
Applicability checklist	YES / NO / NA										
Criterion discussed in the PoA-DD?	yes										
Compliance verified and validated?	yes										
5.2.6 Criterion 5: Project introduces anaerobic wastewater treatment with biogas recovery and combustion, with or	AMS-III.H § 1e	<table><tr><td>Applicability checklist</td><td>YES / NO / NA</td></tr><tr><td>Criterion discussed in the PoA-DD?</td><td>yes</td></tr></table>		Applicability checklist	YES / NO / NA	Criterion discussed in the PoA-DD?	yes	OK	OK		
Applicability checklist	YES / NO / NA										
Criterion discussed in the PoA-DD?	yes										



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wastewater stream;		<table><tr><td>Compliance verified and validated?</td><td>yes</td></tr></table> Comments: As per the PoA-DD v.01 all measures to be introduced as part of the “SEA Biogas PoA” shall include any of the identified technologies/measures under point 1. of AMS III.H version 16.		Compliance verified and validated?	yes						
Compliance verified and validated?	yes										
5.2.7 Criterion 6: Project introduces a sequential stage of wastewater treatment with biogas recovery and combustion, with or without sludge treatment, to an anaerobic wastewater treatment system without biogas recovery (e.g. introduction of treatment in an anaerobic reactor with biogas recovery as a sequential treatment step for the wastewater that is presently being treated in an anaerobic lagoon without methane recovery).	AMS-III.H § 1f	<table><tr><td>Applicability checklist</td><td>YES / NO / NA</td></tr><tr><td>Criterion discussed in the PoA-DD?</td><td>yes</td></tr><tr><td>Compliance verified and validated?</td><td>yes</td></tr></table> Comments: As per the PoA-DD v.01 all measures to be introduced as part of the “SEA Biogas PoA” shall include any of the identified technologies/measures under point 1. of AMS III.H version 16.		Applicability checklist	YES / NO / NA	Criterion discussed in the PoA-DD?	yes	Compliance verified and validated?	yes	OK	OK
Applicability checklist	YES / NO / NA										
Criterion discussed in the PoA-DD?	yes										
Compliance verified and validated?	yes										
In cases where baseline system is anaerobic lagoon the methodology is applicable if:											
5.2.8 Criterion 7: The lagoons are ponds with a depth greater than two meters, without aeration. The value for depth is obtained from engineering design documents, or through direct measurement, or by dividing the surface area by the total volume. If the lagoon filling level varies seasonally, the average of the highest and lowest levels may be taken;	AMS-III.H § 2a	<table><tr><td>Applicability checklist</td><td>YES / NO / NA</td></tr><tr><td>Criterion discussed in the PoA-DD?</td><td>Yes</td></tr><tr><td>Compliance verified and validated?</td><td>yes</td></tr></table> Comments: As per PoA-DD v.01 this criteria will be checked on CPA level in case baseline waste water treatment system is based on anaerobic lagoons.		Applicability checklist	YES / NO / NA	Criterion discussed in the PoA-DD?	Yes	Compliance verified and validated?	yes	OK	OK
Applicability checklist	YES / NO / NA										
Criterion discussed in the PoA-DD?	Yes										
Compliance verified and validated?	yes										
5.2.9 Criterion 8: Ambient temperature is above 15°C, at least during part of the year, on a monthly average basis;	AMS-III.H § 2b	<table><tr><td>Applicability checklist</td><td>YES / NO / NA</td></tr><tr><td>Criterion discussed in the PoA-DD?</td><td>Yes</td></tr></table>		Applicability checklist	YES / NO / NA	Criterion discussed in the PoA-DD?	Yes	OK	OK		
Applicability checklist	YES / NO / NA										
Criterion discussed in the PoA-DD?	Yes										

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		<table><tr><td>Compliance verified and validated?</td><td>yes</td></tr></table> Comments: As per PoA-DD this criteria will be checked on CPA level in case baseline waste water treatment system is based on anaerobic lagoons.		Compliance verified and validated?	yes						
Compliance verified and validated?	yes										
5.2.10 Criterion 9: The minimum interval between two consecutive sludge removal events shall be 30 days.	AMS-III.H § 2c	<table><tr><td>Applicability checklist</td><td>YES / NO / NA</td></tr><tr><td>Criterion discussed in the PoA-DD?</td><td>Yes</td></tr><tr><td>Compliance verified and validated?</td><td>yes</td></tr></table> Comments: As per PoA-DD this criteria will be checked on CPA level in case baseline waste water treatment system is based on anaerobic lagoons.		Applicability checklist	YES / NO / NA	Criterion discussed in the PoA-DD?	Yes	Compliance verified and validated?	yes	OK	OK
Applicability checklist	YES / NO / NA										
Criterion discussed in the PoA-DD?	Yes										
Compliance verified and validated?	yes										
The recovered biogas (methane) from the above measures may also be utilised for the following applications instead of combustion/flaring:											
5.2.11 Criterion 10: The biogas recovered from project activity is used for thermal or mechanical or electrical energy generation directly.	AMS-III.H § 3a	<table><tr><td>Applicability checklist</td><td>YES / NO / NA</td></tr><tr><td>Criterion discussed in the PoA-DD?</td><td>yes</td></tr><tr><td>Compliance verified and validated?</td><td>no</td></tr></table> Comments: As per PoA-DD v.01 this criteria shall be applicable for each SSC-CPA. The applicability of this criteria implies that the second applied methodology AMS I.D is used by the CPA. Clarification is sought whether all CPA will use both methodologies.		Applicability checklist	YES / NO / NA	Criterion discussed in the PoA-DD?	yes	Compliance verified and validated?	no	PoA-CAR 15	OK
Applicability checklist	YES / NO / NA										
Criterion discussed in the PoA-DD?	yes										
Compliance verified and validated?	no										
5.2.12 Criterion 11: The recovered biogas is used for thermal or mechanical, electrical energy generation after	AMS-III.H § 3b	<table><tr><td>Applicability checklist</td><td>YES / NO / NA</td></tr></table>		Applicability checklist	YES / NO / NA	OK	OK				
Applicability checklist	YES / NO / NA										

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bottling of upgraded biogas( in this case additional guidance provided in Annex 1 shall be followed)		<table><tr><td>Criterion discussed in the PoA-DD?</td><td>yes</td></tr><tr><td>Compliance verified and validated?</td><td>n.a</td></tr></table>	Criterion discussed in the PoA-DD?	yes	Compliance verified and validated?	n.a					
Criterion discussed in the PoA-DD?	yes										
Compliance verified and validated?	n.a										
		Comments: As per PoA-DD v.01 this criteria is not applicable for the SSC-CPAs under the "SEA Biogas PoA" because all CPAs under the PoA shall use methodology AMS III.H and AMS. I.D for electricity generation which has been confirmed during interviews at the on-site visit and later included as Eligibility criteria.									
5.2.13 Criterion 12: The recovered biogas is used for thermal or mechanical, electrical energy generation after upgrading and distribution ( in this case additional guidance provided in Annex 1 shall be followed):  (i) Upgrading and injection of biogas into a natural gas distribution grid with no significant transmission constraints  (ii) Upgrading and transportation of biogas via a dedicated piped network to a group of end users; or  (iii) Upgrading and transportation of biogas (e.g. trucks) to distribution points for end users	AMS-III.H § 3c	<table><tr><td>Applicability checklist</td><td>YES / NO / NA</td></tr><tr><td>Criterion discussed in the PoA-DD?</td><td>yes</td></tr><tr><td>Compliance verified and validated?</td><td>n.a</td></tr></table>	Applicability checklist	YES / NO / NA	Criterion discussed in the PoA-DD?	yes	Compliance verified and validated?	n.a		OK	OK
Applicability checklist	YES / NO / NA										
Criterion discussed in the PoA-DD?	yes										
Compliance verified and validated?	n.a										
		Comments: As per PoA-DD v.01 this criteria is not applicable for the SSC-CPAs under the "SEA Biogas PoA" because all CPAs under the PoA shall use methodology AMS III.H and AMS. I.D for electricity generation which has been confirmed during interviews at the on-site visit and later included as Eligibility criteria									
5.2.14 Criterion 13: The Methane recovered from project activity is used for Hydrogen production;	AMS-III.H § 3d	<table><tr><td>Applicability checklist</td><td>YES / NO / NA</td></tr><tr><td>Criterion discussed in the PoA-DD?</td><td>yes</td></tr><tr><td>Compliance verified and validated?</td><td>n.a</td></tr></table>	Applicability checklist	YES / NO / NA	Criterion discussed in the PoA-DD?	yes	Compliance verified and validated?	n.a		OK	OK
Applicability checklist	YES / NO / NA										
Criterion discussed in the PoA-DD?	yes										
Compliance verified and validated?	n.a										
		Comments: As per PoA-DD v.01 this criteria is not applicable for the SSC-CPAs under									

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		the “SEA Biogas PoA” because all CPAs under the PoA shall use methodology AMS III.H and AMS. I.D for electricity generation which has been confirmed during interviews at the on-site visit and later included as Eligibility criteria								
5.2.15 Criterion 14: The recovered methane is used as fuel in transportation applications after upgrading.	AMS-III.H § 3e	<table><tr><td>Applicability checklist</td><td>YES / NO / NA</td></tr><tr><td>Criterion discussed in the PoA-DD?</td><td>yes</td></tr><tr><td>Compliance verified and validated?</td><td>n.a</td></tr></table> <p>Comments: As per PoA-DD v.01 this criteria is not applicable for the SSC-CPAs under the “SEA Biogas PoA” because all CPAs under the PoA shall use methodology AMS III.H and AMS. I.D for electricity generation which has been confirmed during interviews at the on-site visit and later included as Eligibility criteria</p>	Applicability checklist	YES / NO / NA	Criterion discussed in the PoA-DD?	yes	Compliance verified and validated?	n.a	OK	OK
Applicability checklist	YES / NO / NA									
Criterion discussed in the PoA-DD?	yes									
Compliance verified and validated?	n.a									
5.2.16 Criterion 15: In case where the project activity is covered under paragraph 3(a), Does the PoA clearly indicate the use of the corresponding category under type 1 ?	AMS-III.H § 4	<p>As per PoA-DD v.01 the CPAs shall apply AMS I.D in addition to AMS III.H. The CPAs shall recover biogas for generation of power for export to a grid.</p> <table><tr><td>Applicability checklist</td><td>YES / NO / NA</td></tr><tr><td>Criterion discussed in the PoA-DD?</td><td>yes</td></tr><tr><td>Compliance verified and validated?</td><td>yes</td></tr></table>	Applicability checklist	YES / NO / NA	Criterion discussed in the PoA-DD?	yes	Compliance verified and validated?	yes	OK	OK
Applicability checklist	YES / NO / NA									
Criterion discussed in the PoA-DD?	yes									
Compliance verified and validated?	yes									
5.2.17 Criterion 16: For project activities covered under paragraph 3 (b), if bottles with upgraded biogas are sold outside the project boundary, the end-use of the biogas shall be ensured via a contract between the bottled	AMS-III.H § 5	<table><tr><td>Applicability checklist</td><td>YES / NO / NA</td></tr><tr><td>Criterion discussed in the PoA-DD?</td><td>yes</td></tr><tr><td>Compliance verified and validated?</td><td>n.a</td></tr></table>	Applicability checklist	YES / NO / NA	Criterion discussed in the PoA-DD?	yes	Compliance verified and validated?	n.a	OK	OK
Applicability checklist	YES / NO / NA									
Criterion discussed in the PoA-DD?	yes									
Compliance verified and validated?	n.a									

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biogas vendor and the end-user. No emission reductions may be claimed from the displacement of fuels from the end use of bottled biogas in such situations. If however the end use of the bottled biogas is included in the project boundary and is monitored during the crediting period CO2 emissions avoided by the displacement of fossil fuel can be claimed under the corresponding Type I methodology, e.g. AMS-I.C "Thermal energy production with or without electricity"		Comments: As per PoA-DD v.01 this criteria is not relevant for the SSC-CPAs under the "SEA Biogas PoA" because it does not cover project activities under AMS III.H § 3(b) as described in AMS III.H § 5. This is because all CPAs under the PoA shall use methodology AMS III.H and AMS I.D for electricity generation which has been confirmed during interviews at the on-site visit and later included as Eligibility criteria.								
5.2.18 Criterion 17: For project activities covered under paragraph 3 (c) (i), emission reductions from the displacement of the use of natural gas are eligible under this methodology, provided the geographical extent of the natural gas distribution grid is within the host country boundaries	AMS-III.H § 6	<table><tr><td>Applicability checklist</td><td>YES / NO / NA</td></tr><tr><td>Criterion discussed in the PoA-DD?</td><td>yes</td></tr><tr><td>Compliance verified and validated?</td><td>n.a</td></tr></table> Comments: As per PoA-DD v.01 this criteria is not relevant for the SSC-CPAs under the "SEA Biogas PoA" because it does not cover project activities under AMS III.H § 3(c) as described in AMS III.H § 6. This is because all CPAs under the PoA shall use methodology AMS III.H and AMS I.D for electricity generation which has been confirmed during interviews at the on-site visit and later included as Eligibility criteria.	Applicability checklist	YES / NO / NA	Criterion discussed in the PoA-DD?	yes	Compliance verified and validated?	n.a	OK	OK
Applicability checklist	YES / NO / NA									
Criterion discussed in the PoA-DD?	yes									
Compliance verified and validated?	n.a									
5.2.19 Criterion 18: For project activities covered under paragraph 3 (c) (ii), emission reductions for the displacement of the use of fuels can be claimed following the provision in the corresponding Type I methodology, e.g. AMS-I.C.	AMS-III.H § 7	<table><tr><td>Applicability checklist</td><td>YES / NO / NA</td></tr><tr><td>Criterion discussed in the PoA-DD?</td><td>yes</td></tr><tr><td>Compliance verified and validated?</td><td>n.a</td></tr></table> Comments: As per PoA-DD v.01 this criteria is not relevant for the SSC-CPAs under the	Applicability checklist	YES / NO / NA	Criterion discussed in the PoA-DD?	yes	Compliance verified and validated?	n.a	OK	OK
Applicability checklist	YES / NO / NA									
Criterion discussed in the PoA-DD?	yes									
Compliance verified and validated?	n.a									

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		"SEA Biogas PoA" because it does not cover project activities under AMS III.H § 3(c) as described in AMS III.H § 7. This is because all CPAs under the PoA shall use methodology AMS III.H and AMS. I.D for electricity generation which has been confirmed during interviews at the on-site visit and later included as Eligibility criteria.								
5.2.20 Criterion 19: In particular, for the case of 3 (b) and (c) (iii), the physical leakage during storage and transportation of upgraded biogas, as well as the emissions from fossil fuel consumed by vehicles for transporting biogas shall be considered. Relevant procedures in paragraph 11 of Annex 1 of AMS-III.H "Methane recovery in wastewater treatment" shall be followed in this regard.	AMS-III.H § 8	<table><tr><td>Applicability checklist</td><td>YES / NO / NA</td></tr><tr><td>Criterion discussed in the PoA-DD?</td><td>yes</td></tr><tr><td>Compliance verified and validated?</td><td>n.a</td></tr></table> <p>Comments: As per PoA-DD v.01 this criteria is not relevant for the SSC-CPAs under the "SEA Biogas PoA" because it does not cover project activities under AMS III.H § 3(c) or (c) as described in AMS III.H § 8. This is because all CPAs under the PoA shall use methodology AMS III.H and AMS. I.D for electricity generation which has been confirmed during interviews at the on-site visit and later included as Eligibility criteria.</p>	Applicability checklist	YES / NO / NA	Criterion discussed in the PoA-DD?	yes	Compliance verified and validated?	n.a	OK	OK
Applicability checklist	YES / NO / NA									
Criterion discussed in the PoA-DD?	yes									
Compliance verified and validated?	n.a									
5.2.21 Criterion 20: For project activities covered under paragraph 3 (b) and (c), this methodology is applicable if the upgraded methane content of the biogas is in accordance with relevant national regulations (where these exist) or, in the absence of national regulations, a minimum of 96% (by volume)	AMS-III.H § 9	<table><tr><td>Applicability checklist</td><td>YES / NO / NA</td></tr><tr><td>Criterion discussed in the PoA-DD?</td><td>yes</td></tr><tr><td>Compliance verified and validated?</td><td>n.a</td></tr></table> <p>Comments: As per PoA-DD v.01 this criteria is not relevant for the SSC-CPAs under the "SEA Biogas PoA" because it does not cover project activities under AMS III.H § 3(c) or (c) as described in AMS III.H § 9. This is because all CPAs under the PoA shall use methodology AMS III.H and AMS. I.D for electricity generation which has been confirmed during interviews at the on-site visit</p>	Applicability checklist	YES / NO / NA	Criterion discussed in the PoA-DD?	yes	Compliance verified and validated?	n.a	OK	OK
Applicability checklist	YES / NO / NA									
Criterion discussed in the PoA-DD?	yes									
Compliance verified and validated?	n.a									

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		and later included as Eligibility criteria.								
5.2.22 Criterion 21: In the case where the recovered biogas is utilized for production of hydrogen (project activity covered under paragraph 3 (d)), Does the PDD indicate the use of the corresponding category under AMS III.O (applicable checklist should be also filled)?	AMS-III.H § 10	<table><tr><td>Applicability checklist</td><td>YES / NO / NA</td></tr><tr><td>Criterion discussed in the PoA-DD?</td><td>No</td></tr><tr><td>Compliance verified and validated?</td><td>no</td></tr></table> <p>Comments: The discussion of this criteria is pending. POA-DD v.01 did not include this criteria. However, this criteria is not relevant for the SSC-CPAs under the “SEA Biogas PoA” because it does not cover project activities under AMS III.H § 3(d) as described in AMS III.H § 10. Nevertheless CAR 15 is raised.</p>	Applicability checklist	YES / NO / NA	Criterion discussed in the PoA-DD?	No	Compliance verified and validated?	no	PeA CAR 15	OK
Applicability checklist	YES / NO / NA									
Criterion discussed in the PoA-DD?	No									
Compliance verified and validated?	no									
5.2.23 Criterion 22: In the case where the recovered biogas is utilized for production of hydrogen (project activity covered under paragraph 3 (e)), Does the PDD indicate the use of the corresponding category under AMS III.AQ (applicable checklist should be also filled)?	AMS-III.H § 11	<table><tr><td>Applicability checklist</td><td>YES / NO / NA</td></tr><tr><td>Criterion discussed in the PoA-DD?</td><td>No</td></tr><tr><td>Compliance verified and validated?</td><td>n.a</td></tr></table> <p>Comments: The discussion of this criterion is pending. POA-DD v.01 did not include this criterion. However, this criteria is not relevant for the SSC-CPAs under the “SEA Biogas PoA” because it does not cover project activities under AMS III.H § 3(e) as described in AMS III.H § 11. Nevertheless CAR 15 is raised.</p>	Applicability checklist	YES / NO / NA	Criterion discussed in the PoA-DD?	No	Compliance verified and validated?	n.a	PeA CAR 15	OK
Applicability checklist	YES / NO / NA									
Criterion discussed in the PoA-DD?	No									
Compliance verified and validated?	n.a									
5.2.24 Criterion 23: New facilities (Greenfield projects) and project activities involving a change of equipment resulting in a capacity addition of the wastewater or sludge treatment system compared to the designed capacity of the baseline treatment system are only	AMS-III.H § 12	<table><tr><td>Applicability checklist</td><td>YES / NO / NA</td></tr><tr><td>Criterion discussed in the PoA-DD?</td><td>yes</td></tr><tr><td>Compliance verified and validated?</td><td>no</td></tr></table>	Applicability checklist	YES / NO / NA	Criterion discussed in the PoA-DD?	yes	Compliance verified and validated?	no	PeA CAR 15	OK
Applicability checklist	YES / NO / NA									
Criterion discussed in the PoA-DD?	yes									
Compliance verified and validated?	no									



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eligible to apply this methodology if they comply with the relevant requirements in the “General guidelines to SSC CDM methodologies”. In addition the requirements for demonstrating the remaining lifetime of the equipment replaced, as described in the general guidelines shall be followed.		Comments: The justification for this criteria shall be further clarified. It is not clear how Greenfield projects comply with AMS III.H v. 16 §1 and 2. Moreover it shall be clarified how it is ensured that Greenfield projects and projects involving capacity addition will comply with “General guidelines to SSC CDM methodologies” § 19. CAR has been raised.								
5.2.25 Criterion 24: The location of the wastewater treatment plant as well as the source generating the wastewater shall be uniquely defined and described in the PDD.	AMS-III.H § 13	<table><tr><td>Applicability checklist</td><td>YES / NO / NA</td></tr><tr><td>Criterion discussed in the PoA-DD?</td><td>yes</td></tr><tr><td>Compliance verified and validated?</td><td>No</td></tr></table> Comments: As per PoA-DD this criteria will be applied on CPA level. However it has been identified that the provision of data to locate the wastewater treatment plant and the source generating the wastewater has not been considered. CAR 7 has been raised: PP shall ensure that PoA-DD is in line with methodology AMS III.H requesting that the location of the wastewater treatment plant is uniquely defined and described. However, the PoA-DD identifies the location of the biogas plant. Correction is requested. CAR 15 has been raised: Please further justify how and where the location of wastewater treatment plant and source of wastewater will be defined and documented.	Applicability checklist	YES / NO / NA	Criterion discussed in the PoA-DD?	yes	Compliance verified and validated?	No	<del>PoA-</del> <b>CAR 7</b>  <del>PoA-</del> <b>CAR 15</b>	OK
Applicability checklist	YES / NO / NA									
Criterion discussed in the PoA-DD?	yes									
Compliance verified and validated?	No									
5.2.26 Criterion 25: Are the estimated aggregated emission reductions less than or equal to 60.000 tonne	AMS-III.H § 14	<table><tr><td>Applicability checklist</td><td>YES / NO / NA</td></tr></table>	Applicability checklist	YES / NO / NA	<del>PoA</del> <b>CAR 15</b>	OK				
Applicability checklist	YES / NO / NA									



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CO2 per annum for all type III components of project activity?		<table><tr><td>Criterion discussed in the PoA-DD?</td><td>yes</td></tr><tr><td>Compliance verified and validated?</td><td>no</td></tr></table>	Criterion discussed in the PoA-DD?	yes	Compliance verified and validated?	no	Comments: As per PoA-DD this criteria will be applied on CPA level. However it shall be clarified whether each SSC-CPA will generate Emission Reductions of less than 60,000 tCO2e per year or if all SSC-CPAs' Emission Reductions shall be less than or equal to 60,000 tCO2e per year. Justification shall be revised. CAR 15 has been raised.				
Criterion discussed in the PoA-DD?	yes										
Compliance verified and validated?	no										
5.2.27 If the project is under a programme of activities, have all the applicability criteria and additional requirements been considered according to the methodology?	AMS-III.H §38	As per AMS III.H para 38 following conditions apply to PoAs: "In case the project activity involves the replacement of equipment, and the leakage effect of the use of the replaced equipment in another activity is neglected, because the replaced equipment is scrapped, an independent monitoring of scrapping of replaced equipment needs to be implemented. The monitoring should include a check if the number of project activity equipment distributed by the project and the number of scrapped equipment correspond with each other. For this purpose scrapped equipment should be stored until such correspondence has been checked. The scrapping of replaced equipment should be documented and independently verified." CAR 9 has been raised to discuss potential leakage.		PoA-CAR-9	OK						
In case a SSC-CPA recovers biogas and also utilises it to generate electrical energy for export to a grid: Applicability of AMS I.D Version 17											
5.2.28 Criterion 26: This category comprises renewable energy generation units, such as photovoltaics, hydro, tidal/wave, wind, geothermal and renewable biomass:  (i) that supply electricity to a national or a regional grid or	AMS I.D § 1	<table><tr><td>Applicability checklist</td><td>YES / NO / NA</td></tr><tr><td>Criterion discussed in the PoA-DD?</td><td>yes</td></tr><tr><td>Compliance verified and validated?</td><td>no</td></tr></table>	Applicability checklist	YES / NO / NA	Criterion discussed in the PoA-DD?	yes	Compliance verified and validated?	no	Comments:	PoA-CAR-16	OK
Applicability checklist	YES / NO / NA										
Criterion discussed in the PoA-DD?	yes										
Compliance verified and validated?	no										

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(ii) supply electricity to an identified consumer facility via national/regional grid through a contractual arrangement such as wheeling.		As per PoA-DD v.01 the criteria for applicability of methodology AMS I.D para 1 has not been indicated correctly. Moreover the version number of AMS I.D indicated in the PoA-DD v.01 is not correct. CAR is raised. However it has been stated and it was confirmed during onsite visit that the project comprises renewable energy i.e. wastewater from Agro industrial processes, energy is generated and exported to the grid and excess biogas is flared.								
5.2.29 Criterion 27: Illustration of respective situations under which each of the methodology (i.e. AMS-I.D, AMS-I.F and AMS-I.A) applies is included in Table 2 of AMS I.D	AMS I.D § 2	<table><tr><td>Applicability checklist</td><td>YES / NO / NA</td></tr><tr><td>Criterion discussed in the PoA-DD?</td><td>no</td></tr><tr><td>Compliance verified and validated?</td><td>no</td></tr></table> <p>Comments: As per PoA-DD v.01 the criteria for applicability of methodology AMS I.D para 2 has not been included. CAR is raised. However Table 2 of AMS I.D indicates that AMS-I.D applies for following 2 scenarios: "project supplies electricity to a national/regional grid" or "project supplies electricity to an identified consumer facility via national/regional grid (through a contractual arrangement such as wheeling)." This criteria is discussed in AMS I.D para 1.</p>	Applicability checklist	YES / NO / NA	Criterion discussed in the PoA-DD?	no	Compliance verified and validated?	no	PoA-CAR-16	OK
Applicability checklist	YES / NO / NA									
Criterion discussed in the PoA-DD?	no									
Compliance verified and validated?	no									
5.2.30 Criterion 28: This methodology is applicable to project activities that: (a) Install a new power plant at a site where there was no renewable energy power plant operating prior to the implementation of the project activity (Greenfield plant) (b) Involve a capacity addition (c) Involve a retrofit of (an) existing plant(s); or	AMS I.D § 3	<table><tr><td>Applicability checklist</td><td>YES / NO / NA</td></tr><tr><td>Criterion discussed in the PoA-DD?</td><td>yes</td></tr><tr><td>Compliance verified and validated?</td><td>no</td></tr></table> <p>Comments: As per PoA-DD v.01 the SEA Biogas PoA shall include CPAs which fall under (a) and (b).</p>	Applicability checklist	YES / NO / NA	Criterion discussed in the PoA-DD?	yes	Compliance verified and validated?	no	PoA-CAR-16	OK
Applicability checklist	YES / NO / NA									
Criterion discussed in the PoA-DD?	yes									
Compliance verified and validated?	no									

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(d) Involve a replacement of (an) existing plant(s).		However it shall be clarified how (b) is applicable under methodology AMS III.H. Since a capacity addition of a biogas recovery plant would imply that biogas has been recovered before the implementation of the project activity which is not in line with AMS III.H. Clarification was requested whether a capacity addition as defined in AMS I.D § 3 ensures the applicability of AMS III.H § 1 or 2. CAR has been raised.									
5.2.31 Criterion 29: If the new unit has both renewable and non-renewable components (e.g. a wind/diesel unit), the eligibility limit of 15 MW for a small-scale CDM project activity applies only to renewable components. If the new unit co-fires fossil fuel, the capacity of the entire unit shall not exceed the limit of 15 MW.	AMS I.D § 5	<table><tr><td>Applicability checklist</td><td>YES / NO / NA</td></tr><tr><td>Criterion discussed in the PoA-DD?</td><td>yes</td></tr><tr><td>Compliance verified and validated?</td><td>no</td></tr></table> Comments: As per PoA-DD v. 01 the SSC-CPA may co-fire fossil fuel. It shall be ensured that the entire unit shall not exceed the limit of 15 MW. CAR 25 has been raised to ensure that parameters related to consumption of fossil fuel are monitored.		Applicability checklist	YES / NO / NA	Criterion discussed in the PoA-DD?	yes	Compliance verified and validated?	no	PeA-CAR-25	OK
Applicability checklist	YES / NO / NA										
Criterion discussed in the PoA-DD?	yes										
Compliance verified and validated?	no										
5.2.32 Criterion 30: Combined heat and power (co-generation) systems are not eligible under this category	AMS I.D §6	<table><tr><td>Applicability checklist</td><td>YES / NO / NA</td></tr><tr><td>Criterion discussed in the PoA-DD?</td><td>yes</td></tr><tr><td>Compliance verified and validated?</td><td>yes</td></tr></table> Comments: As per PoA-DD v.01 combined heat and power will not be included under the PoA. This criteria must be also assessed on CPA level.		Applicability checklist	YES / NO / NA	Criterion discussed in the PoA-DD?	yes	Compliance verified and validated?	yes	OK	OK
Applicability checklist	YES / NO / NA										
Criterion discussed in the PoA-DD?	yes										
Compliance verified and validated?	yes										
5.2.33 Criterion 31: In the case of project activities that involve the addition of renewable energy generation	AMS I.D § 7	<table><tr><td>Applicability checklist</td><td>YES / NO / NA</td></tr></table>		Applicability checklist	YES / NO / NA	PeA-CAR-16	OK				
Applicability checklist	YES / NO / NA										

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units at an existing renewable power generation facility, the added capacity of the units added by the project should be lower than 15 MW and should be physically distinct from the existing units.		<table><tr><td>Criterion discussed in the PoA-DD?</td><td>yes</td></tr><tr><td>Compliance verified and validated?</td><td>no</td></tr></table>	Criterion discussed in the PoA-DD?	yes	Compliance verified and validated?	no					
Criterion discussed in the PoA-DD?	yes										
Compliance verified and validated?	no										
		Comments: As per PoA-DD v.01 the SEA Biogas PoA shall include CPAs which fall under this criteria. However it shall be clarified how it is applicable under methodology AMS III.H. Since a capacity addition of a biogas recovery plant would imply that biogas has been recovered before the implementation of the project activity. Clarification requested whether the case under AMS I.D § 7 ensures the applicability of AMS III.H § 1 or 2.									
5.2.34 Criterion 32: Project activities that seek to retrofit or modify an existing facility for renewable energy generation are included in this category. To qualify as a small scale project, the total output of the modified or retrofitted unit shall not exceed the limit of 15 MW.	AMS I.D § 8	<table><tr><td>Applicability checklist</td><td>YES / NO / NA</td></tr><tr><td>Criterion discussed in the PDD?</td><td>no</td></tr><tr><td>Compliance verified and validated?</td><td>no</td></tr></table>	Applicability checklist	YES / NO / NA	Criterion discussed in the PDD?	no	Compliance verified and validated?	no		PoA-CAR-16	OK
Applicability checklist	YES / NO / NA										
Criterion discussed in the PDD?	no										
Compliance verified and validated?	no										
		Comments: This criteria has not been discussed in the PoA v.01. It shall be included. CAR is raised.									
5.2.35 If the project is under a programme of activities, have all the applicability criteria and additional requirements been considered according to the methodology?	AMS I.D § 27	As per AMS I.D para 27 following conditions apply to PoAs: In case the project activity involves biomass project activities (para 25 and 26) and the replacement of equipment (para 27). For the SEA Biogas PoA, para 27 has been assessed: "In case the project activity involves the replacement of equipment, and the leakage from the use of the replaced equipment in another activity is neglected because the replaced equipment is scrapped, an independent monitoring of scrapping of replaced equipment needs to be implemented. The monitoring should include a check if the number of project activity equipment distributed by the project and the number of scrapped		PoA-CAR-9	OK						

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		equipment correspond with each other. For this purpose scrapped equipment should be stored until such correspondence has been checked. The scrapping of replaced equipment should be documented and independently verified." CAR 9 has been raised to discuss potential leakage.		
<b>5.3 Description of the sources and gases included in the SSC-CPA boundary</b>				
5.3.1 Has the spatial boundary (physical) of a typical CPA been clearly defined?	EB 55 Annex 1 § 67a, 78ff	The boundary as per AMS III.H is: "The project boundary is the physical, geographical site where the wastewater and sludge treatment takes place, in the baseline and project situations. It covers all facilities affected by the project activity including sites where processing, transportation and application or disposal of waste products as well as biogas takes place." The description in the PoA-DD v.01 is not in line with the methodology AMS III.H.  The boundary as per AMS I.D is: "The spatial extent of the project boundary includes the project power plant and all power plants connected physically to the electricity system <sup>10</sup> that the CDM project power plant is connected to." The description in the PoA-DD v.01 is not in line with the methodology AMS I.D.	<del>PoA-</del> <b>CAR 17</b>	<b>OK</b>
5.3.2 Does the project boundary include physical, geographical site where the wastewater and sludge treatment takes place?	AMS-III.H; AMS I.D	The actual project boundary has to be assessed on CPA Level. The description of boundary given in PoA-DD v.01 is not in line with the methodologies. CAR has been raised.	<del>PoA-</del> <b>CAR 17</b>	<b>OK</b>
5.3.3 In case of project activities covered under paragraph 2 (b) and (c), case the project activity involves bottling of biogas: Does the project boundary	AMS-III.H; AMS I.D	This is not applicable because all CPAs under the PoA shall use methodology AMS III.H and AMS. I.D for electricity generation which has been confirmed during interviews at the on-site visit and later included as	<b>OK</b>	<b>OK</b>

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includes the upgrade and compression installations, the dedicated piped network/natural gas distribution grid for distribution of biogas from the wastewater treatment plant to the end user sites and all the facilities and devices connected directly to it?		Eligibility criteria.																							
5.3.4 Are the treatment systems which are not affected by the project activity, i.e. sections operating in the project scenario under the same operational conditions as in the baseline scenario (e.g. wastewater inflow and COD content, temperature, retention time, etc.), clearly described in the PoA-DD?	AMS-III.H; AMS I.D	The actual project boundary has to be assessed on CPA Level. The description of boundary given in PoA-DD v.01 is not in line with the methodologies. CAR has been raised.	<b>PeA-CAR 17</b>	<b>OK</b>																					
5.3.5 Are all sources and gases within the CPA boundary described in a clear manner in the PoA-DD in accordance with the applied methodology (ies)?	AMS-III.H; AMS I.D	<p>As per PoA-DD v.01 following gases are included:</p> <table border="1"> <thead> <tr> <th></th><th>Source</th><th>Gas</th><th>Inc?</th><th>Justification/Explanation</th></tr> </thead> <tbody> <tr> <td rowspan="3">B L</td><td rowspan="3">Wastewater treatment process</td><td>CO<sub>2</sub></td><td>No</td><td>CO2 emissions from the decomposition of organic waste are not accounted</td></tr> <tr> <td>CH<sub>4</sub></td><td>Yes</td><td>The treatment of wastewater under the baseline scenario which consist of: (i) Emission from open lagoon wastewater treatment system (ii) Emission from degradable organic carbon in treated wastewater discharged into the river</td></tr> <tr> <td>N<sub>2</sub>O</td><td>No</td><td>Excluded for simplification and conservativeness</td></tr> <tr> <td></td><td>Electricity</td><td>CO<sub>2</sub></td><td>Yes</td><td>Electricity consumption from recovered</td></tr> </tbody> </table>		Source	Gas	Inc?	Justification/Explanation	B L	Wastewater treatment process	CO <sub>2</sub>	No	CO2 emissions from the decomposition of organic waste are not accounted	CH <sub>4</sub>	Yes	The treatment of wastewater under the baseline scenario which consist of: (i) Emission from open lagoon wastewater treatment system (ii) Emission from degradable organic carbon in treated wastewater discharged into the river	N <sub>2</sub> O	No	Excluded for simplification and conservativeness		Electricity	CO <sub>2</sub>	Yes	Electricity consumption from recovered	<b>PeA-CAR 17</b>	<b>OK</b>
	Source	Gas	Inc?	Justification/Explanation																					
B L	Wastewater treatment process	CO <sub>2</sub>	No	CO2 emissions from the decomposition of organic waste are not accounted																					
		CH <sub>4</sub>	Yes	The treatment of wastewater under the baseline scenario which consist of: (i) Emission from open lagoon wastewater treatment system (ii) Emission from degradable organic carbon in treated wastewater discharged into the river																					
		N <sub>2</sub> O	No	Excluded for simplification and conservativeness																					
	Electricity	CO <sub>2</sub>	Yes	Electricity consumption from recovered																					

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			consumption / generation			biogas which would have been supplied from grid or fossil fuel based captive power plant	
				CH <sub>4</sub>	No	Excluded for simplification and conservativeness	
				N <sub>2</sub> O	No	Excluded for simplification and conservativeness	
		P J	Wastewater treatment process	CO <sub>2</sub>	No	CO <sub>2</sub> emissions from decomposition of organic waste are not accounted	
				CH <sub>4</sub>	Yes	The treatment of wastewater under the project scenario which consist of: (i) Emission from open lagoon wastewater treatment system (ii) Emission from degradable organic carbon in treated wastewater discharged into the river (iii) Emission from biogas release in capture system (iv) Emission due to incomplete flaring system	
				N <sub>2</sub> O	No	Excluded for simplification and conservativeness	
			Electricity from on-site electricity use	CO <sub>2</sub>	Yes	Maybe an important emission source. If electricity from grid and/or from fossil fuel captive power plant is consumed to run the project activity, these emission source shall be included	

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				CH <sub>4</sub>	No	Excluded for simplification					
				N <sub>2</sub> O	No	Excluded for simplification					
		As per PoA-DD v.01 and w.r.t AMS I.D:									
			Source	Gas	Inc?	Justification/Explanation					
		B L	Generation of electricity by grid connected plants	CO <sub>2</sub>	yes	According to AMS I.D only CO2 emissions from electricity generation should be accounted					
				CH <sub>4</sub>	No	According to AMS I.D v.17					
				N <sub>2</sub> O	No	According to AMS I.D v.17					
			Electricity consumption in the project activity	CO <sub>2</sub>	Yes	According to AMS I.D v.17					
				CH <sub>4</sub>	No	According to AMS I.D v.17					
				N <sub>2</sub> O	No	According to AMS I.D v.17					
		P J	Electricity consumption in the project activity	CO <sub>2</sub>	Yes	According to AMS I.D v.17					
				CH <sub>4</sub>	No	According to AMS I.D v.17					
				N <sub>2</sub> O	No	According to AMS I.D v.17					
			Onsite fossil fuel consumption	CO <sub>2</sub>	Yes	Where applicable, and in accordance with AMS I.D v.17					
		CAR 17 has been raised because justification is not clear which baseline emissions are included as per AMS III.H.									
5.3.6 Do the spatial and technological boundaries as verified on-site comply with the discussion provided in the PoA-	AMS-III.H;	During onsite visit several Palm Oil Mills have been visited to identify the baseline. The Baseline emission sources and their justification are in line					PeA-CAR-17	OK			



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DD?	AMS I.D	with what have been observed during onsite visit and identified to be appropriate as per local and sectoral knowledge. However the baseline has not been clearly defined on PoA level nor on CPA level.  CAR 17 has been raised because justification is not clear which emissions will be included in the boundary in accordance with AMS III.H.		
5.3.7 Are provisions in place for the case that a CPA implementation might lead to GHG emissions within the project boundary which are expected to contribute more than 1% of the overall expected average annual emission reductions, which are not addressed by the methodology?	EB 55 Annex 1, §77	PoA-DD v.01 does not have provisions described for the case that a CPA implementation might lead to GHG emissions within the project boundary which are expected to contribute more than 1% of the overall expected average annual emission reductions, which are not addressed by the methodology. CAR 17 has been raised.	<b>PeA-CAR 17</b>	<b>OK</b>
<b>5.4 IDENTIFICATION AND DESCRIPTION of the BASELINE SCENARIO</b>				
5.4.1 Are there any procedures in the methodology to identify the most reasonable baseline scenario? Does this include a description of the technology that would be employed in the absence of the CDM project activity? (Please list them and review whether they were applied correctly)	EB 55 Annex 1 § 81, 85  AMS-III.H; AMS I.D	As per AMS III.H the baseline scenario can be: a: Aerobic wastewater or sludge treatment system b: wastewater treatment plant without sludge treatment c: sludge treatment system d: anaerobic wastewater treatment system such as anaerobic reactor, lagoon, septic tank or an on site industrial plant e: untreated wastewater stream f: anaerobic wastewater treatment system without biogas recovery (i.e. wastewater that is presently being treated in an anaerobic lagoon without methane recovery) 2: anaerobic lagoon with a depth of 2 meters without aeration and ambient temperature above 15°C and a min. interval between two consecutive sludge removal events of 30 days. 12: In case of Greenfield projects or projects involving a capacity addition of	<b>PeA-CAR 18</b>	<b>OK</b>

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		<p>the wastewater or sludge treatment system are only eligible if they comply with "General guidelines to SSC CDM methodologies" (EB 61 Annex 21 §19) 17: Wastewater and sludge treatment systems equipped with a biogas recovery facility in the baseline are excluded from the baseline emission calculation</p> <p>As per PoA-DD v.01 w.r.t AMS III:H the identification of baseline scenario is missing. CAR was raised.</p> <p>The description of baseline scenario as per PoA-DD v.01 is not correct / not sufficient since option 1e has been excluded without justification. Option 2 has not been explained correctly and option 12 has not used the correct reference. CAR was raised.</p> <p>As per AMS I.D the baseline scenario is: "That the electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources into the grid."</p> <p>As per PoA-DD v.01 w.r.t AMS I.D the identification of baseline scenario has been explained since it is indicated in the methodology. The description is in line with the methodology.</p>		
5.4.2 Is the list of alternatives to a typical CPA complete? e.g., has it included the status-quo situation, the CPA not undertaken as a CDM project as well as other viable means of supplying the outputs or services that are to be supplied by the proposed CPA?	EB 55 Annex 1, §§ 67 (b), 82, §§ 104 – 106	<p>The methodology AMS I.D clearly defines the baseline scenario. In the case of AMS III.H different options are discussed in the methodology. As per AMS III.H the project activity without CDM cannot be the baseline scenario because §17 states "wastewater and sludge treatment systems equipped with a biogas recovery facility in the baseline shall be excluded".</p> <p>The description in the PoA-DD v.01 is not clear. CAR has been raised.</p>	<b>PoA CAR 18</b>	<b>OK</b>

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5.4.3 Does the PoA-DD identify correctly and exclude those options not in line with host country regulatory or legal requirements?	EB55 Annex 1, §§ 85, 87(d); EB55 Annex 38, § 6(b)	CAR has been raised. See 11.4.1	<b>PeA</b> <b>CAR 18</b>	<b>OK</b>
5.4.4 What is the the most likely baseline scenario in absence of the project activity as indicated in the PoA-DD?	EB 55 Annex 1, §§80-91)	CAR has been raised. See 11.4.1	<b>PeA</b> <b>CAR 18</b>	<b>OK</b>
5.4.5 Is additional background information on baseline data provided in PoA-DD annex 3? Is this information consistent with data presented by other sections of the PoA-DD and verifiable?	EB 33 Annex 43	CAR has been raised. See 11.4.1	<b>PeA</b> <b>CAR 18</b>	<b>OK</b>
5.4.6 Are the provisions for the baseline scenario determination compatible with the available data and are all literature and sources clearly referenced?	EB 55 Annex 1, § 92(a)	CAR has been raised. See 11.4.1	<b>PeA</b> <b>CAR 18</b>	<b>OK</b>
5.4.7 Is the date when the baseline was determined indicated correctly in PoA-DD section E.8 and is this date consistent with the project timeline?	PoA-DD	The date indicated in the PoA-DD v.01 is 24 May 2011.	<b>OK</b>	<b>OK</b>
5.4.8 Who is/are the person(s) / entity (ies) responsible for developing the baseline studies indicated in section E.8 of the PoA-DD?	PoA-DD	Ratna Nawang Sari, Patrick Horka, Francisco Koch as per PoA-DD v.01	<b>OK</b>	<b>OK</b>

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<b>5.5 CPA ADDITIONALITY</b>				
<b>5.5.1 Assessment and Demonstration of ADDITIONALITY for a typical SSC-CPA</b>				
5.5.1.1 If required by methodology, check whether the latest version of the additionality tool is applied and confirm whether all steps are correctly applied	EB 55 Annex 1, §96	Project participants shall apply the general guidelines to SSC CDM methodologies, information on additionality (attachment A to Appendix B) and the tools referred in the methodologies AMS I.D and AMS III.H. The Tool for the demonstration and assessment of additionality is not required for this project.	OK	OK
5.5.1.2 Does the PoA-DD include provision that a typical CPA starting date will be defined in accordance with the CDM glossary of terms and substantiated with reliable evidences?	EB 55 Annex 1, §101	As per PoA-DD v.01 is does not describe the start date of a typical CPA. CAR is raised.	<del>PoA</del> <b>CAR-19</b>	OK
5.5.1.3 Is the starting date of the 1st CPA indicated in the specific CPA-DD section A.4.2.1 after the commencement of validation of the PoA, i.e., the date on which the PDDs are first published for global stakeholder consultations?  <i>Otherwise please refer to EB 47 meeting report §72.</i>	EB 55 Annex 38 §7(d)	The Board agreed that the "Guidelines for the demonstration and assessment of prior consideration of the CDM" do not apply to PoAs, as at present it is expected that no component of the programme will commence prior to the start date of validation. (EB 60 Annex 26) The start of the PoA is the date of submission to GSC. PoA GSC date as 2011-08-11. The specific CPA v.01 has not indicated a start date. rCPA-CAR 7 has been raised. During on-site visit it could be confirmed that the implementation or real action for the 1 <sup>st</sup> CPA has not commenced yet. Hence the 1 <sup>st</sup> CPA start date is after the date of PoA GSC date which has been later confirmed by Eligibility criteria 1 by means of PoA-CAR 8.	<del>PoA-</del> <b>CAR-8</b> <b>rCPA-</b> <b>CAR-7</b>	OK

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5.5.1.4 Does the PoA-DD clearly and unambiguously state and justify the key criteria and data for assessing additionality of a CPA that is to be included into the PoA?	EB 55 Annex 1, §167	<p>AS per PoA-DD v.01 the PP argues that firstly additionality will be demonstrated on CPA level instead of PoA level. In order to demonstrate additionality, PP uses the "Attachment A of Appendix B of the Simplified Modalities and Procedure for Small Scale CDM Project Activities". The procedure states that it shall be demonstrated by means of either</p> <ul style="list-style-type: none"> <li>○ Investment Barrier</li> <li>○ Technological Barrier</li> <li>○ Barrier due to prevailing practise or</li> <li>○ Other barrier</li> </ul> <p>That the project activity would not have occurred anyway. As per PoA-DD v.01 PP chooses the Investment Barrier. He describes that the alternative to the project activity would be the continuation of current practise, i.e. biogas resulting from waste water treatment is released to atmosphere. Further the PP describes an example in the Palm Oil Industry. The continuation of the current practise would be that the organic material bearing effluent is commonly treated using anaerobic lagoons. PP describes that continuation of current practise results in minimal ongoing costs whereas the project activity required substantial investment in equipment, land preparation and construction of concrete floor and ongoing O&amp;M costs. Therefore PP chooses to use the Investment Analysis opting for the Benchmark Approach – more specifically comparing the IRR of the project activity without CDM to the WACC. PP also describes that each CPA will be described with a scenario under which the SSC-CPA owner does not undertake the project (no-action).</p> <p>The description in Section E.5.1 of PoA-DD v.01 is not clear due to following reasons:</p>	<b>PeA</b> <b>CAR 19</b>	<b>OK</b>

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		<ul style="list-style-type: none"> <li>○ PP shall clearly describe the steps taken to demonstrate additionality so that it is in line with EB 55 Annex 38 §7e "Information stipulated in the PoA for use by each CPA to demonstrate how it meets requirements with respect to: "Fulfilling the eligibility criteria specified in the CDM-PoA-DD, incl., as appropriate, the demonstration of the additionality of the CPA"</li> <li>○ the option of flaring the biogas without exporting electricity to the grid is considered in the description which is not in line with EB requirements</li> <li>○ PP describes that the alternative to the project scenario is continuation of current practise which is biogas resulting from waste water treatment is released to atmosphere. It shall be clarified whether a Greenfield project can be an alternative to the project activity and whether the same approach to demonstrate additionality is chosen.</li> <li>○ The version number of Guidelines for the Assessment of Investment analysis is not correct.</li> <li>○ The reference to Section A.4.3. is not clear.</li> <li>○ It is not clear by which means each SSC-CPA will be compared to the no-action scenario and in the same paragraph it is indicated that the IRR of the project without CDM will be compared to the benchmark.</li> </ul> <p>Section E.5.1 shall be revised. CAR is raised.</p>		

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5.5.1.5 Is additionality demonstrated on PoA or CPA level? Describe whether the criteria and data for assessing additionality of a CPA shall be included into the PoA-DD or will be included in CPA-DD?	EB 47 §73	The Board clarified that a full additionality assessment is not required in the context of component project activities (CPA), rather the confirmation of additionality for CPAs should be conducted by means of the eligibility criteria (EB 60 Annex 26). CL is raised to clarify whether a full additionality assessment on CPA level is anticipated or whether as per EB 60 Annex 26 a confirmation of additionality by means of eligibility criteria is anticipated	<del>PeA-CL2</del>	OK
5.5.1.6 Is it clear how these criteria would be applied to assess the additionality of a typical CPA at the time of inclusion?	EB 55 Annex 1, §167	As per PoA-DD v.01 additionality shall be demonstrated on CPA level. However it has been described that a project IRR shall be compared to a benchmark. The description is deemed not clear and insufficient. CAR 19 has been raised	<del>PeA</del> <b>CAR 19</b>	OK
5.5.1.7 Please describe how the reliability and credibility of all data, rationales, assumptions, justifications and documentation provided by the PP to support the demonstration of additionality is assessed and validated, e.g. using local knowledge, sectoral and financial expertise and considering other sources of information for cross checks	EB 55 Annex 1 § 95	As per PoA-DD v.01 additionality shall be demonstrated on CPA level. However it has been described that a project IRR shall be compared to a benchmark. The description is deemed not clear and insufficient. CAR 19 has been raised	<del>PeA</del> <b>CAR 19</b>	OK
5.5.1.8 If a typical CPA applies for the latest 'Guidelines for demonstrating additionality of microscale project activities', how have the additionality criteria been established and justified?	EB 63 Annex 23	The guidelines for demonstrating additionality of microscale project activities will not be applied by any of the CPAs included under this PoA.	OK	OK
If Attachment A of Appendix B of the Modalities and Procedures was applied proceed to answer the following:				

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5.5.1.9 Does the PoA-DD include a complete list of barriers that prevents the project activity to be implemented without CDM?		Please refer to 11.5.1.4.			<del>PoA</del> <b>CAR 19</b>	OK															
5.5.1.10 Does the PoA-DD provide explanation to show that the PoA/CPA would not have occurred anyway due to at least one of the following barriers? a) Investment barrier; b) Technological barrier; c) Barrier due to prevailing practice; d) Other barriers.	EB 63 Annex 24 §1	<table><tr><th>Barrier</th><th>Discussed in PoA-DD?</th><th>Verifiable / validated?</th></tr><tr><td>Investment</td><td>yes</td><td>Yes at CPA level</td></tr><tr><td>Technological</td><td>No</td><td>n.a</td></tr><tr><td>Due to prevailing practice</td><td>No</td><td>n.a</td></tr><tr><td>Other</td><td>no</td><td>n.a</td></tr></table> Comments: Please see 11.5.1.4.			Barrier	Discussed in PoA-DD?	Verifiable / validated?	Investment	yes	Yes at CPA level	Technological	No	n.a	Due to prevailing practice	No	n.a	Other	no	n.a	<del>PoA</del> <b>CAR 19</b>	OK
Barrier	Discussed in PoA-DD?	Verifiable / validated?																			
Investment	yes	Yes at CPA level																			
Technological	No	n.a																			
Due to prevailing practice	No	n.a																			
Other	no	n.a																			
5.5.1.11 Does the barrier analysis take into account relevant national and/or sectoral policies / laws?	EB 55 Annex 1 §117	CAR 18 has been raised because it is not clear whether all host country regulations or legislations have been identified.			<del>PoA-</del> <b>CAR 18</b>	OK															
5.5.1.12 Does the CPA employ at least one of the following grid-connected renewable electricity generation technologies of installed capacity up to 15 MW that are automatically defined as additional? (a) Solar technologies (photovoltaic and solar thermal electricity generation); (b) Off-shore wind technologies; (c) Marine technologies (wave, tidal).	EB 63 Annex 24 §2	No, the PoA does not include CPAs using any of these technologies. This has been confirmed during interviews at the on-site visit.			OK	OK															
If <b>Investment Analysis</b> was applied proceed to answer the following:																					



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<p>5.5.1.13 Is an appropriate analysis method chosen for the project (simple cost analysis, investment comparison analysis or benchmark analysis)?</p> <p><i>Describe why the selected analysis method is appropriate under consideration of potential revenues and costs, potential project alternatives and potential available benchmark values</i></p>	EB 55 Annex 1, §109	<p>The investment barrier was chosen to demonstrate additionality on CPA level. More specifically the benchmark approach was chosen. The project activity without CDM will be compared to the benchmark which is the WACC or the local commercial lending rate in this PoA.</p> <p>It has not been properly explained why the benchmark approach is chosen. Moreover the Section needs structuring since 2 major pre-project scenarios have to be considered: firstly if a CPA is implemented at an existing waste water treatment facility; secondly for a Greenfield project or capacity addition. For the first the baseline is given in the methodology AMS.III.H which is continuation of current situation. For the second the baseline needs to be identified.</p> <p>CAR has been raised.</p>	<del>PeA</del> <b>CAR 18</b>	OK
<p>5.5.1.14 Is a clear, viewable and unprotected excel spreadsheet template available for the investment calculation, if applicable?</p> <p><b>Describe the steps taken to validate this issue</b></p>	EB 55 Annex 1, §110	Investment calculation is shown at CPA level. It has been clarified during interviews with the CME that all CPAs will use IRR calculations similar to the calculation provided for the 1 <sup>st</sup> CPA.	OK	OK
<p>5.5.1.15 If applicable, were the input values used in the investment analysis valid and applicable at the time of the investment decision with sufficient evidences?</p> <p><i>In case the basis for input values is a Feasibility Study Report (FSR) describe how it shall be ensured that the period in time between the finalisation of the FSR and the investment decision is sufficiently short so that it is unlikely that input values would have materially changed. Please fill out Annex 3 of this report for detailed assessment.</i></p>	EB 55 Annex 1, §111; EB 51 Annex 58	Investment calculation is shown at CPA level. However the table 5 of PoA-DD v.01 has been assessed to identify whether references for potential sources of input parameters are indicated.	<del>PeA-</del> <b>CAR 20</b>	OK
<p>5.5.1.16 If applicable, does the period chosen for the investment analysis, reflect the technical lifetime</p>	EB 55 Annex 1, §111; EB	<i>Describe how the technical lifetime / period chosen for calculating financial parameter(s) is reviewed and which documents shall be utilised in the course of review. Describe furthermore the approach used to</i>	<del>PeA-</del> <b>CAR 20</b>	OK

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of the proposed CPA or in case a shorter period is chosen, is the fair value of the project activity's assets at the end of the investment analysis period (as a cash inflow) included?	51 Annex 58	<i>check the inclusion of a potential fair value.</i>  Investment calculation is shown at CPA level. However the table 5 of PoA-DD v.01 has been assessed to identify whether references for potential sources of input parameters are indicated. CAR 20 has been raised.		
5.5.1.17 If applicable, has the fair value calculation included book value and expected potential profit or loss, and in accordance with local accounting regulations (where available) or international best practice?	EB 55 Annex 1, §111; EB 51 Annex 58	In case of the 1 <sup>st</sup> CPA there will only be new equipment installed for the project activity. Hence there is no fair value to be included in the calculation.	OK	OK
5.5.1.18 If applicable, is the book value as well as the expectation of the potential profit or loss included in the fair value calculation?	EB 55 Annex 1, §111; EB 51 Annex 58	In case of the 1 <sup>st</sup> CPA there will only be new equipment installed for the project activity. Hence there is no fair value to be included in the calculation.	OK	OK
5.5.1.19 If applicable, are depreciation and other non-cash related items added back to net profits for the purpose to calculate the financial indicator?	EB 55 Annex 1, §111; EB 51 Annex 58)	Investment calculation is shown at CPA level. However the table 5 of PoA-DD v.01 has been assessed to identify whether references for potential sources of input parameters are indicated. CAR 20 has been raised.	<del>PoA-</del> <b>CAR 20</b>	OK
5.5.1.20 If applicable, is taxation excluded in the investment analysis or is the benchmark intended for post tax comparisons?	EB 55 Annex 1, §111; EB 51 Annex 58	Investment calculation is shown at CPA level. However the table 5 of PoA-DD v.01 has been assessed to identify whether references for potential sources of input parameters are indicated. CAR 20 has been raised.	<del>PoA-</del> <b>CAR 20</b>	OK

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5.5.1.21 In case of project IRR: Are the costs of financing expenditures (loan repayments and interests) excluded from the calculation of project IRR?	EB 55 Annex 1, §111; EB 51 Annex 58	Investment calculation is shown at CPA level. However the table 5 of PoA-DD v.01 has been assessed to identify whether references for potential sources of input parameters are indicated. CAR 20 has been raised.	<del>PoA-</del> <b>CAR 20</b>	<b>OK</b>
5.5.1.22 In case of equity IRR: Is the part of the investment costs, which is financed by equity considered as net cash outflow and is the part financed by debt excluded in net cash outflow?	EB 55 Annex 1, §111; EB 51 Annex 58	Only project IRRs will be considered for CPAs.	<b>OK</b>	<b>OK</b>
If <b>Benchmark Analysis</b> was applied proceed to answer the following:				

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5.5.1.23 If applicable, is the type of benchmark chosen appropriate for the type of IRR calculated (e.g. local commercial lending rates or weighted average costs of capital for project IRR; required/expected returns on equity for equity IRR)?	EB 55 Annex 1, §111; EB 51 Annex 58	<i>In case risk premiums are applied describe its suitability to reflect the risks associated with the project activity.</i> As per PoA-DD v.01 the benchmark will be either the WACC based on parameters that are standard in the market or an internal benchmark based on local Commercial lending rate. The benchmark will be calculated on CPA level.	OK	OK
5.5.1.24 If applicable, is the benchmark value suitable for the project activity, e.g., it has been consistently used in the past for similar projects with similar risks, and is it reasonable to assume that no investment would be made at a rate of a lower return than the benchmark?	EB 55 Annex 1, §111-112; EB 51 Annex 58)	<i>Describe whether it is reasonable to assume that a lower rate of return would consequently result in the baseline scenario.</i>  The benchmark will be calculated on CPA level. In case of the 1 <sup>st</sup> CPA it has been assessed that the WACC is the appropriate benchmark for CPAs included under this PoA. As per the Annex 58 Guidelines on the Assessment of Investment Analysis (version 05) paragraph 12, Weighted Average Costs of Capital (WACC) is an appropriate benchmark for a project IRR. In cases of projects which could be developed by an entity other than the PP, the benchmark should be based on parameters that are standard in the market. The project activity could have been developed by any other entity, which has been widely observed in Indonesia.  For this reason the benchmark has been duly derived from publicly available data sources.  The benchmark (WACC) has been derived based on the publicly data sources which have been clearly validated by GLC (see 1 <sup>st</sup> CPA Validation Report). The formula applied for calculation WACC have been correctly indicated in Section E.5.1 of the PoA-DD.  The formula has been correctly indicated in the PoA and WACC Excel sheet:	OK	OK

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		<p>Post-tax WACC = <math>E/(D+E) \cdot CE + D/(E+D) \cdot CD \cdot (1-\text{tax})</math> <math>CE = RFR + \beta_{\text{levered}} \cdot RP</math> <math>\beta_{\text{levered}} = \beta_{\text{unlevered}} \cdot [1 + (1-\text{tax}) \cdot (D/E)]</math> Pre-tax WACC = post-tax WACC / (1-tax)</p> <p>The approach is fully in line with the CDM regulation in terms of comparability with project IRR.</p>		

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5.5.1.25 If applicable, is it ensured that the project cannot be developed by other developers than the PP?	EB 55 Annex 1, §111; EB 51 Annex 58	This question is applicable if company's internal benchmark is chosen. It has been assessed that the appropriate benchmark for CPAs included under this PoA is the WACC based on parameters that are standard in the market. This is due to the possibility that the project could be developed by an entity other than the PP,	OK	OK
5.5.1.26 In case of financial additionality justification; has a sensitivity analysis been considered and does the same contain variation of parameters that constitute more than 20% of either total project costs or total project revenues and may vary throughout the project lifetime?	EB 55 Annex 1, §§110, 111 (e); EB 51 Annex 58	<i>Describe relevance of parameters used in the sensitivity analysis as well as their likeliness to vary during the project's lifetime. Parameters which are fixed on the basis of contracts, PPAs etc. may not be subject to variation and not adequate.</i>  The sensitivity analysis in case of the 1 <sup>st</sup> CPA has been included duly. The analysis included variation of parameters that constitute more than 20% of either total project costs or total project revenues, i.e. total investment cost, O&M cost and revenues from selling electricity. The sensitivity analysis is in line with EB 62 Annex 5 para 20. and 21.	OK	OK
5.5.1.27 If applicable, have sensitivity analysis considered parameters constituting less than 20% of total project costs or revenues, which may have potential material impact on the financial parameter?	EB 55 Annex 1, §110; EB 51 Annex 58	<i>Describe whether those parameters are considered in the sensitivity analysis?</i> In case of the 1 <sup>st</sup> CPA it has been assessed that the sensitivity analysis has been included duly and is in line with EB 62 Annex 5 para 20. and 21. The validation team did not identify parameters constituting less than 20% of total project cost or revenues having a potential material impact on the financial parameter.	OK	OK
5.5.1.28 If applicable, is the range of variation reasonable in the specific context of the project activity, taking into consideration historic trends in the business sector?	EB 55 Annex 1, §110; EB 51 Annex 58	<i>Describe whether the range of variation is appropriate with focus on historic developments, e.g. price of oil / labour etc., energy potential in the region in question</i> In case of the 1 <sup>st</sup> CPA the range of variation is +/- 10% which is in line with EB 62 Annex 5 para 21.	OK	OK
5.5.1.29 If applicable, are there any barriers given which have a clear and direct impact on the financial	EB 55 Annex 1, §§ 115,	<i>In case of LSC projects those issues cannot be considered as barriers and shall be assessed in the investment analysis. In case of SSC projects the same fundamentals as for LSC projects shall apply, i.e. the assessment of the investment barrier according to</i>	OK	OK

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returns of the project?	137)	<i>EB 62, Annex 5.</i> No barriers which have a clear and direct impact on the financial return of the project are given. This has been confirmed during interviews with the CME and PPs.		
5.5.1.30 If applicable, are the barriers described risk related (e.g technology failure, other performance related risks) or has the availability of sources of finance for the project been described and adequately substantiated?	EB 55 Annex 1, §§ 115, 137	<i>Identified barriers shall be in accordance with the attachment A to appendix B (4/CMP.1, Annex II, paragraph 28) and Guidelines for objective demonstration and assessment of barriers (EB50 Annex 13)</i> The barrier analysis has not been chosen to prove additionality. Investment analysis is chosen to prove the additionality of each CPA included under this PoA. Hence, this question is not applicable.	OK	OK
5.5.1.31 If applicable, has it been justified that one or a set of real barriers prevent(s) the implementation of the project activity and do not prevent the implementation of at least one of the alternatives?	EB 55 Annex 1, § 117 (b)	The barrier analysis has not been chosen to prove additionality. Investment analysis is chosen to prove the additionality of each CPA included under this PoA. Hence, this question is not applicable.	OK	OK
5.5.1.32 Is the defined region for the common practice analysis appropriate for the technology/industry type?	EB 55 Annex 1, § 120	<i>Describe the why the project activity is not common practice in a transparent and unambiguous manner.</i> This is not applicable since this is a small scale PoA	OK	OK
5.5.1.33 Is it appropriately explained how the approval of the project activity will help to overcome the identified barriers?		The barrier analysis has not been chosen to prove additionality. Investment analysis is chosen to prove the additionality of each CPA included under this PoA. Hence, this question is not applicable.	OK	OK
<b>5.5.2 KEY CRITERIA and data for assessing additionality of a SSC-CPA</b>				
<b>5.5.2.1</b> Has section E.5.1 of the PoA-DD provided unambiguous criteria to assess a typical CPA's additionality as demonstrated in section E.5.1 of the PoA-DD?	EB 55 Annex 1, §108	<i>Discuss the appropriateness of the criteria established. Pl consider also the eligibility criteria as discussed above. Assess whether the PP has demonstrated how these criteria would be applied to assess the additionality of a typical CPA at the time of CPA inclusion.</i>  For CPAs included under this PoA the key criterion is "CPA's IRR is lower	<b>PoA-CAR 19</b>	OK



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		<p>than the benchmark" as per PoA-DD v.01.</p> <p>This criteria is deemed appropriate and in line with EB requirements, however it has not been indicated that the project IRR will be used and compared to the WACC based on parameters that are standard in the market which has been explained to the DOE during site visit. Further the CME explained that there might be cases where the project can be developed by one possible project developer only which implies that the benchmark should be based on local commercial lending rates. The benchmark is calculated based on parameters that are standard in the market (WACC) or the local Commercial Lending rate (in case there is only one possible project developer) as outlined in Section E.5.1 of PoA-DD v.01 which is in line with EB 62 Annex 5.</p> <p>The project IRR will be calculated either post- or pre-tax as described in Section E.5.1. which is in line with EB 62 Annex 5.</p> <p>Additionality will be demonstrated on CPA level which is in line with EB 47 para 73.</p> <p>However it is not clear which criteria applies for Green field or Capacity Addition CPAs. CAR has been raised.</p>		
5.5.2.2 Are there any other key criteria and data for assessing additionality of a CPA which are necessary besides the ones mentioned above not included in the PoA-DD?	EB 55 Annex 1, § 167	It is not clear which criteria applies for Green field or Capacity Addition CPAs. CAR has been raised.	<b>PeA-CAR 19</b>	<b>OK</b>
<b>5.6 ALGORITHMS and/or FORMULAE used to Estimate EMISSION REDUCTIONS and PARAMETERS to be reported in the CPA-DD</b>				
<i>Methodological approach provided in the approved baseline and monitoring methodology applied in a typical CPA</i>				
5.6.1.1 In case the methodology allows for different methodological choices, are the equations applied	EB 55 Annex 1 §§ 90, 91	<i>Assess the correct selection and application of methodological choices. Describe whether proper justification has been provided (based on the choice of the</i>	<b>PeA-CAR 15 PeA</b>	<b>OK</b>



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properly justified and have they been used reflecting the other methodological choices (i.e. baseline identification) and are they in line with the actual situation verified on-site?		<p><i>baseline scenario, context of a typical CPA and other evidences provided) and whether the correct equations have been used reflecting the relevant methodological choices</i></p> <p>It has been described in Section A.6.1 of PoA-DD v.01 and confirmed during onsite visit that the combination of two methodologies will be applied to all CPAs, i.e. AMS III.H and AMS I.D. This is in line with EB 61 Annex 21 para 11a and EB 55 Annex 38 para 6f.</p> <p>However the documentation is not consistent w.r.t. using both methodologies for all CPAs. CAR 15 (2) has been raised.</p> <p>During onsite visit the PP explained that no biogas recovery systems will be introduced to sludge treatment system (either existent or new) Justification is pending why parameters <math>BE_{s,treatment,y}</math>, <math>BE_{s,final,y}</math>, <math>PE_{s,treatment,y}</math>, <math>PE_{s,final,y}</math> and <math>PE_{biomass,y}</math> are not applicable to this programme. This has been further assessed in CAR 22.</p> <p>Further it has been explained in PoA-DD.v01 that leakage is considered to be zero. It is stated that only new biogas recovery equipment shall be used for CPAs included in this PoA. CAR 23 (9) has been raised to clarify whether Leakage under AMS I.D is considered (i.e. whether new equipment for electricity generation will be implemented)</p> <p>CAR 8 has been raised to discuss whether this shall be included as eligibility criteria.</p> <p>Further it is not clear whether Project Emissions under AMS I.D are considered. As per PoA-DD v.01 PE is zero as per AMS I.D para 20. CAR 25 (4) has been raised to clarify whether CO2 emissions from on-site consumption of fossil fuel shall be calculated in line with AMS I.D para 21.</p>	<p><del>CAR 22</del> <del>PeA-</del> <del>CAR 23</del> <del>PeA-</del> <del>CAR 8</del> <del>PeA-</del> <del>CAR 25</del></p>	

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5.6.1.2 In case the implementation of a typical CPA leads to GHG emissions within the CPA boundary which are expected to contribute more than 1% of the overall expected average annual emission reductions, which are not addressed by the methodology, has this parameter been included in the calculation of the emission reductions?	EB 55 Annex 1, §77	<i>Please describe the extra parameters defined and Calculated</i> As per PoA-DD v.01 and CPA-DD v.01 there are no GHG emissions within the project boundary that will contribute to more than 1% of the overall expected average annual emission reductions that are not addressed by the applied methodology. To confirm this observation CAR 17 has been raised.	<b>PoA-CAR 17</b>	<b>OK</b>
<b>EQUATIONS, incl. fixed parametric values, to be used for calculation of ER of a SSC-CPA:</b>				
5.6.1.3 Are the formulae, including default values, required for the determination of <b>baseline emissions</b> correctly presented, enabling a clear identification of parameters to be used and / or monitored?	EB 55 Annex 1 §§67 (c), 89, 90, 91)	<p><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. Further take into consideration that all estimates of the baseline emissions can be replicated using the data</i></p> <p>As per PoA-DD v.01 formulae was not visible/correctly transferred from .doc into .pdf. Moreover formulae to calculate BE from Greenfield projects is missing in PoA-DD v.01. CAR 23 has been raised. However PoA-DD v.02 has been assessed. The formulae for baseline emissions are presented as follows:  <math display="block">BE_y = BE_{power,y} + BE_{ww,treatment,y} + BE_{ww,discharge,y}</math> </p> <p>As explained in question 11.6.1.1. <math>BE_{s,treatment,y}</math> and <math>BE_{s,final,y}</math> are deemed not applicable as per PoA-DD v.02. However justification is pending. This has been further assessed in CAR 22.</p>	<b>PoA-CAR 22</b> <b>PoA-CAR 23</b>	<b>OK</b>

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		<p><math>BE_{power,y}</math> is correctly presented in the PoA and calculated as per AMS III.H para 19.</p> <p><math>BE_{ww,treatment,y}</math></p> $= \sum_i (Q_{ww,i,y} \times COD_{inflow,i,y} \times \eta_{COD,BL,i} \times MCF_{ww,treatment,BL,i}) \times B_{o,ww} \times UF_{BL} \times GWP_{CH4}$ <p>Default values have been correctly stated as per AMS III.H.</p> <p><math>BE_{ww,discharge,y}</math></p> $= Q_{ww,y} \times GWP_{CH4} \times B_{o,ww} \times UF_{BL} \times COD_{ww,discharge,BL,y} \times MCF_{ww,BL,discharge}$ <p>Regarding AMS I.D Baseline Emissions are presented as following and in line with methodology:</p> $BE_y = EG_{BL,y} \times EF_{CO2,grid,y}$ <p>PoA-DD v.02 has been assessed and indentified that all formulae w.r.t Baseline Emissions are correctly stated and default values are correctly listed as per methodologies.</p> <p>However CAR 23 has been raised as indicated above.</p>		
5.6.1.4 Are the formulae, including default values, required for the determination of <b>project emissions</b> correctly presented, enabling a clear identification of parameters to be used and / or monitored?	AMS-III.H; AMS I.D	<p>As per PoA-DD v.01 formulae was not visible/correctly transferred from .doc into .pdf.</p> <p>Moreover formulae to calculate PE from flaring is not in line with the tool to determine project emissions from flaring gases containing methane.</p> <p>CAR 23 has been raised. Further parameters were missing in Section E.6.3</p>	<del>PoA-CAR 22</del> <del>PoA-CAR 23</del> <del>PoA-</del>	OK

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		<p>and E.7.1. CAR 24 and CAR 25 have been raised.</p> <p>However PoA-DD v.02 has been assessed: The formulae for project emissions are presented as follows: As per AMS III.H following project emissions occur and have been presented in PoA-DD v.02:</p> $PE_y = PE_{power,y} + PE_{ww,treatment,y} + PE_{ww,discharge,y} + PE_{fugitive,ww,y} + PE_{flaring,y}$ <p>As explained in question 11.6.1.1. <math>PE_{s,treatment,y}</math>, <math>PE_{s,final,y}</math> and <math>PE_{biomass,y}</math> are deemed not applicable as per PoA-DD v.02. However justification is pending. This has been further assessed in CAR 22.</p> <p><math>PE_{power,y}</math> is presented as per methodology. However CAR 25 (4) has been raised because "Quantity of fossil fuel consumed in the project activity" was not indicated as monitoring parameter.</p> <p><u><math>PE_{ww,treatment,y}</math></u> is presented as per methodology, i.e</p> $= Q_{ww,k,y} \times COD_{inflow,k,y} \times \eta_{PJ,k,y} \times MCF_{ww,treatment,PJ,k} \times B_{o,ww} \times UF_{PJ} \times GWP_{CH4}$ <p><u><math>PE_{ww,discharge,y}</math></u></p> $= Q_{ww,y} \times GWP_{CH4} \times B_{o,ww} \times UF_{PJ} \times COD_{ww,discharge,PJ,y} \times MCF_{ww,PJ,discharge}$ <p>The calculation has been presented correctly and in line with methodology.</p>	<p><del>CAR 25</del> <del>PeA-</del> <del>CAR 3</del> <del>PeA-</del> <del>CAR 24</del> <del>PeA-</del> <del>CAR 25</del></p>	

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		<p>However it is not clear where COD values will be measured. CAR 25 has been raised.</p> $\begin{aligned} PE_{fugitive,y} &= PE_{fugitive,ww,y} + PE_{fugitive,s,y} \\ &= (1 - CFE_{ww}) \times MEP_{ww,treatment,y} \times GWP_{CH4} \end{aligned}$ <p>Where <math>PE_{fugitive,s,y} = 0</math> because no biogas recovery system will be introduced to a sludge treatment system.</p> $MEP_{ww,treatment,y} = Q_{ww,y} \times B_{o,ww} \times UF_{PJ} \times \sum k(COD_{removed,PJ,k,y} \times MCF_{ww,treatment,PJ,k})$ <p>E.g. for k=biogas digester  <math>COD_{removed,PJ,k,y} = COD_{outflow,PJ-digester,y} - COD_{inflow,PJ-digester,y}</math></p> <p>CAR 3 has been raised because Footnote 22 of PoA-DD v.02 is missing. The calculation has been presented correctly and in line with methodology. However it is not clear where COD values will be measured. CAR 25 has been raised.</p> <p>Optionally <math>PE_{fugitive,y}</math> can be calculated with a default value of 0.05 m<sup>3</sup> biogas leaked/m<sup>3</sup> biogas produced as per methodology which has been correctly presented in poA-DD v.02.</p> <p><math>PE_{flaring,y}</math> is presented as per methodology, i.e.</p>		

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		<p><i>Ex-ante estimation:</i> baseline emission calculation for wastewater (i.e. equation 2 of AMS III.H) can be used without the consideration of GWP for CH<sub>4</sub>.</p> <p><i>Ex-post:</i> project emissions from flaring gases containing methane shall be calculated as per the "Tool to determine project emissions from flaring gases containing methane". The tool has been correctly stated and formulae correctly presented in the PoA-DD v.02. It has been indicated that Step 6 in case of enclosed flares the option "default values" is used instead of continuous monitoring which is deemed appropriate based on local and sectoral knowledge. In case of open flares, the default value is stated as per the tool. The parameters "density of methane at normal conditions" has been correctly added in Section E.6.3 of PoA-DD v.02 as addressed in CAR 24. The parameter <math>f_{v_{CH_4,h}}</math> is not clearly described in Section E.7.1. CAR 25 has been raised.</p> <p>As per AMS I.D following project emissions occur and have been presented in PoA-DD v.02:</p> <p>It has been indicated that <math>PE_y = 0</math> for most of the renewable energy activities as per AMS I.D para 20. CAR 25 (4) has been raised to clarify whether CO<sub>2</sub> emissions from on-site consumption of fossil fuel shall be calculated in line with AMS I.D para 21. PoA-DD v.02 has been revised and indicated that fossil fuel consumption will be addressed in case fuel is used during project activity. CAR 25 has been raised.</p>		
5.6.1.5 Are the formulae, including default values,	AMS-	It has been explained in PoA-DD.v01 that leakage is considered to be zero. It	<b>PeA-</b>	<b>OK</b>

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required for the determination of <b>leakage</b> emissions correctly presented, enabling a clear identification of parameter to be used and / or monitored?	III.H; AMS I.D	is stated that only new biogas recovery equipment shall be used for CPAs included in this PoA. CAR 23 (9) has been raised to clarify whether Leakage under AMS I.D is considered (i.e. whether new equipment for electricity generation will be implemented) CAR 8 has been raised to discuss whether this shall be included as eligibility criteria.	<del>CAR 23</del> <del>PoA-</del> <del>CAR 8</del>	
5.6.1.6 Are the formulae required for the determination of <b>emission reductions</b> correctly presented?	AMS-III.H; AMS I.D	As per PoA-DD v.01 formulae to calculate emission reduction in terms of AMS III.H have been correctly presented as per methodology, i.e. Ex-ante: $ER_{y,ex\ ante} = BE_{y, ex\ ante} - (PE_{y,ex\ ante} + LE_{y,ex\ ante})$  Ex post in case the baseline and project scenario is as per AMS III.H para 1 (d) and 1(f): $ER_{y,ex\ post} = \min((BE_{y, ex\ post} - (PE_{y,ex\ post} + LE_{y,ex\ post})), (MD_y - PE_{power,y} - PE_{biomass,y} - LE_{y, ex\ post}))$  With $MD_y = BG_{burnt,y} \times w_{CH4,y} \times D_{CH4} \times FE \times GWP_{CH4}$  However as per PoA-DD v.01 scenario 1(b) and 1(c) has been indicated which is not in line with the explanation that no sludge treatment is applicable under the PoA. CAR 23 has been raised.  In cases where AMS III.H para 1(a) and 1(e) applies, Emission Reduction calculation has been indicated correctly in PoA-DD v.01: $ER_{y,ex\ post} = BE_{y, ex\ post} - (PE_{y,ex\ post} + LE_{y,ex\ post})$  As per PoA-DD v.01 formulae to calculate emission reduction in terms of AMS I.D have been correctly presented as per methodology, i.e.  $ER_y = BE_y - PE_y - LE_y$	<del>PoA-</del> <del>CAR 23</del>	OK

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		However PP is requested to combine both ER calculations. CAR 23 (6) has been raised.		
<p>5.6.1.7 Have parameters with fixed values for the whole PoA been listed in section E.6.2 of the PoA-DD?</p> <p><i>Only those parameters which can be determined at the stage of PoA validation and will be applied consistently for each CPA shall be included in section E.6.2 of the PoA-DD. Ex-ante estimation of monitoring parameters or parameters to be reported only at CPA inclusion stage shall not be included.</i></p>	EB 33 Annex 43	The list of parameters fixed ex-ante is not complete. CAR 23 and 24 have been raised.	PeA CAR 23 PeA CAR 24	OK
5.6.1.8 Have conservative assumptions been used when calculating the baseline emissions, project emissions and leakage?	EB 55 Annex 1 §§ 90, 91	Calculation of baseline, project and leakage emissions is not clear nor whether all parameters have been correctly listed in Section E.6.2 and E.7.1. CAR 23, 24 and 25 have been raised.	PeA CAR 23 PeA CAR 24 PeA CAR 25	OK
5.6.1.9 Is an unprotected Excel file with a detailed emission reduction calculation in a reproducible format (i.e. indicating the formulae applied and properly linked) provided by the PPs?	AMS-III.H; AMS I.D	Yes, the Excel Sheet has been provided for rCPA-DD but not for the PoA-DD, which is deemed appropriate due to reason that actual data to calculate the emission reductions are available at CPA level. It will be assessed in the rCPA Validation Report.	OK	OK
5.6.1.10 If there is more than one component of the project activity, are emission reduction calculations provided separately for each component?	AMS-III.H; AMS I.D	The Excel Sheet has been provided for rCPA-DD. It will be assessed in the rCPA Validation Report.	OK	OK
5.6.1.11 Is the form/table required for the indication of projected emission reductions correctly applied	AMS-III.H;	The Excel Sheet has been provided for rCPA-DD. It will be assessed in the rCPA Validation Report.	OK	OK



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for each component?	AMS I.D					
5.6.1.12 Will the project result in fewer GHG emissions than the baseline scenario?	AMS-III.H; AMS I.D	The Excel Sheet has been provided for rCPA-DD. It will be assessed in the rCPA Validation Report.	OK	OK		
5.6.1.13 Do these values comply with small-scale criteria for every year?	AMS-III.H; AMS I.D	The Excel Sheet has been provided for rCPA-DD. It will be assessed in the rCPA Validation Report.	OK	OK		
<b>Select the appropriate baseline emissions of the systems affected by the project activity and validate the parameters and data associated with it taking note that wastewater and sludge treatment systems equipped with a biogas recovery facility in the baseline shall be excluded from the baseline emission calculations.</b>						
<b>AMS III.H Methane recovery in wastewater treatment</b>						
Baseline	<b>Baseline Emissions</b>		YES / NO /NA			
	1	Emissions on account of electricity or fossil fuel used ( $BE_{power,y}$ );	yes			
	2	Methane emissions from baseline wastewater treatment systems ( $BE_{ww,treatment,y}$ );	yes			
	3	Methane emissions from baseline sludge treatment systems ( $BE_{s,treatment,y}$ );	no			
	4	Methane emissions on account of inefficiencies in the baseline wastewater treatment systems and presence of degradable organic carbon in the treated wastewater discharged into river/lake/sea ( $BE_{ww,discharge,y}$ );	yes			
	5	Methane emissions from the decay of the final sludge generated by the baseline treatment systems ( $BE_{s,final,y}$ ).	No (CAR 22 has been raised)			
Emissions from sludge treatment systems are not considered. However justification is pending. PoA-CAR 22 has been raised.						
Comments: All other parameters not applicable to the selected case are not further considered						
<b>Baseline emissions from electricity and fossil fuel consumption (<math>BE_{power,y}</math>) are determined as per the procedures described in the "Tool to calculate baseline, project and/or leakage emissions from electricity consumption" and "Tool to calculate project or leakage CO2 emissions from fossil fuel combustion", respectively.</b>						

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5.6.1.14 Parameter $EC_{BL,y}$ : Electricity consumption in the baseline scenario	AMS-III.H; AMS I.D	<table><tr><th>Parameter / Data Checklist</th><th>YES / NO /NA</th></tr><tr><td>Title in line with methodology?</td><td>yes</td></tr><tr><td>Data unit correctly expressed?</td><td>yes</td></tr><tr><td>Appropriate description of parameter?</td><td>yes</td></tr><tr><td>If default is the sourced correctly referenced?</td><td>n/a</td></tr><tr><td>If ex-ante determined, are data sources and assumptions appropriate and calculations correct?</td><td>Yes</td></tr><tr><td>If monitored, is the estimation reasonable?</td><td>n/a</td></tr></table> <p>The parameter has not been listed in PoA-DD v.01.: However PoA-DD v.06 and gCPA-DD v.06 have been assessed: Comments: Baseline emissions from electricity and fossil fuel consumption (<math>BE_{power,y}</math>) are determined as per the procedures described in the “Tool to calculate baseline, project and/or leakage emissions from electricity consumption”<sup>/EB05/</sup> (EB 39 Annex 7 version 01) and “Tool to calculate project or leakage CO2 emissions from fossil fuel combustion” (EB 41 Annex 11 version 02)<sup>/EB06/</sup>, respectively. The energy consumption shall include all equipment/devices in the baseline wastewater. Provisions for parameters fixed ex-ante and monitored ex-post have been made in section E.6.3 and E.7.1 . In cases where the electricity consumption in the baseline scenario (e.g. electricity consumption for aeration) would be applied as well in the project scenario, then the emission from electricity consumption (<math>BE_{power,y}</math>) can be neglected. This approach is deemed conservative by the Validation team. However it must be assessed at CPA level whether the baseline</p>	Parameter / Data Checklist	YES / NO /NA	Title in line with methodology?	yes	Data unit correctly expressed?	yes	Appropriate description of parameter?	yes	If default is the sourced correctly referenced?	n/a	If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	Yes	If monitored, is the estimation reasonable?	n/a	OK	OK
Parameter / Data Checklist	YES / NO /NA																	
Title in line with methodology?	yes																	
Data unit correctly expressed?	yes																	
Appropriate description of parameter?	yes																	
If default is the sourced correctly referenced?	n/a																	
If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	Yes																	
If monitored, is the estimation reasonable?	n/a																	

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		treatment system is equivalent to the project activity scenario.		
<b>Methane emissions from the baseline wastewater treatment systems (<math>BE_{\text{ww,treatment,y}}</math>) affected by the project are determined using the COD removal efficiency of the baseline plant: Complete the following table for each parameter or data to be reported in SSC-CPA-DD and available at validation</b>				

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5.6.1.15 Parameter $Q_{ww,i,y}$ : Volume of wastewater treated in baseline wastewater treatment system i in year y (m3). [for ex ante estimation, forecasted wastewater generation volume or the designed capacity of the wastewater treatment facility can be used], However, the ex post emissions reduction calculation shall be based on the actual monitored volume of treated wastewater. i = index of baseline water treatment system	AMS-III.H	<table><tr><th>Parameter / Data Checklist</th><th>YES / NO /NA</th></tr><tr><td>Title in line with methodology?</td><td>yes</td></tr><tr><td>Data unit correctly expressed?</td><td>No</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>If default is the sourced correctly referenced?</td><td>n/a</td></tr><tr><td>If ex-ante determined, are data sources and assumptions appropriate and calculations correct?</td><td>CPA level</td></tr><tr><td>If monitored, is the estimation reasonable?</td><td>NA (to be assessed at CPA level)</td></tr><tr><td>Description of measurement methods in line with meth?</td><td>yes</td></tr><tr><td>QA/QC procedure in line with meth?</td><td>yes</td></tr></table> <p>Comments: Parameter has been listed in Section E.7.1 of PoA-DD v.01 which is in line with methodology. Description is not in line with methodology. CAR 25 has been raised.</p>	Parameter / Data Checklist	YES / NO /NA	Title in line with methodology?	yes	Data unit correctly expressed?	No	Appropriate description of parameter?	No	If default is the sourced correctly referenced?	n/a	If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	CPA level	If monitored, is the estimation reasonable?	NA (to be assessed at CPA level)	Description of measurement methods in line with meth?	yes	QA/QC procedure in line with meth?	yes	PeA-CAR-25	OK
Parameter / Data Checklist	YES / NO /NA																					
Title in line with methodology?	yes																					
Data unit correctly expressed?	No																					
Appropriate description of parameter?	No																					
If default is the sourced correctly referenced?	n/a																					
If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	CPA level																					
If monitored, is the estimation reasonable?	NA (to be assessed at CPA level)																					
Description of measurement methods in line with meth?	yes																					
QA/QC procedure in line with meth?	yes																					
5.6.1.16 Parameter $COD_{inf low,i,y}$ : Chemical oxygen demand of the wastewater inflow to the baseline treatment system i in year y (t/m3). Average value may be used through sampling with the confidence/precision level 90/10	AMS-III.H	<p>As per PoA-DD v.01 this parameter is determined ex-ante and reflected in parameter “COD removal efficiency of the baseline treatment system i” However PoA-CAR 24 has been raised to ensure that it is clearly defined how “COD removal efficiency of the baseline treatment system i” is measured/calculated.</p> <p>Further as per methodology this parameter can be determined by means of an ex-ante measuring campaign and ex-post measured COD inflow (<math>COD_{ww,untreated,y}</math>) is taken to determine <math>COD_{inf low,i,y}</math> ex-post. This has not been clearly elaborated in the PDDs. CAR has been raised.</p> <p>CHECK rCPA CAR 16</p>	PeA-CAR-24	OK																		

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5.6.1.17 Parameter $\eta_{\text{COD, BL, i}}$ : COD removal efficiency of the baseline treatment system i, determined as per the paragraphs 26, 27 or 28 below	AMS-III.H	<table><tr><th>Parameter / Data Checklist</th><th>YES / NO /NA</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>If default is the sourced correctly referenced?</td><td>n/a</td></tr><tr><td>If ex-ante determined, are data sources and assumptions appropriate and calculations correct?</td><td>NA (to be assessed at CPA level)</td></tr><tr><td>If monitored, is the estimation reasonable?</td><td>n/a</td></tr></table> <p>Comments: Parameter has been listed in Section E.6.3 of PoA-DD v.01 which is in line with methodology. Description is not in line with methodology. CAR 24 has been raised.</p>	Parameter / Data Checklist	YES / NO /NA	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	If default is the sourced correctly referenced?	n/a	If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	NA (to be assessed at CPA level)	If monitored, is the estimation reasonable?	n/a	PeA-CAR 24	OK
Parameter / Data Checklist	YES / NO /NA																	
Title in line with methodology?	Yes																	
Data unit correctly expressed?	Yes																	
Appropriate description of parameter?	Yes																	
If default is the sourced correctly referenced?	n/a																	
If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	NA (to be assessed at CPA level)																	
If monitored, is the estimation reasonable?	n/a																	
5.6.1.18 Parameter $\text{MCF}_{\text{ww, treatment, BL, i}}$ : Methane correction factor for baseline treatment system I, determined as per para 26-28 of the AMS-III.H (see Table III.H.1 for IPCC default values)	AMS-III.H	<table><tr><th>Parameter / Data Checklist</th><th>YES / NO /NA</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>If default is the sourced correctly referenced?</td><td>Yes</td></tr><tr><td>If ex-ante determined, are data sources and assumptions appropriate and calculations correct?</td><td>n/a</td></tr><tr><td>If monitored, is the estimation reasonable?</td><td>n/a</td></tr></table> <p>Comments: Parameter has been listed in Section E.6.3 of PoA-DD which is in line with methodology. Description is not in line with methodology. CAR 24 has been raised.</p>	Parameter / Data Checklist	YES / NO /NA	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	No	If default is the sourced correctly referenced?	Yes	If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	n/a	If monitored, is the estimation reasonable?	n/a	PeA-CAR 24	OK
Parameter / Data Checklist	YES / NO /NA																	
Title in line with methodology?	Yes																	
Data unit correctly expressed?	Yes																	
Appropriate description of parameter?	No																	
If default is the sourced correctly referenced?	Yes																	
If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	n/a																	
If monitored, is the estimation reasonable?	n/a																	

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QUESTIONS / VVM / METHODOLOGY REQUIREMENT	SOURCE / REF.	VALIDATION TEAM'S FINDINGS / COMMENTS / REQUESTS	GSC PoA	FINAL PoA														
5.6.1.19 Parameter Bo,ww: Methane producing capacity of the wastewater (IPCC value of 0.25 kg CH4/kg COD. Project activities may use the default value of 0.6 kg CH4/kg BOD, if the parameter BOD5,20 is used to determine the organic content of the wastewater.)	AMS-III.H	<table><tr><th>Parameter / Data Checklist</th><th>YES / NO /NA</th></tr><tr><td>Title in line with methodology?</td><td>yes</td></tr><tr><td>Data unit correctly expressed?</td><td>yes</td></tr><tr><td>Appropriate description of parameter?</td><td>yes</td></tr><tr><td>If default is the sourced correctly referenced?</td><td>yes</td></tr><tr><td>If ex-ante determined, are data sources and assumptions appropriate and calculations correct?</td><td>n/a</td></tr><tr><td>If monitored, is the estimation reasonable?</td><td>n/a</td></tr></table> <p>Comments: Parameter has been listed in Section E.6.3 of PoA-DD which is in line with methodology. Description and default value and reference is in line with methodology.</p>	Parameter / Data Checklist	YES / NO /NA	Title in line with methodology?	yes	Data unit correctly expressed?	yes	Appropriate description of parameter?	yes	If default is the sourced correctly referenced?	yes	If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	n/a	If monitored, is the estimation reasonable?	n/a	OK	OK
Parameter / Data Checklist	YES / NO /NA																	
Title in line with methodology?	yes																	
Data unit correctly expressed?	yes																	
Appropriate description of parameter?	yes																	
If default is the sourced correctly referenced?	yes																	
If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	n/a																	
If monitored, is the estimation reasonable?	n/a																	
5.6.1.20 Parameter UFBL: Model correction factor to account for model uncertainties (0.89)	AMS-III.H	<table><tr><th>Parameter / Data Checklist</th><th>YES / NO /NA</th></tr><tr><td>Title in line with methodology?</td><td>yes</td></tr><tr><td>Data unit correctly expressed?</td><td>yes</td></tr><tr><td>Appropriate description of parameter?</td><td>yes</td></tr><tr><td>If default is the sourced correctly referenced?</td><td>yes</td></tr><tr><td>If ex-ante determined, are data sources and assumptions appropriate and calculations correct?</td><td>n/a</td></tr><tr><td>If monitored, is the estimation reasonable?</td><td>n/a</td></tr></table> <p>Comments: Parameter has been listed in Section E.6.3 of PoA-DD which is in line with methodology. Description and default value and reference is in line with methodology.</p>	Parameter / Data Checklist	YES / NO /NA	Title in line with methodology?	yes	Data unit correctly expressed?	yes	Appropriate description of parameter?	yes	If default is the sourced correctly referenced?	yes	If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	n/a	If monitored, is the estimation reasonable?	n/a	OK	OK
Parameter / Data Checklist	YES / NO /NA																	
Title in line with methodology?	yes																	
Data unit correctly expressed?	yes																	
Appropriate description of parameter?	yes																	
If default is the sourced correctly referenced?	yes																	
If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	n/a																	
If monitored, is the estimation reasonable?	n/a																	
5.6.1.21 Parameter GWPCH4: Global Warming Potential	AMS-III.H		OK	OK														

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for methane (value of 21)		<table><tr><th>Parameter / Data Checklist</th><th>YES / NO /NA</th></tr><tr><td>Title in line with methodology?</td><td>yes</td></tr><tr><td>Data unit correctly expressed?</td><td>yes</td></tr><tr><td>Appropriate description of parameter?</td><td>yes</td></tr><tr><td>If default is the sourced correctly referenced?</td><td>yes</td></tr><tr><td>If ex-ante determined, are data sources and assumptions appropriate and calculations correct?</td><td>n/a</td></tr><tr><td>If monitored, is the estimation reasonable?</td><td>n/a</td></tr></table> <p>Comments: Parameter has been listed in Section E.6.3 of PoA-DD which is in line with methodology. Description and default value and reference is in line with methodology.</p>	Parameter / Data Checklist	YES / NO /NA	Title in line with methodology?	yes	Data unit correctly expressed?	yes	Appropriate description of parameter?	yes	If default is the sourced correctly referenced?	yes	If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	n/a	If monitored, is the estimation reasonable?	n/a		
Parameter / Data Checklist	YES / NO /NA																	
Title in line with methodology?	yes																	
Data unit correctly expressed?	yes																	
Appropriate description of parameter?	yes																	
If default is the sourced correctly referenced?	yes																	
If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	n/a																	
If monitored, is the estimation reasonable?	n/a																	
<b>Methane emissions from the baseline sludge treatment systems (<math>BE_{s,treatment,y}</math>) affected by the project activity are determined using the methane generation potential of the sludge treatment systems:</b> Complete the following table for each parameter or data to be reported in SSC-CPA-DD and available at validation																		
5.6.1.22 Parameter Sj, BL,y: Amount of dry matter in the sludge that would have been treated by the sludge treatment system j in the baseline scenario (t). For ex ante estimation, forecasted sludge generation volume or the designed capacity of the sludge treatment facility can be used. However, the ex post emissions reduction calculation shall be based on the actual monitored volume of treated sludge (j=index of baseline sludge treatment system)	AMS-III.H	During on-site visit it has been identified by the validation team and confirmed by the Technical expert that methane emissions from baseline sludge treatment system can be excluded for the 1 <sup>st</sup> CPA under this PoA because the sludge is not disposed nor treated, neither in the baseline nor in the project scenario. For simplicity the PP decided to exclude this parameter from the calculation. GLC identified this approach to be conservative. Hence this question is not applicable.	OK	OK														
○ Parameter DOCs: Degradable organic content of the untreated sludge generated	AMS-III.H	During on-site visit it has been identified by the validation team and	OK	OK														

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in the year y (fraction, dry basis). Default values of 0.5 for domestic sludge and 0.257 for industrial sludge shall be used		confirmed by the Technical expert that methane emissions from baseline sludge treatment system can be excluded for the 1 <sup>st</sup> CPA under this PoA because the sludge is not disposed nor treated, neither in the baseline nor in the project scenario. For simplicity the PP decided to exclude this parameter from the calculation. GLC identified this approach to be conservative. Hence this question is not applicable.		



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QUESTIONS / VVM / METHODOLOGY REQUIREMENT	SOURCE / REF.	VALIDATION TEAM'S FINDINGS / COMMENTS / REQUESTS	GSC PoA	FINAL PoA
5.6.1.23 Parameter MCFs,treatment, BL,j: Methane correction factor for the baseline sludge treatment system j (MCF values as per Table III.H.1)	AMS-III.H	During on-site visit it has been identified by the validation team and confirmed by the Technical expert that methane emissions from baseline sludge treatment system can be excluded for the 1 <sup>st</sup> CPA under this PoA because the sludge is not disposed nor treated, neither in the baseline nor in the project scenario. For simplicity the PP decided to exclude this parameter from the calculation. GLC identified this approach to be conservative. Hence this question is not applicable.	OK	OK
5.6.1.24 Parameter UFBL: Model correction factor to account for model uncertainties (0.89)	AMS-III.H	During on-site visit it has been identified by the validation team and confirmed by the Technical expert that methane emissions from baseline sludge treatment system can be excluded for the 1 <sup>st</sup> CPA under this PoA because the sludge is not disposed nor treated, neither in the baseline nor in the project scenario. For simplicity the PP decided to exclude this parameter from the calculation. GLC identified this approach to be conservative. Hence this question is not applicable.	OK	OK
5.6.1.25 Parameter DOCF: Fraction of DOC dissimilated to biogas (IPCC default value of 0.5)	AMS-III.H	During on-site visit it has been identified by the validation team and confirmed by the Technical expert that methane emissions from baseline sludge treatment system can be excluded for the 1 <sup>st</sup> CPA under this PoA because the sludge is not disposed nor treated, neither in the baseline nor in the project scenario. For simplicity the PP decided to exclude this parameter from the calculation. GLC identified this approach to be conservative. Hence this question is not applicable.	OK	OK
5.6.1.26 Parameter F: Fraction of CH <sub>4</sub> in biogas (IPCC default of 0.5)		During on-site visit it has been identified by the validation team and confirmed by the Technical expert that methane emissions from baseline sludge treatment system can be excluded for the 1 <sup>st</sup> CPA under this PoA	OK	OK

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		because the sludge is not disposed nor treated, neither in the baseline nor in the project scenario. For simplicity the PP decided to exclude this parameter from the calculation. GLC identified this approach to be conservative. Hence this question is not applicable.		
5.6.1.27 Parameter EFcomposting: Emission factor for composting organic waste (t CH <sub>4</sub> /t waste treated, if the sludge is composted,). Emission factors can be based on facility/site-specific measurements, country specific values or IPCC default. IPCC default value is 0.01 t CH <sub>4</sub> / t sludge treated on a dry weight basis	AMS-III.H	During on-site visit it has been identified by the validation team and confirmed by the Technical expert that methane emissions from baseline sludge treatment system can be excluded for the 1 <sup>st</sup> CPA under this PoA because the sludge is not disposed nor treated, neither in the baseline nor in the project scenario. For simplicity the PP decided to exclude this parameter from the calculation. GLC identified this approach to be conservative. Hence this question is not applicable.	OK	OK
<b>If the baseline wastewater treatment system is different from the treatment system in the project scenario, the sludge generation rate (amount of sludge generated per unit of COD removed) in the baseline may differ significantly from that of the project scenario. In this case the monitored values of the amount of sludge generated during the crediting period will be used to estimate the amount of sludge generated in the baseline</b>				

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QUESTIONS / VVM / METHODOLOGY REQUIREMENT	SOURCE / REF.	VALIDATION TEAM'S FINDINGS / COMMENTS / REQUESTS	GSC PoA	FINAL PoA
5.6.1.28 Parameter Si,PJ,y: Amount of dry matter in the sludge treated by the sludge treatment system I in year y in the project scenario (t)	AMS-III.H	During on-site visit it has been identified by the validation team and confirmed by the Technical expert that methane emissions from baseline sludge treatment system can be excluded for the 1 <sup>st</sup> CPA under this PoA because the sludge is not disposed nor treated, neither in the baseline nor in the project scenario. For simplicity the PP decided to exclude this parameter from the calculation. GLC identified this approach to be conservative. Hence this question is not applicable.	OK	OK
5.6.1.29 Parameter SGR_BL: Sludge generation ratio of the wastewater treatment plant in the baseline scenario (tonne of dry matter in sludge/t COD removed). This ratio will be determined as per paragraphs 26, 27 or 28 of AMS-III.H	AMS-III.H	During on-site visit it has been identified by the validation team and confirmed by the Technical expert that methane emissions from baseline sludge treatment system can be excluded for the 1 <sup>st</sup> CPA under this PoA because the sludge is not disposed nor treated, neither in the baseline nor in the project scenario. For simplicity the PP decided to exclude this parameter from the calculation. GLC identified this approach to be conservative. Hence this question is not applicable.	OK	OK
5.6.1.30 Parameter SGR_PJ: Sludge generation ratio of the wastewater treatment plant in the project scenario (tonne of dry matter in sludge/t COD removed). Calculated using the monitored values of COD removal (i.e. COD <sub>inflow,i</sub> minus COD <sub>outflow,i</sub> ) and sludge generation in the project scenario	AMS-III.H	During on-site visit it has been identified by the validation team and confirmed by the Technical expert that methane emissions from baseline sludge treatment system can be excluded for the 1 <sup>st</sup> CPA under this PoA because the sludge is not disposed nor treated, neither in the baseline nor in the project scenario. For simplicity the PP decided to exclude this parameter from the calculation. GLC identified this approach to be conservative. Hence this question is not applicable.	OK	OK
<b>Methane emissions from degradable organic carbon in treated wastewater (<math>BE_{ww,discharge,y}</math>) discharged in e.g. a river, sea or lake in the baseline situation is determined using the follow parameters:</b>				

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QUESTIONS / VVM / METHODOLOGY REQUIREMENT	SOURCE / REF.	VALIDATION TEAM'S FINDINGS / COMMENTS / REQUESTS		GSC PoA	FINAL PoA
5.6.1.31 Parameter Q <sub>ww,y</sub> : Volume of treated wastewater discharged in year y (m3)	AMS-III.H	Parameter / Data Checklist	YES / NO /NA	PeA-CAR-25	OK
		Title in line with methodology?	yes		
		Data unit correctly expressed?	No		
		Appropriate description of parameter?	No		
		If default is the sourced correctly referenced?	n/a		
		If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	NA (to be assessed at CPA level)		
		If monitored, is the estimation reasonable?	NA (to be assessed at CPA level)		
		Description of measurement methods in line with meth?	yes		
		QA/QC procedure in line with meth?	yes		
		Comments: Parameter has been listed in Section E.7.1 of PoA-DD which is in line with methodology. Description is not in line with methodology. CAR 25 has been raised.			
5.6.1.32 Parameter UF <sub>BL</sub> : Model correction factor to account for model uncertainties (0.89)	AMS-III.H	Please refer to question 11.6.1.20		OK	OK
5.6.1.33 Parameter COD <sub>ww,discharge,BL,y</sub> : Chemical oxygen demand of the treated wastewater discharged into sea, river or lake in the baseline situation in the year y (t/m3). If the baseline scenario is the discharge of untreated wastewater, the COD of untreated wastewater shall be used	AMS-III.H	As per PoA-DD v.01 parameter is determined ex-ante and reflected in parameter “COD removal efficiency of the baseline treatment system i” However PoA-CAR 24 has been raised to ensure that it is clearly defined how “COD removal efficiency of the baseline treatment system i” is measured/calculated. Further as per methodology this parameter is calculated ex-post in case baseline treatment system is different from the project treatment system.		PeA-CAR-24	OK

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		This has not been clearly elaborated in the PoA-DD. CAR has been raised.			
5.6.1.34 Parameter MCF_ww,BL,_discharge: Methane correction factor based on discharge pathway in the baseline situation (e.g. into sea, river or lake) of the wastewater fraction) (MCF values as per Table III.H.1 in AMS-III.H)	AMS-III.H			OK	OK
		Parameter / Data Checklist	YES / NO /NA		
		Title in line with methodology?	yes		
		Data unit correctly expressed?	yes		
		Appropriate description of parameter?	yes		
		If default is the sourced correctly referenced?	yes		
		If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	n/a		
		If monitored, is the estimation reasonable?	n/a		
		Comments: Parameter has been listed in Section E.6.3 of PoA-DD which is in line with methodology. Description and default value and reference is in line with methodology.			
For methane emissions from anaerobic decay of the final sludge (BE <sub>s,final,y</sub> ) produced the baseline situation is determined using the follow parameters:					

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5.6.1.35 Parameter S <sub>final, BL, y</sub> : Amount of dry matter in the final sludge generated by the baseline wastewater treatment systems in the year y (t). If the baseline wastewater treatment system is different from the project system, it will be estimated using the monitored amount of dry matter in the final sludge generated by the project activity (S <sub>final, PJ, y</sub> ) corrected for the sludge generation ratios of the project and baseline systems	AMS-III.H	As per PoA-DD v.01 this parameter is not applicable. However justification is pending. CAR 18 (1) has been raised.	<del>PeA-</del> <b>CAR 18</b>	OK
5.6.1.36 Parameter MCF <sub>s, BL, final</sub> : Methane correction factor of the disposal site that receives the final sludge in the baseline situation, estimated as per the procedures described in the Tool to determine methane emissions avoided from disposal of waste at a solid waste disposal site.	AMS-III.H	As per PoA-DD v.01 this parameter is not applicable. However justification is pending. CAR 18 (1) has been raised.	<del>PeA-</del> <b>CAR 18</b>	OK
5.6.1.37 Parameter UF <sub>BL</sub> : Model correction factor to account for model uncertainties (0.89)	AMS-III.H	As per PoA-DD v.01 this parameter is not applicable. However justification is pending. CAR 18 (1) has been raised.	<del>PeA-</del> <b>CAR 18</b>	OK
<b>Select the project activity emissions from the systems affected by the project activity and validate the parameters and data associated with it:</b>				

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Project Activity Emissions				YES / NO /NA	
1	CO2 emissions from electricity and fuel used by the project facilities ( $PE_{power,y}$ );			yes	
2	Methane emissions from wastewater treatment systems affected by the project activity, and not equipped with biogas recovery in the project scenario ( $PE_{ww,treatment,y}$ );			yes	
3	Methane emissions from sludge treatment systems affected by the project activity, and not equipped with biogas recovery in the project situation ( $PE_{s,treatment,y}$ );			n/a (CAR 22 has been raised)	
4	Methane emissions on account of inefficiency of the project activity wastewater treatment systems and presence of degradable organic carbon in treated wastewater ( $PE_{ww,discharge,y}$ );			yes	
5	Methane emissions from the decay of the final sludge generated by the project activity treatment systems ( $PE_{s,final,y}$ );			n/a (CAR 22 has been raised)	
6	Methane fugitive emissions due to inefficiencies in capture systems ( $PE_{fugitive,y}$ );			yes	
7	Methane emissions due to incomplete flaring ( $PE_{flaring,y}$ );			yes	
8	Methane emissions from biomass stored under anaerobic conditions which would not have occurred in the baseline situation ( $PE_{biomass,y}$ )			n/a (CAR 22 has been raised)	

Emissions from sludge treatment systems are not considered. However justification is pending. PoA-CAR 22 has been raised.

Comments: All other parameters not applicable to the selected case are not further considered

Parameters associated with  $PE_{ww,treatment,y}$  :

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QUESTIONS / VVM / METHODOLOGY REQUIREMENT	SOURCE / REF.	VALIDATION TEAM'S FINDINGS / COMMENTS / REQUESTS	GSC PoA	FINAL PoA														
5.6.1.38 Parameter MCF <sub>ww</sub> , treatment, PJ, k: Methane correction factor for project wastewater treatment system k (MCF values as per Table III.H.1)	AMS-III.H	<table><tr><th>Parameter / Data Checklist</th><th>YES / NO /NA</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>yes</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>If default is the sourced correctly referenced?</td><td>yes</td></tr><tr><td>If ex-ante determined, are data sources and assumptions appropriate and calculations correct?</td><td>n/a</td></tr><tr><td>If monitored, is the estimation reasonable?</td><td>n/a</td></tr></table> <p>Comments: Parameter has been listed in Section E.6.3 of PoA-DD which is in line with methodology. Description is not in line with methodology. CAR has been raised.</p>	Parameter / Data Checklist	YES / NO /NA	Title in line with methodology?	Yes	Data unit correctly expressed?	yes	Appropriate description of parameter?	No	If default is the sourced correctly referenced?	yes	If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	n/a	If monitored, is the estimation reasonable?	n/a	<del>PoA-</del> <b>CAR 24</b>	OK
Parameter / Data Checklist	YES / NO /NA																	
Title in line with methodology?	Yes																	
Data unit correctly expressed?	yes																	
Appropriate description of parameter?	No																	
If default is the sourced correctly referenced?	yes																	
If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	n/a																	
If monitored, is the estimation reasonable?	n/a																	



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5.6.1.39 Parameter $\eta_{PJ,k,y}$ : Chemical oxygen demand removal efficiency of the project wastewater treatment system k in year y (t/m <sup>3</sup> ), measured based on inflow COD and outflow COD in system k	AMS-III.H	<p>This parameter has been listed in Section E.6.3 of PoA-DD v.01 which is not in line with methodology because the parameter is calculated based on monitored values. It is not fixed ex-ante. CAR 24 has been raised.</p> <p>Further during onsite visit it has been discussed that for K = biogas digester, the difference of COD_inflow,PJ-digester,y and COD_outflow,PJ-digester,y will be taken to calculate the efficiency.</p> <p>For e.g. k = anaerobic treatment system, the difference of COD_inflow,anaerobic,y and COD_outflow,anaerobic,y shall be taken. PP was requested to clearly indicate where COD measurements are taken.</p> <p>CAR has been raised because the number of monitored COD values in Section E.7.1 do not match with the requirement of the methodology.</p>	<del>PoA-</del> <b>CAR 24</b>	<b>OK</b>

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5.6.1.40 Parameter COD <sub>ww,untreated,y</sub> : The Chemical Oxygen Demand of the untreated wastewater in the project scenario in year y	AMS-III.H	Parameter / Data Checklist		YES / NO /NA	PoA- CAR 25	OK
		Title in line with methodology?		yes		
		Data unit correctly expressed?		yes		
		Appropriate description of parameter?		No		
		If default is the sourced correctly referenced?		n/a		
		If ex-ante determined, are data sources and assumptions appropriate and calculations correct?		NA (to be assessed at CPA level)		
		If monitored, is the estimation reasonable?		NA (to be assessed at CPA level)		
		Description of measurement methods in line with meth?		No		
		QA/QC procedure in line with meth?		yes		
		The parameter has been listed in Section E.7.1 of PoA-DD v.01. Since it is not clear where this COD is measure, CAR has been raised.				

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5.6.1.41 Parameter COD <sub>ww,treated,y</sub> : The Chemical Oxygen demand of the treated wastewater in the project scenario in year y.	AMS-III.H	Parameter / Data Checklist	YES / NO /NA	PeA-CAR 25	OK
		Title in line with methodology?	yes		
		Data unit correctly expressed?	yes		
		Appropriate description of parameter?	No		
		If default is the sourced correctly referenced?	n/a		
		If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	NA (to be assessed at CPA level)		
		If monitored, is the estimation reasonable?	NA (to be assessed at CPA level)		
		Description of measurement methods in line with meth?	No		
		QA/QC procedure in line with meth?	yes		
		The parameter has been listed in Section E.7.1 of PoA-DD v.01. Since it is not clear where this COD is measure, CAR has been raised.			
Parameters associated with PE <sub>s,treatment,y</sub> :					
5.6.1.42 Parameter MCF <sub>s,treatment,I</sub> : Methane correction factor for the project sludge treatment system I (MCF values as per Table III.H.1)	AMS III.H	During on-site visit the PP explained the project activity shall not include emissions from sludge treatment. However it could not be justified how it can be ensured that emissions from project sludge treatment will not occur. CAR has been raised.		PeA-CAR 22	OK
5.6.1.43 Parameter S <sub>I,PJ,y</sub> : Amount of dry matter in sludge treated by the sludge treatment system I in the project scenario in the year y (t)	AMS-III.H	During on-site visit the PP explained the project activity shall not include emissions from sludge treatment. However it could not be justified how it can be ensured that emissions from project sludge treatment will not occur. CAR has been raised.		PeA-CAR 22	OK
Parameters associated with PE <sub>ww,discharge,v</sub> :					

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5.6.1.44 Parameter COD_ww,_discharge,_PJ_y: Chemical oxygen demand of the treated wastewater discharged into the sea, river or lake in the project scenario in year y (t/m3)	AMS-III.H	Parameter / Data Checklist	YES / NO /NA	PeA-CAR-25	OK
		Title in line with methodology?	yes		
		Data unit correctly expressed?	yes		
		Appropriate description of parameter?	yes		
		If default is the sourced correctly referenced?	n/a		
		If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	NA. (To be assessed at CPA level)		
		If monitored, is the estimation reasonable?	NA (to be assessed at CPA level)		
		Description of measurement methods in line with meth?	No		
		QA/QC procedure in line with meth?	yes		
		The parameter has been listed in Section E.7.1 of PoA-DD v.01. Since it is not clear where this COD is measure, CAR has been raised.			
5.6.1.45 Parameter MCFww_PJ, discharge: Methane correction factor based on the discharge pathway of the wastewater in the project scenario (e.g. into sea, river or lake) (MCF values as per Table III.H.1)	AMS III.H	Parameter / Data Checklist	YES / NO /NA	PeA-CAR-24	OK
		Title in line with methodology?	Yes		
		Data unit correctly expressed?	yes		
		Appropriate description of parameter?	No		
		If default is the sourced correctly referenced?	yes		
		If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	n/a		
		If monitored, is the estimation reasonable?	n/a		
		Comments: Parameter has been listed in Section E.6.3 of PoA-DD which is			

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		in line with methodology. Description is not in line with methodology. CAR has been raised.		
<b>Parameters associated with <math>PE_{s,final,y}</math> :</b>				
5.6.1.46 Parameter MCFs, PJ, final: Methane correction factor of the disposal site that receives the final sludge in the project situation, estimated as per the procedures described in the .Tool to determine methane emissions avoided from disposal of waste at a solid waste disposal site.	AMS III.H	During on-site visit the PP explained the project activity shall not include emissions from sludge treatment. However it could not be justified how it can be ensured that emissions from project sludge treatment will not occur. CAR has been raised.	<b>PeA-CAR-22</b>	<b>OK</b>
5.6.1.47 Parameter $S_{final,PJ,y}$ : Amount of dry matter in final sludge generated by the project wastewater treatment systems in the year y (t)	AMS-III.H	During on-site visit the PP explained the project activity shall not include emissions from sludge treatment. However it could not be justified how it can be ensured that emissions from project sludge treatment will not occur. CAR has been raised.	<b>PeA-CAR-22</b>	<b>OK</b>
<b>Parameters associated with <math>PE_{fugitive,y}</math> :</b>				

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5.6.1.48 Parameter CFE_ww: Capture efficiency of the biogas recovery equipment in the wastewater treatment systems (a default value of 0.9 shall be used)	AMS-III.H	Parameter / Data Checklist	YES / NO /NA	PeA-CAR-24	OK
		Title in line with methodology?	no		
		Data unit correctly expressed?	no		
		Appropriate description of parameter?	no		
		If default is the sourced correctly referenced?	no		
		If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	n/A		
		If monitored, is the estimation reasonable?	n/A		
		The parameter has not been listed in Section E.6.3. CAR is raised.			
5.6.1.49 Parameter UFPJ : Model Correction Factor for account for model uncertainties (1.12)	AMS-III.H	Parameter / Data Checklist	YES / NO /NA	OK	OK
		Title in line with methodology?	yes		
		Data unit correctly expressed?	yes		
		Appropriate description of parameter?	yes		
		If default is the sourced correctly referenced?	yes		
		If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	n/a		
		If monitored, is the estimation reasonable?	n/a		
		The parameter has been listed in Section E.6.3 of PoA-DD v.01 which is in line with methodology.			
5.6.1.50 Parameter COD_removed,_PJ_k: The chemical oxygen demand removed by the treatment system k of the project activity equipped with biogas recovery in the year v (t/m3)	AMS III.H	The parameter is not listed in Section E.6.3 because it is calculated based on Difference between the inflow COD and the outflow COD of the treatment system equipped with biogas recovery. PoA-DD is in line with methodology.		OK	OK

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5.6.1.51 Parameter MEP <sub>s, treatment, y</sub> : Methane emission potential of wastewater (or of the sludge) treatment systems equipped with biogas recovery system in year y (t)		During on-site visit the PP explained the project activity shall not include emissions from sludge treatment. However it could not be justified how it can be ensured that emissions from project sludge treatment will not occur. CAR has been raised.	<del>PeA-</del> <b>CAR-22</b>	OK
5.6.1.52 Parameter MCF <sub>s, treatment, PJ, I</sub> : Methane correction factor for the sludge treatment system I equipped with biogas recovery equipment (MCF values as per Table III.H.1)	AMS III.H	During on-site visit the PP explained the project activity shall not include emissions from sludge treatment. However it could not be justified how it can be ensured that emissions from project sludge treatment will not occur. CAR has been raised.	<del>PeA-</del> <b>CAR-22</b>	OK
<b>Parameters associated with PE<sub>flaring, y</sub> :</b>				

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QUESTIONS / VVM / METHODOLOGY REQUIREMENT	SOURCE / REF.	VALIDATION TEAM'S FINDINGS / COMMENTS / REQUESTS	GSC PoA	FINAL PoA																		
5.6.1.53 Parameter $FV_{RG,h}$ : Volumetric flow rate of the residual gas in dry basis at normal conditions in hour h.	EB 28 Annex 13	<table><tr><th>Parameter / Data Checklist</th><th>YES / NO /NA</th></tr><tr><td>Title in line with methodology?</td><td>yes</td></tr><tr><td>Data unit correctly expressed?</td><td>yes</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>If default is the sourced correctly referenced?</td><td>n/a</td></tr><tr><td>If ex-ante determined, are data sources and assumptions appropriate and calculations correct?</td><td>NA. (To be assessed at CPA level)</td></tr><tr><td>If monitored, is the estimation reasonable?</td><td>NA (to be assessed at CPA level)</td></tr><tr><td>Description of measurement methods in line with meth?</td><td>yes</td></tr><tr><td>QA/QC procedure in line with meth?</td><td>yes</td></tr></table> <p>The parameter has been listed in Section E.7.1 of PoA-DD v.01 which is in line with the tool. The description is not in line with the tool. CAR has been raised.</p>	Parameter / Data Checklist	YES / NO /NA	Title in line with methodology?	yes	Data unit correctly expressed?	yes	Appropriate description of parameter?	No	If default is the sourced correctly referenced?	n/a	If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	NA. (To be assessed at CPA level)	If monitored, is the estimation reasonable?	NA (to be assessed at CPA level)	Description of measurement methods in line with meth?	yes	QA/QC procedure in line with meth?	yes	<b>PeA-CAR-25</b>	OK
Parameter / Data Checklist	YES / NO /NA																					
Title in line with methodology?	yes																					
Data unit correctly expressed?	yes																					
Appropriate description of parameter?	No																					
If default is the sourced correctly referenced?	n/a																					
If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	NA. (To be assessed at CPA level)																					
If monitored, is the estimation reasonable?	NA (to be assessed at CPA level)																					
Description of measurement methods in line with meth?	yes																					
QA/QC procedure in line with meth?	yes																					
5.6.1.54 Parameter $f_{vi,h}$ : Volumetric fraction of component I in the residual gas in the hour h.	EB 28 Annex 13	<table><tr><th>Parameter / Data Checklist</th><th>YES / NO /NA</th></tr><tr><td>Title in line with methodology?</td><td>no</td></tr><tr><td>Data unit correctly expressed?</td><td>no</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>If default is the sourced correctly referenced?</td><td>n/a</td></tr><tr><td>If ex-ante determined, are data sources and assumptions appropriate and calculations correct?</td><td>NA (to be assessed at</td></tr></table>	Parameter / Data Checklist	YES / NO /NA	Title in line with methodology?	no	Data unit correctly expressed?	no	Appropriate description of parameter?	No	If default is the sourced correctly referenced?	n/a	If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	NA (to be assessed at	<b>PeA-CAR-25</b>	OK						
Parameter / Data Checklist	YES / NO /NA																					
Title in line with methodology?	no																					
Data unit correctly expressed?	no																					
Appropriate description of parameter?	No																					
If default is the sourced correctly referenced?	n/a																					
If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	NA (to be assessed at																					



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			CPA level)		
		If monitored, is the estimation reasonable?	NA (to be assessed at CPA level)		
		Description of measurement methods in line with meth?	no		
		QA/QC procedure in line with meth?	no		
		The parameter has not been listed in Section E.7.1 of PoA-DD v.01 CAR has been raised.			

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QUESTIONS / VVM / METHODOLOGY REQUIREMENT	SOURCE / REF.	VALIDATION TEAM'S FINDINGS / COMMENTS / REQUESTS	GSC PoA	FINAL PoA																		
5.6.1.55 Parameter $p_{CH_4,n}$ : Density of methane at normal conditions	EB 28 Annex 13	<table><tr><th>Parameter / Data Checklist</th><th>YES / NO /NA</th></tr><tr><td>Title in line with methodology?</td><td>No</td></tr><tr><td>Data unit correctly expressed?</td><td>No</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>If default is the sourced correctly referenced?</td><td>no</td></tr><tr><td>If ex-ante determined, are data sources and assumptions appropriate and calculations correct?</td><td>n/a</td></tr><tr><td>If monitored, is the estimation reasonable?</td><td>n/a</td></tr></table> <p>The parameter has not been listed in Section E.6.3 of PoA-DD v.01 CAR has been raised.</p>	Parameter / Data Checklist	YES / NO /NA	Title in line with methodology?	No	Data unit correctly expressed?	No	Appropriate description of parameter?	No	If default is the sourced correctly referenced?	no	If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	n/a	If monitored, is the estimation reasonable?	n/a	<del>PoA-</del> <b>CAR-24</b>	OK				
Parameter / Data Checklist	YES / NO /NA																					
Title in line with methodology?	No																					
Data unit correctly expressed?	No																					
Appropriate description of parameter?	No																					
If default is the sourced correctly referenced?	no																					
If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	n/a																					
If monitored, is the estimation reasonable?	n/a																					
5.6.1.56 Parameter $\eta_{flare}$ : Flare efficiency in hour h.	EB 28 Annex 13	<table><tr><th>Parameter / Data Checklist</th><th>YES / NO /NA</th></tr><tr><td>Title in line with methodology?</td><td>yes</td></tr><tr><td>Data unit correctly expressed?</td><td>yes</td></tr><tr><td>Appropriate description of parameter?</td><td>yes</td></tr><tr><td>If default is the sourced correctly referenced?</td><td>yes</td></tr><tr><td>If ex-ante determined, are data sources and assumptions appropriate and calculations correct?</td><td>n/a</td></tr><tr><td>If monitored, is the estimation reasonable?</td><td>n/a</td></tr><tr><td>Description of measurement in line with meth?</td><td>yes</td></tr><tr><td>QA/QC procedure in line with meth?</td><td>yes</td></tr></table>	Parameter / Data Checklist	YES / NO /NA	Title in line with methodology?	yes	Data unit correctly expressed?	yes	Appropriate description of parameter?	yes	If default is the sourced correctly referenced?	yes	If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	n/a	If monitored, is the estimation reasonable?	n/a	Description of measurement in line with meth?	yes	QA/QC procedure in line with meth?	yes	<del>PoA-</del> <b>CAR-25</b>	OK
Parameter / Data Checklist	YES / NO /NA																					
Title in line with methodology?	yes																					
Data unit correctly expressed?	yes																					
Appropriate description of parameter?	yes																					
If default is the sourced correctly referenced?	yes																					
If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	n/a																					
If monitored, is the estimation reasonable?	n/a																					
Description of measurement in line with meth?	yes																					
QA/QC procedure in line with meth?	yes																					

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		The parameter has been listed in Section E.7.1 of PoA-DD v.01. However distinction between open- and enclosed- $\eta_{\text{flare}}$ has not been made. CAR has been raised		

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5.6.1.57 Parameter Tflare: Temperature in the exhaust of the enclosed flare.	EB 28 Annex 13	<table><tr><th>Parameter / Data Checklist</th><th>YES / NO /NA</th></tr><tr><td>Title in line with methodology?</td><td>yes</td></tr><tr><td>Data unit correctly expressed?</td><td>yes</td></tr><tr><td>Appropriate description of parameter?</td><td>yes</td></tr><tr><td>If default is the sourced correctly referenced?</td><td>yes</td></tr><tr><td>If ex-ante determined, are data sources and assumptions appropriate and calculations correct?</td><td>n/a</td></tr><tr><td>If monitored, is the estimation reasonable?</td><td>n/a</td></tr><tr><td>Description of measurement in line with meth?</td><td>yes</td></tr><tr><td>QA/QC procedure in line with meth?</td><td>yes</td></tr></table> <p>The parameter has been listed in Section E.7.1 of PoA-DD v.01. It is in line with the tool.</p>	Parameter / Data Checklist	YES / NO /NA	Title in line with methodology?	yes	Data unit correctly expressed?	yes	Appropriate description of parameter?	yes	If default is the sourced correctly referenced?	yes	If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	n/a	If monitored, is the estimation reasonable?	n/a	Description of measurement in line with meth?	yes	QA/QC procedure in line with meth?	yes	OK	OK
Parameter / Data Checklist	YES / NO /NA																					
Title in line with methodology?	yes																					
Data unit correctly expressed?	yes																					
Appropriate description of parameter?	yes																					
If default is the sourced correctly referenced?	yes																					
If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	n/a																					
If monitored, is the estimation reasonable?	n/a																					
Description of measurement in line with meth?	yes																					
QA/QC procedure in line with meth?	yes																					
5.6.1.58 Parameter tflare: operation flaring time during the hour h	EB 28 Annex 13	<table><tr><th>Parameter / Data Checklist</th><th>YES / NO /NA</th></tr><tr><td>Title in line with methodology?</td><td>yes</td></tr><tr><td>Data unit correctly expressed?</td><td>yes</td></tr><tr><td>Appropriate description of parameter?</td><td>yes</td></tr><tr><td>If default is the sourced correctly referenced?</td><td>yes</td></tr><tr><td>If ex-ante determined, are data sources and assumptions appropriate and calculations correct?</td><td>n/a</td></tr></table>	Parameter / Data Checklist	YES / NO /NA	Title in line with methodology?	yes	Data unit correctly expressed?	yes	Appropriate description of parameter?	yes	If default is the sourced correctly referenced?	yes	If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	n/a	PoA-CAR 25	OK						
Parameter / Data Checklist	YES / NO /NA																					
Title in line with methodology?	yes																					
Data unit correctly expressed?	yes																					
Appropriate description of parameter?	yes																					
If default is the sourced correctly referenced?	yes																					
If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	n/a																					

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		Description of measurement in line with meth?	yes		
		QA/QC procedure in line with meth?	yes		
		The parameter has been listed in Section E.7.1 of PoA-DD v.01. However as per the tool “other flare operation parameters” shall be indicated. CAR has been raised.			
Parameters associated with PE <sub>biomassy</sub> :					
5.6.1.59 Have all parameters as per the “Tool to determine methane emissions avoided from disposal of waste at a solid waste disposal site” been listed appropriately?	AMS III.H	During on-site visit the PP explained that no emissions from disposal of waste at a solid waste disposal site will occur. However justification is pending. CAR has been raised.		<del>PeA-</del> CAR-25	OK
Parameters associated with MD <sub>v</sub> :					

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5.6.1.60 Parameter BG_burnt,_y: Biogas flared/combusted in year y (m3)	AMS III.H	Parameter / Data Checklist		YES / NO /NA	OK	OK
		Title in line with methodology?		yes		
		Data unit correctly expressed?		yes		
		Appropriate description of parameter?		yes		
		If default is the sourced correctly referenced?		n/a		
		If ex-ante determined, are data sources and assumptions appropriate and calculations correct?		NA. (To be assessed at CPA level)		
		If monitored, is the estimation reasonable?		NA. (To be assessed at CPA level)		
		Description of measurement methods in line with meth?		yes		
		QA/QC procedure in line with meth?		yes		
		The parameter has been listed in Section E.7.1 of PoA-DD v.01. It is in line with the the methodology.				
5.6.1.61 Parameter w_CH4,_y: Methane content of the biogas in the year y (volume fraction)	AMS III.H	Parameter / Data Checklist		YES / NO /NA	OK	OK
		Title in line with methodology?		yes		
		Data unit correctly expressed?		yes		
		Appropriate description of parameter?		yes		
		If default is the sourced correctly referenced?		n/a		
		If ex-ante determined, are data sources and assumptions appropriate and calculations correct?		NA. (To be assessed at		

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		If monitored, is the estimation reasonable?	NA. (To be assessed at CPA level)		
		Description of measurement methods in line with meth?	yes		
		QA/QC procedure in line with meth?	yes		
		The parameter has been listed in Section E.7.1 of PoA-DD v.01. It is in line with the methodology.			

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5.6.1.62 Parameter D_CH4: Density of methane at the temperature and pressure of the biogas in the year y (t/m3)	AMS III.H	Please refer to question E.6.1.55		OK	OK																		
5.6.1.63 Parameter T: Temperature of the biogas	AMS III.H	<table><tr><th>Parameter / Data Checklist</th><th>YES / NO /NA</th></tr><tr><td>Title in line with methodology?</td><td>yes</td></tr><tr><td>Data unit correctly expressed?</td><td>yes</td></tr><tr><td>Appropriate description of parameter?</td><td>yes</td></tr><tr><td>If default is the sourced correctly referenced?</td><td>n/a</td></tr><tr><td>If ex-ante determined, are data sources and assumptions appropriate and calculations correct?</td><td>NA. (To be assessed at CPA level)</td></tr><tr><td>If monitored, is the estimation reasonable?</td><td>NA. (To be assessed at CPA level)</td></tr><tr><td>Description of measurement methods in line with meth?</td><td>yes</td></tr><tr><td>QA/QC procedure in line with meth?</td><td>yes</td></tr></table>	Parameter / Data Checklist	YES / NO /NA	Title in line with methodology?	yes	Data unit correctly expressed?	yes	Appropriate description of parameter?	yes	If default is the sourced correctly referenced?	n/a	If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	NA. (To be assessed at CPA level)	If monitored, is the estimation reasonable?	NA. (To be assessed at CPA level)	Description of measurement methods in line with meth?	yes	QA/QC procedure in line with meth?	yes		OK	OK
Parameter / Data Checklist	YES / NO /NA																						
Title in line with methodology?	yes																						
Data unit correctly expressed?	yes																						
Appropriate description of parameter?	yes																						
If default is the sourced correctly referenced?	n/a																						
If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	NA. (To be assessed at CPA level)																						
If monitored, is the estimation reasonable?	NA. (To be assessed at CPA level)																						
Description of measurement methods in line with meth?	yes																						
QA/QC procedure in line with meth?	yes																						
5.6.1.64 Parameter P: Pressure of the biogas		<table><tr><th>Parameter / Data Checklist</th><th>YES / NO /NA</th></tr><tr><td>Title in line with methodology?</td><td>yes</td></tr><tr><td>Data unit correctly expressed?</td><td>yes</td></tr><tr><td>Appropriate description of parameter?</td><td>yes</td></tr><tr><td>If default is the sourced correctly referenced?</td><td>n/a</td></tr></table>	Parameter / Data Checklist	YES / NO /NA	Title in line with methodology?	yes	Data unit correctly expressed?	yes	Appropriate description of parameter?	yes	If default is the sourced correctly referenced?	n/a		OK	OK								
Parameter / Data Checklist	YES / NO /NA																						
Title in line with methodology?	yes																						
Data unit correctly expressed?	yes																						
Appropriate description of parameter?	yes																						
If default is the sourced correctly referenced?	n/a																						



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		If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	NA. (To be assessed at CPA level)		
		If monitored, is the estimation reasonable?	NA. (To be assessed at CPA level)		
		Description of measurement methods in line with meth?	yes		
		QA/QC procedure in line with meth?	yes		
		The parameter has been listed in Section E.7.1 of PoA-DD v.01. It is in line with the methodology.			

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QUESTIONS / VVM / METHODOLOGY REQUIREMENT	SOURCE / REF.	VALIDATION TEAM'S FINDINGS / COMMENTS / REQUESTS	GSC PoA	FINAL PoA						
5.6.1.65 Is the list of parameters presented in chapter E.6.2 considered to be complete with regard to the requirements of the applied methodology AMS-III.H?	AMS-III.H	PoA-DD v.01 has been assessed. CARs have been raised to address various issues. Following parameters are listed in the wrong Section or are not parameters to be listed: $\eta_{\text{biogas, reactor}}$ , $\eta_{\text{PJ,k}}$ Following parameters are missing: $\text{COD}_{\text{outflow,PJ-anaerobic,y}}$ , $\text{COD}_{\text{ww,discharged,BL,y}}$ , $\rho_{\text{CH4,n}}$	<del>PoA-CAR 22</del> <del>PoA-CAR 23</del> <del>PoA-CAR 24</del> <del>PoA-CAR 25</del>	OK						
5.6.1.66 Is it mentioned in the PoA-DD if the PoA involves the replacement of equipment?	AMS-III.H	Leakage has been indicated to be zero. However CAR has been raised for discussion of including this as eligibility criteria.	<del>PoA-CAR 8</del>	OK						
5.6.1.67 If yes is there an independent monitoring plan in place to monitor the scrapping of replaced equipment?	AMS-III.H	Leakage has been indicated to be zero. However CAR has been raised for discussion of including this as eligibility criteria.	<del>PoA-CAR 8</del>	OK						
5.6.1.68 If yes does this plan indicate that the scrapped equipment should be stored until such correspondence has been checked and that the scrapping of replaced equipment should be documented and independently verified.	AMS-III.H	Leakage has been indicated to be zero. However CAR has been raised for discussion of including this as eligibility criteria.	<del>PoA-CAR 8</del>	OK						
AMS I.D Grid connected renewable electricity generation										
<table><tr><th colspan="2">Baseline Emissions</th><th>YES / NO /NA</th></tr><tr><td>1</td><td>Baseline Emissions in year y (<math>BE_y</math>);</td><td>yes</td></tr></table>					Baseline Emissions		YES / NO /NA	1	Baseline Emissions in year y ( $BE_y$ );	yes
Baseline Emissions		YES / NO /NA								
1	Baseline Emissions in year y ( $BE_y$ );	yes								
Parameters associated with $BE_y$										

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QUESTIONS / VVM / METHODOLOGY REQUIREMENT	SOURCE / REF.	VALIDATION TEAM'S FINDINGS / COMMENTS / REQUESTS		GSC PoA	FINAL PoA
5.6.1.69 Parameter $EG_{BL,y}$ : Quantity of net electricity supplied to the grid as a result of the implementation of the CDM project activity in year y (MWh).	AMS I.D	Parameter / Data Checklist	YES / NO /NA	PeA-CAR 23	OK
		Title in line with methodology?	no		
		Data unit correctly expressed?	yes		
		Appropriate description of parameter?	no		
		If default is the source correctly referenced?	n/a		
		If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	NA. (To be assessed at CPA level)		
		If monitored, is the estimation reasonable?	NA. (To be assessed at CPA level)		
		Description of measurement methods in line with meth?	yes		
		QA/QC procedure in line with meth?	yes		
		The parameter has been listed in Section E.7.1 of PoA-DD v.01. However the description is not in line with methodology. CAR has been raised.			
5.6.1.70 Parameter $EG_{biogas, engine,y}$ : Electricity generated by biogas engine (kWh).		Parameter / Data Checklist	YES / NO /NA	PeA-CAR 23	OK
		Title in line with methodology?	yes		
		Data unit correctly expressed?	yes		
		Appropriate description of parameter?	yes		
		If default is the source correctly referenced?	n/a		
		If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	NA. (To be assessed at CPA level)		
		If monitored, is the estimation reasonable?	NA. (To be		

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QUESTIONS / VVM / METHODOLOGY REQUIREMENT	SOURCE / REF.	VALIDATION TEAM'S FINDINGS / COMMENTS / REQUESTS		GSC PoA	FINAL PoA
			assessed at CPA level)		
		Description of measurement methods in line with meth?	yes		
		QA/QC procedure in line with meth?	yes		
		The parameter has been listed in Section E.7.1 of PoA-DD v.01. However this parameter is not required by the methodology.CAR has been raised.			

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QUESTIONS / VVM / METHODOLOGY REQUIREMENT	SOURCE / REF.	VALIDATION TEAM'S FINDINGS / COMMENTS / REQUESTS		GSC PoA	FINAL PoA
5.6.1.71 Parameter $EC_{biogas,y}$ : Electricity consumption from recovered biogas (to power auxiliary equipment) (kWh).		Parameter / Data Checklist	YES / NO /NA	<b>PoA-CAR 23</b>	<b>OK</b>
		Title in line with methodology?	yes		
		Data unit correctly expressed?	yes		
		Appropriate description of parameter?	yes		
		If default is the source correctly referenced?	n/a		
		If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	NA. (To be assessed at CPA level)		
		If monitored, is the estimation reasonable?	NA. (To be assessed at CPA level)		
		Description of measurement methods in line with meth?	yes		
		QA/QC procedure in line with meth?	yes		
		The parameter has been listed in Section E.7.1 of PoA-DD v.01. However this parameter is not required by the methodology.CAR has been raised.			
5.6.1.72 Parameter $EF_{CO2,grid,y}$ : CO2 emission factor of the grid in year y (t CO2/MWh)	AMS I.D	Parameter / Data Checklist	YES / NO /NA	<b>PoA-CAR 24</b>	<b>OK</b>
		Title in line with methodology?	no		
		Data unit correctly expressed?	yes		
		Appropriate description of parameter?	yes		
		If default is the source correctly referenced?	yes		
		If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	NA. (To be assessed at CPA level)		
		If monitored, is the estimation reasonable?	NA. (To be assessed at		

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QUESTIONS / VVM / METHODOLOGY REQUIREMENT	SOURCE / REF.	VALIDATION TEAM'S FINDINGS / COMMENTS / REQUESTS		GSC PoA	FINAL PoA												
			CPA level) The parameter has been listed in Section E.6.3 of PoA-DD v.01. The title is not in line throughout the documentation. CAR has been raised to identify the source.														
<table><tr><th colspan="3">Project Emissions</th><th colspan="3">YES / NO /NA</th></tr><tr><td>1</td><td colspan="3">Project Emissions in year y (<math>PE_{i,y}</math>);</td><td colspan="2">yes</td></tr></table>						Project Emissions			YES / NO /NA			1	Project Emissions in year y ( $PE_{i,y}$ );			yes	
Project Emissions			YES / NO /NA														
1	Project Emissions in year y ( $PE_{i,y}$ );			yes													
5.6.1.73 Parameter $FC_{i,j,y}$ : Quantity of fossil fuel consumed in year y for fuel type i in process j	AMS I.D EB 41 Annex 11	The parameter has not been listed in PoA-DD v.01. CAR has been raised.		<del>PoA-</del> <b>CAR-25</b>	OK												
5.6.1.74 Parameter $NCV_{i,y}$ : Net calorific value of fossil fuel type i	AMS I.D EB 41 Annex 11	The parameter has not been listed in PoA-DD v.01. CAR has been raised.		<del>PoA-</del> <b>CAR-25</b>	OK												
5.6.1.75 Parameter $\rho_{i,y}$ : Weighted average density of fuel type l in year y	AMS I.D EB 41 Annex 11	The parameter has not been listed in PoA-DD v.01. CAR has been raised.		<del>PoA-</del> <b>CAR-25</b>	OK												
5.6.1.76 Is the list of parameters presented in chapter B.6.2 considered to be complete with regard to the requirements of the applied methodology AMS-I.D?	AMS-I.D	PoA-DD v.01 has been assessed. CARs have been raised to address various issues.		<del>PoA-</del> <b>CAR-22</b> <del>PoA-</del> <b>CAR-23</b> <del>PoA-</del> <b>CAR-24</b> <del>PoA-</del> <b>CAR-25</b>	OK												
Data and parameters that are to be reported in CPA-DD form:																	

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QUESTIONS / VVM / METHODOLOGY REQUIREMENT	SOURCE / REF.	VALIDATION TEAM'S FINDINGS / COMMENTS / REQUESTS	GSC PoA	FINAL PoA
<p>5.6.1.77 Have all parameters that are to be reported in the CPA-DD form for each individual CPA completely listed in section E.6.3 of the PoA-DD?</p> <p><i>These parameters are either determined for the whole PoA or listed as monitoring parameters.</i></p>	EB 33 Annex 43	The list of parameters is not complete. gCPA-CAR 6 has been raised to ensure consistency.	<b>gCPA CAR 6</b>	<b>OK</b>
5.6.1.78 Are all parameters sufficiently described?	EB 33 Annex 43	No, parameter list needs further clarification and is not complete. CAR 23- 25 have been raised.	<b>PeA CAR 23 PeA CAR 24 PeA CAR 25</b>	<b>OK</b>

### 5.7 DESCRIPTION of the MONITORING PLAN and PARAMETERS to be MONITORED in each SSC-CPA

*Data and parameters to be monitored by each CPA*

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QUESTIONS / VVM / METHODOLOGY REQUIREMENT	SOURCE / REF.	VALIDATION TEAM'S FINDINGS / COMMENTS / REQUESTS	GSC PoA	FINAL PoA																		
5.7.1.1 Parameter Q <sub>ww,i,y</sub> : Volume of wastewater treated in baseline wastewater treatment system i in year y (m3). [for ex ante estimation, forecasted wastewater generation volume or the designed capacity of the wastewater treatment facility can be used], However, the ex post emissions reduction calculation shall be based on the actual monitored volume of treated wastewater. i = index of baseline water treatment system	AMS-III.H	<table><tr><th>Parameter / Data Checklist</th><th>YES / NO /NA</th></tr><tr><td>Title in line with methodology?</td><td>yes</td></tr><tr><td>Data unit correctly expressed?</td><td>No</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>If default is the sourced correctly referenced?</td><td>n/a</td></tr><tr><td>If ex-ante determined, are data sources and assumptions appropriate and calculations correct?</td><td>NA. (To be assessed at CPA level)</td></tr><tr><td>If monitored, is the estimation reasonable?</td><td>NA. (To be assessed at CPA level)</td></tr><tr><td>Description of measurement methods in line with meth?</td><td>yes</td></tr><tr><td>QA/QC procedure in line with meth?</td><td>yes</td></tr></table> <p>Comments: Parameter has been listed in Section E.7.1 of PoA-DD which is in line with methodology. Description is not in line with methodology. CAR 25 has been raised.</p>	Parameter / Data Checklist	YES / NO /NA	Title in line with methodology?	yes	Data unit correctly expressed?	No	Appropriate description of parameter?	No	If default is the sourced correctly referenced?	n/a	If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	NA. (To be assessed at CPA level)	If monitored, is the estimation reasonable?	NA. (To be assessed at CPA level)	Description of measurement methods in line with meth?	yes	QA/QC procedure in line with meth?	yes	<del>PoA-</del> <b>CAR 25</b>	OK
Parameter / Data Checklist	YES / NO /NA																					
Title in line with methodology?	yes																					
Data unit correctly expressed?	No																					
Appropriate description of parameter?	No																					
If default is the sourced correctly referenced?	n/a																					
If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	NA. (To be assessed at CPA level)																					
If monitored, is the estimation reasonable?	NA. (To be assessed at CPA level)																					
Description of measurement methods in line with meth?	yes																					
QA/QC procedure in line with meth?	yes																					



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QUESTIONS / VVM / METHODOLOGY REQUIREMENT	SOURCE / REF.	VALIDATION TEAM'S FINDINGS / COMMENTS / REQUESTS		GSC PoA	FINAL PoA	
5.7.1.2 Parameter COD <sub>ww,untreated,y</sub> : The Chemical Oxygen Demand of the untreated wastewater in the project scenario in year y	AMS-III.H	Parameter / Data Checklist		YES / NO /NA	PoA- CAR-25	OK
		Title in line with methodology?		yes		
		Data unit correctly expressed?		yes		
		Appropriate description of parameter?		No		
		If default is the sourced correctly referenced?		n/a		
		If ex-ante determined, are data sources and assumptions appropriate and calculations correct?		NA. (To be assessed at CPA level)		
		If monitored, is the estimation reasonable?		NA. (To be assessed at CPA level)		
		Description of measurement methods in line with meth?		No		
		QA/QC procedure in line with meth?		yes		
		The parameter has been listed in Section E.7.1 of PoA-DD v.01. Since it is not clear where this COD is measure, CAR has been raised.				

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QUESTIONS / VVM / METHODOLOGY REQUIREMENT	SOURCE / REF.	VALIDATION TEAM'S FINDINGS / COMMENTS / REQUESTS		GSC PoA	FINAL PoA
5.7.1.3 Parameter COD <sub>ww,treated,y</sub> : The Chemical Oxygen demand of the treated wastewater in the project scenario in year y.	AMS-III.H	Parameter / Data Checklist	YES / NO /NA	PeA-CAR-25	OK
		Title in line with methodology?	yes		
		Data unit correctly expressed?	yes		
		Appropriate description of parameter?	No		
		If default is the sourced correctly referenced?	n/a		
		If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	NA. (To be assessed at CPA level)		
		If monitored, is the estimation reasonable?	NA. (To be assessed at CPA level)		
		Description of measurement methods in line with meth?	No		
		QA/QC procedure in line with meth?	yes		
		The parameter has been listed in Section E.7.1 of PoA-DD v.01. Since it is not clear where this COD is measure, CAR has been raised.			
5.7.1.4 Parameter COD <sub>ww,discharge,PJ,y</sub> : Chemical oxygen demand of the treated wastewater discharged into the sea, river or lake in the project scenario in year y (t/m3)	AMS-III.H	Parameter / Data Checklist	YES / NO /NA	PeA-CAR-25	OK
		Title in line with methodology?	yes		
		Data unit correctly expressed?	yes		
		Appropriate description of parameter?	yes		
		If default is the sourced correctly referenced?	n/a		
		If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	NA. (To be assessed at CPA level)		
		If monitored, is the estimation reasonable?	NA. (To be assessed at		

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QUESTIONS / VVM / METHODOLOGY REQUIREMENT	SOURCE / REF.	VALIDATION TEAM'S FINDINGS / COMMENTS / REQUESTS		GSC PoA	FINAL PoA
			CPA level)		
		Description of measurement methods in line with meth?	No		
		QA/QC procedure in line with meth?	yes		
		The parameter has been listed in Section E.7.1 of PoA-DD v.01. Since it is not clear where this COD is measure, CAR has been raised.			

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5.7.1.5 Parameter $\eta_{PJ,k,y}$ : Chemical oxygen demand removal efficiency of the project wastewater treatment system k in year y (t/m <sup>3</sup> ), measured based on inflow COD and outflow COD in system k	AMS-III.H	<p>This parameter and also <math>\eta_{biogas, reactor}</math> have been listed in Section E.6.3 of PoA-DD v.01 which is not in line with methodology because the parameter is calculated based on monitored values. It is not fixed ex-ante. CAR 24 has been raised.</p> <p>Further during onsite visit it has been discussed that for K = biogas digester, the difference of COD_inflow,PJ-digester,y and COD_outflow,PJ-digester,y will be taken to calculate the efficiency.</p> <p>For e.g. k = anaerobic treatment system, the difference of COD_inflow,anaerobic,y and COD_outflow,anaerobic,y shall be taken. PP was requested to clearly indicate where COD measurements are taken.</p> <p>CAR has been raised because the number of monitored COD values in Section E.7.1 do not match with the requirement of the methodology.</p>	<del>PoA-</del> <b>CAR-24</b>	<b>OK</b>

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5.7.1.6 Parameter BG_burnt,_y: Biogas flared/combusted in year y (m3)	AMS III.H	Parameter / Data Checklist		YES / NO /NA	OK	OK
		Title in line with methodology?		yes		
		Data unit correctly expressed?		yes		
		Appropriate description of parameter?		yes		
		If default is the sourced correctly referenced?		n/a		
		If ex-ante determined, are data sources and assumptions appropriate and calculations correct?		NA. (To be assessed at CPA level)		
		If monitored, is the estimation reasonable?		NA. (To be assessed at CPA level)		
		Description of measurement methods in line with meth?		yes		
		QA/QC procedure in line with meth?		yes		
		The parameter has been listed in Section E.7.1 of PoA-DD v.01. It is in line with the the methodology.				
5.7.1.7 Parameter w_CH4,_y: Methane content of the biogas in the year y (volume fraction)	AMS III.H	Parameter / Data Checklist		YES / NO /NA	OK	OK
		Title in line with methodology?		yes		
		Data unit correctly expressed?		yes		
		Appropriate description of parameter?		yes		
		If default is the sourced correctly referenced?		n/a		
		If ex-ante determined, are data sources and assumptions appropriate and calculations correct?		NA. (To be assessed at		

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		If monitored, is the estimation reasonable?	NA. (To be assessed at CPA level)		
		Description of measurement methods in line with meth?	yes		
		QA/QC procedure in line with meth?	yes		
		The parameter has been listed in Section E.7.1 of PoA-DD v.01. It is in line with the methodology.			

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5.7.1.8 Parameter T: Temperature of the biogas	AMS III.H	Parameter / Data Checklist	YES / NO /NA	OK	OK
		Title in line with methodology?	yes		
		Data unit correctly expressed?	yes		
		Appropriate description of parameter?	yes		
		If default is the sourced correctly referenced?	n/a		
		If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	NA. (To be assessed at CPA level)		
		If monitored, is the estimation reasonable?	NA. (To be assessed at CPA level)		
		Description of measurement methods in line with meth?	yes		
		QA/QC procedure in line with meth?	yes		
		The parameter has been listed in Section E.7.1 of PoA-DD v.01. It is in line with the methodology.			
5.7.1.9 Parameter P: Pressure of the biogas		Parameter / Data Checklist	YES / NO /NA	OK	OK
		Title in line with methodology?	yes		
		Data unit correctly expressed?	yes		
		Appropriate description of parameter?	yes		
		If default is the sourced correctly referenced?	n/a		
		If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	NA. (To be assessed at CPA level)		
		If monitored, is the estimation reasonable?	NA. (To be		

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			assessed at CPA level)		
		Description of measurement methods in line with meth?	yes		
		QA/QC procedure in line with meth?	yes		
		The parameter has been listed in Section E.7.1 of PoA-DD v.01. It is in line with the methodology.			



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5.7.1.10 Parameter $\eta_{\text{flare}}$ : Flare efficiency in hour h.	EB 28 Annex 13	<table><tr><th>Parameter / Data Checklist</th><th>YES / NO /NA</th></tr><tr><td>Title in line with methodology?</td><td>yes</td></tr><tr><td>Data unit correctly expressed?</td><td>yes</td></tr><tr><td>Appropriate description of parameter?</td><td>yes</td></tr><tr><td>If default is the sourced correctly referenced?</td><td>yes</td></tr><tr><td>If ex-ante determined, are data sources and assumptions appropriate and calculations correct?</td><td>n/a</td></tr><tr><td>If monitored, is the estimation reasonable?</td><td>n/a</td></tr><tr><td>Description of measurement in line with meth?</td><td>yes</td></tr><tr><td>QA/QC procedure in line with meth?</td><td>yes</td></tr></table> <p>The parameter has been listed in Section E.7.1 of PoA-DD v.01 CAR has been raised because it is not clear why the parameter is listed under monitored parameter although default values are used and referenced to the tool.</p>	Parameter / Data Checklist	YES / NO /NA	Title in line with methodology?	yes	Data unit correctly expressed?	yes	Appropriate description of parameter?	yes	If default is the sourced correctly referenced?	yes	If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	n/a	If monitored, is the estimation reasonable?	n/a	Description of measurement in line with meth?	yes	QA/QC procedure in line with meth?	yes	<del>PoA-</del> <b>CAR 25</b>	OK
Parameter / Data Checklist	YES / NO /NA																					
Title in line with methodology?	yes																					
Data unit correctly expressed?	yes																					
Appropriate description of parameter?	yes																					
If default is the sourced correctly referenced?	yes																					
If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	n/a																					
If monitored, is the estimation reasonable?	n/a																					
Description of measurement in line with meth?	yes																					
QA/QC procedure in line with meth?	yes																					
5.7.1.11 Parameter $T_{\text{flare}}$ : Temperature in the exhaust of the enclosed flare.	EB 28 Annex 13	<table><tr><th>Parameter / Data Checklist</th><th>YES / NO /NA</th></tr><tr><td>Title in line with methodology?</td><td>yes</td></tr><tr><td>Data unit correctly expressed?</td><td>yes</td></tr><tr><td>Appropriate description of parameter?</td><td>yes</td></tr><tr><td>If default is the sourced correctly referenced?</td><td>yes</td></tr><tr><td>If ex-ante determined, are data sources and assumptions appropriate and calculations correct?</td><td>n/a</td></tr></table>	Parameter / Data Checklist	YES / NO /NA	Title in line with methodology?	yes	Data unit correctly expressed?	yes	Appropriate description of parameter?	yes	If default is the sourced correctly referenced?	yes	If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	n/a	OK	OK						
Parameter / Data Checklist	YES / NO /NA																					
Title in line with methodology?	yes																					
Data unit correctly expressed?	yes																					
Appropriate description of parameter?	yes																					
If default is the sourced correctly referenced?	yes																					
If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	n/a																					

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		If monitored, is the estimation reasonable?	n/a		
		Description of measurement in line with meth?	yes		
		QA/QC procedure in line with meth?	yes		
		The parameter has been listed in Section E.7.1 of PoA-DD v.01. It is in line with the tool.			

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QUESTIONS / VVM / METHODOLOGY REQUIREMENT	SOURCE / REF.	VALIDATION TEAM'S FINDINGS / COMMENTS / REQUESTS	GSC PoA	FINAL PoA																		
5.7.1.12 Parameter t <sub>flare</sub> : operation flaring time during the hour h	EB 28 Annex 13	<table><tr><th>Parameter / Data Checklist</th><th>YES / NO /NA</th></tr><tr><td>Title in line with methodology?</td><td>yes</td></tr><tr><td>Data unit correctly expressed?</td><td>yes</td></tr><tr><td>Appropriate description of parameter?</td><td>yes</td></tr><tr><td>If default is the sourced correctly referenced?</td><td>yes</td></tr><tr><td>If ex-ante determined, are data sources and assumptions appropriate and calculations correct?</td><td>n/a</td></tr><tr><td>If monitored, is the estimation reasonable?</td><td>n/a</td></tr><tr><td>Description of measurement in line with meth?</td><td>yes</td></tr><tr><td>QA/QC procedure in line with meth?</td><td>yes</td></tr></table> <p>The parameter has been listed in Section E.7.1 of PoA-DD v.01. However as per the tool “Other flare operating parameters” should have been indicated. CAR has been raised.</p>	Parameter / Data Checklist	YES / NO /NA	Title in line with methodology?	yes	Data unit correctly expressed?	yes	Appropriate description of parameter?	yes	If default is the sourced correctly referenced?	yes	If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	n/a	If monitored, is the estimation reasonable?	n/a	Description of measurement in line with meth?	yes	QA/QC procedure in line with meth?	yes	PoA-CAR 25	OK
Parameter / Data Checklist	YES / NO /NA																					
Title in line with methodology?	yes																					
Data unit correctly expressed?	yes																					
Appropriate description of parameter?	yes																					
If default is the sourced correctly referenced?	yes																					
If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	n/a																					
If monitored, is the estimation reasonable?	n/a																					
Description of measurement in line with meth?	yes																					
QA/QC procedure in line with meth?	yes																					
5.7.1.13 Parameter FVRG,h: Volumetric flow rate of the residual gas in dry basis at normal conditions in hour h.	EB 28 Annex 13	<table><tr><th>Parameter / Data Checklist</th><th>YES / NO /NA</th></tr><tr><td>Title in line with methodology?</td><td>yes</td></tr><tr><td>Data unit correctly expressed?</td><td>yes</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>If default is the sourced correctly referenced?</td><td>n/a</td></tr><tr><td>If ex-ante determined, are data sources and assumptions appropriate and calculations correct?</td><td>NA. (To be assessed at</td></tr></table>	Parameter / Data Checklist	YES / NO /NA	Title in line with methodology?	yes	Data unit correctly expressed?	yes	Appropriate description of parameter?	No	If default is the sourced correctly referenced?	n/a	If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	NA. (To be assessed at	PoA-CAR 25	OK						
Parameter / Data Checklist	YES / NO /NA																					
Title in line with methodology?	yes																					
Data unit correctly expressed?	yes																					
Appropriate description of parameter?	No																					
If default is the sourced correctly referenced?	n/a																					
If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	NA. (To be assessed at																					

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		If monitored, is the estimation reasonable?	NA. (To be assessed at CPA level)		
		Description of measurement methods in line with meth?	yes		
		QA/QC procedure in line with meth?	yes		
		The parameter has been listed in Section E.7.1 of PoA-DD v.01 which is in line with the tool. The description is not in line with the tool. CAR has been raised.			

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5.7.1.14 Parameter f <sub>vi,h</sub> : Volumetric fraction of component I in the residual gas in the hour h.	EB 28 Annex 13	Parameter / Data Checklist	YES / NO /NA	PeA-CAR 25	OK
		Title in line with methodology?	no		
		Data unit correctly expressed?	no		
		Appropriate description of parameter?	No		
		If default is the sourced correctly referenced?	n/a		
		If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	NA. (To be assessed at CPA level)		
		If monitored, is the estimation reasonable?	NA. (To be assessed at CPA level)		
		Description of measurement methods in line with meth?	no		
		QA/QC procedure in line with meth?	no		
		The parameter has not been listed in Section E.7.1 of PoA-DD v.01 CAR has been raised.			
5.7.1.15 Parameter EG <sub>BL,y</sub> : Quantity of net electricity supplied to the grid as a result of the implementation of the CDM project activity in year y (MWh).	AMS I.D	Parameter / Data Checklist	YES / NO /NA	PeA-CAR 23	OK
		Title in line with methodology?	no		
		Data unit correctly expressed?	yes		
		Appropriate description of parameter?	no		
		If default is the source correctly referenced?	n/a		
		If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	NA. (To be assessed at CPA level)		
		If monitored, is the estimation reasonable?	NA. (To be		

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			assessed at CPA level)		
		Description of measurement methods in line with meth?	yes		
		QA/QC procedure in line with meth?	yes		
		The parameter has been listed in Section E.7.1 of PoA-DD v.01. However the description is not in line with methodology. CAR has been raised.			

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5.7.1.16 Parameter $EG_{biogas, engine, y}$ : Electricity generated by biogas engine (kWh).		Parameter / Data Checklist	YES / NO /NA	PoA-CAR 23	OK
		Title in line with methodology?	yes		
		Data unit correctly expressed?	yes		
		Appropriate description of parameter?	yes		
		If default is the source correctly referenced?	n/a		
		If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	NA. (To be assessed at CPA level)		
		If monitored, is the estimation reasonable?	NA. (To be assessed at CPA level)		
		Description of measurement methods in line with meth?	yes		
		QA/QC procedure in line with meth?	yes		
		The parameter has been listed in Section E.7.1 of PoA-DD v.01. However this parameter is not required by the methodology.CAR has been raised.			
5.7.1.17 Parameter $EC_{biogas, y}$ : Electricity consumption by biogas recovery plant (kWh).		Parameter / Data Checklist	YES / NO /NA	PoA-CAR 23	OK
		Title in line with methodology?	yes		
		Data unit correctly expressed?	yes		
		Appropriate description of parameter?	yes		
		If default is the source correctly referenced?	n/a		
		If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	NA. (To be assessed at CPA level)		
		If monitored, is the estimation reasonable?	NA. (To be		

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QUESTIONS / VVM / METHODOLOGY REQUIREMENT	SOURCE / REF.	VALIDATION TEAM'S FINDINGS / COMMENTS / REQUESTS		GSC PoA	FINAL PoA
			assessed at CPA level)		
		Description of measurement methods in line with meth?	yes		
		QA/QC procedure in line with meth?	yes		
		The parameter has been listed in Section E.7.1 of PoA-DD v.01. However this parameter is not required by the methodology.CAR has been raised.			



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5.7.1.18 Parameter $FC_{i,j,y}$ : Quantity of fossil fuel consumed in year y for fuel type I in process j	AMS I.D EB 41 Annex 11	The parameter has not been listed in PoA-DD v.01. CAR has been raised.	<del>PeA-</del> <b>CAR 25</b>	OK
5.7.1.19 Parameter $NCV_{i,y}$ : Net calorific value of fossil fuel type i	AMS I.D EB 41 Annex 11	The parameter has not been listed in PoA-DD v.01. CAR has been raised.	<del>PeA-</del> <b>CAR 25</b>	OK
5.7.1.20 Parameter $\rho_{i,y}$ : Weighted average density of fuel type I in year y	AMS I.D EB 41 Annex 11	The parameter has not been listed in PoA-DD v.01. CAR has been raised.	<del>PeA-</del> <b>CAR 25</b>	OK
5.7.1.21 Parameter $COD_{ww,out-anaerobic,PJ,y}$ : COD after anaerobic pond in case aerobic pond is existent in the end of the project treatment system	AMS I.D EB 41 Annex 11	The parameter has not been listed in PoA-DD v.01. CAR has been raised.	<del>PeA-</del> <b>CAR 25</b>	OK
<b>5.7.2 Description of the MONITORING PLAN for a CPA</b>				
5.7.2.1 Are the means of monitoring of all parameters contained in the monitoring plan feasible and in accordance with the requirements of the applied methodology?	EB 55 Annex 1, § 122, 123(a)	PoA-DD v. 01 has been assessed. By means of comparing the PoA-DD against the methodologies and the tools, it has been identified that parameters were missing, not correctly indicated and respective CARs have been raised as discussed in the questionnaire section E.6.2 and E.7.1.	<del>PeA</del> <b>CAR 23-25</b>	OK
5.7.2.2 Is it likely that the monitoring arrangements described in the PoA-DD can properly be implemented in the context of a typical CPA? Is the monitoring plan feasible within the project design? E.g. Does the CME have trained personnel who are capable of the task? Does the management plan make provisions for meeting training and maintenance needs of the implementation of the PoA?	EB 55 Annex 1 123 (b)	By means of onsite visit and interviews with the CME the responsibilities have been discussed and it was identified that CME is aware of their full responsibility w.r.t. monitoring, setting up the monitoring report, etc. CAR 26 has been raised because the relations between different stakeholders are not clear. PoA CL 1 and CL 3 have been because it is not clear how the CME wishes to Outsource certain task and whether the CME is aware of their managing and coordinating responsibility even after extending the PoA boundary. It has been described in Section A.4.4.1. that the CME is responsible to	<del>PeA-</del> <b>CAR 26</b> <del>PeA-CL</del> <b>1</b> <del>PeA-CL</del> <b>3</b> <del>PeA-CL</del> <b>4</b>	OK

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		establish a gap analysis so that the CPA owner can receive the correct help in order to make the CPA feasible. The CME is responsible to disseminate lessons learned and good practice across the CPAs, However further clarification is requested how training and maintenance needs will be met. CL is raised.		
5.7.2.3 Are the QA/QC procedures appropriate and sufficient to ensure the emission reductions achieved from a typical CPA can be reported ex-post and verified?	EB 55 Annex 1 123 (b)	PoA-DD has been checked and identified that QA/QC procedures are in line with the methodology and tools. Detailed assessment for each parameter has been done in Section E.6.2 and E.7.1 of this questionnaire.	OK	OK
5.7.2.4 Have all means of implementing the monitoring plan, e.g. procedures for data management, emergency preparedness, been described clearly and in line with the methodology?	EB 55 Annex 1 123 (b), 124	It has been indicated in Section E.7.2 of PoA-DD v.01 that the CME will store data for 2 years after the end of the crediting period of each CPA which is in line with the methodologies. However CAR has been raised to identify whether the CME has full control over all records and information related to the implementation of individual CPAs and will be in a position to ensure each CPA is being operated in accordance with the specific requirements of the programme.	<del>PoA-CL</del> 4 <del>PoA-CL</del> 3	OK

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5.7.2.5 Is it mentioned in the PoA-DD if the PoA involves the replacement of equipment?	AMS-I.D	Leakage has been indicated to be zero. However CAR has been raised for discussion of including this as eligibility criteria.	<del>PeA-</del> <b>CAR-8</b>	<b>OK</b>
5.7.2.6 If yes is there an independent monitoring plan in place to monitor the scrapping of replaced equipment?	AMS-I.D	Leakage has been indicated to be zero therefore this question is not applicable. However CAR has been raised for discussion of including this as eligibility criteria.	<del>PeA-</del> <b>CAR-8</b>	<b>OK</b>
5.7.2.7 If yes does this plan indicate that the scrapped equipment should be stored until such correspondence has been checked and that the scrapping of replaced equipment should be documented and independently verified.	AMS-I.D	Leakage has been indicated to be zero therefore this question is not applicable. However CAR has been raised for discussion of including this as eligibility criteria.	<del>PeA-</del> <b>CAR-8</b>	<b>OK</b>
5.7.2.8 Is additional background information on monitoring provided in PoA-DD annex 4? Is this information consistent with data presented in other sections of the PoA-DD and verifiable?	EB 33 Annex 43	Annex 4 of PoA-DD v.01 does not contain further information on monitoring, which is deemed appropriate, all monitoring information has been included in section E.7.1 and E.7.2 of the PoA-DD	<b>OK</b>	<b>OK</b>

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### A. 2 Resolution of Corrective Action and Clarification Requests including list of Forward Action Requests

<b>Description of Finding (CAR, CL, FAR)</b> <i>Describe the finding in a transparent manner i.e. state clearly what is required and why; address the context (e.g. section)</i>	<b>Project Participants Response</b> <i>This section shall be filled by the PP. The finding shall be addressed with suitable arguments and evidence</i>	<b>GLC Assessment</b> <i>The assessment shall include how the finding is closed i.e. how it is found that the response is assessed to be appropriate and meeting the specific requirement of the finding. In case the response is not satisfactory, additional response and DOE assessments (#2, #3, etc.) shall be sought.</i>	<b>Final Conclu sion (OK or not OK)</b>
<b>Findings PoA-DD</b>			
<b>PoA-CAR 1 (23/09/2011)</b> The name of the CME and all other PPs is not consistent throughout the PoA-DD, incl. use of abbreviation, dots, etc. Where the full version for "CME" is used, it is not stated consistently. The PoA-DD v.01. refers to a SSC-CPA owner, site owner, implementer, developer, etc. whereas the CPA-DD v.01 indicates the project implementer and project host. The different entities are not referred precisely and consistently throughout the documentation.	<b>10/10/2011 (1st round)</b> The name of the CME and all other PPs throughout the PoA-DD, incl use of abbreviation, dots have been modified accordingly for consistency.	<b>24/10/2011 (1st round)</b> <b>OK.</b> The PoA-DD v.02, gCPA-DD v.02 and rCPA-DD v.02 have been assessed: The name of CME is consistent throughout the documentation especially Section A.3 and Annex 1 of PoA-DD v.02. The name of the PP of the first CPA has been used consistently throughout the whole documentation. The long version of CME has been corrected appropriately. A clear definition of entities has been provided and used consistently throughout the documentation. CAR is closed.	<b>OK</b>

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<b>PoA-CAR 2 (23/09/2011)</b> <p>Throughout the whole documentation the definition of the Host Country and physical/geographical boundary is not consistent.</p> <p>Further it is not clear whether it is anticipated that future CPAs are located in the "ASEAN" region or "SEA", wording is not consistent and explanation which countries belong to the specific region is pending.</p>	<b>10/10/2011 (1st round)</b> <p>The definition of Host country has been revised to "Republic of Indonesia".</p> <p>The physical/geographical boundary of the PoA is currently is Indonesia but it is anticipated within South East Asia countries in the future. This PoA will be amended post registration to include other South East Asia countries subject to the conditions presented in Annex 26 of the EB 60 as been described in the section A.4.1 of PoA-DD.</p> <p>Explanation on which countries to be included in the PoA boundary is provided in the PoA-DD version 02</p>	<b>24/10/2011 (1st round)</b> <b>OK.</b> <p>The PoA-DD v.02 has been assessed. The PP used the Host Country "Republic of Indonesia" consistently throughout the documentation. The geographical boundary is therefore defined appropriately as per EB 55 Annex 38, §6(b). It has been described in the PoA-DD v.02 that in future other Host Parties within the SEA countries shall be included. This statement is in line with EB 60 Annex 26 para 6. The PoA-DD v.02 clearly defines the countries within the SEA region which has been cross-checked to be politically correct. All countries mentioned in the PoA-DD v.02 are Non-Annex I countries as per <a href="http://unfccc.int/parties_and_observers/parties/non_annex_i/items/2833.php">http://unfccc.int/parties_and_observers/parties/non_annex_i/items/2833.php</a></p> <p>CAR is closed.</p>	<b>OK</b>
<b>PoA-CAR 3 (23/09/2011)</b> <p>Links, references and sources are neither clearly stated nor accessible. Referenced documents have not been submitted to DOE.</p>	<b>10/10/2011 (1st round)</b> <p>Links and reference and sources has been made clearly and accessible and referenced documents already provided to DOE.</p>	<b>24/10/2011 (1st round)</b> <b>NOT OK.</b> <p>The methodology AMS III.H has not been correctly indicated in Section E.1 and E.6.2.</p> <p>Moreover Footnote 33 on p. 47 of PoA-DD v.02 is not clear.</p> <p>CAR is not closed.</p>	<b>-</b>
<b>PoA-CAR 3 (continued...)</b>	<b>08/11/2011 (2nd round)</b> <p>The methodology AMS-III.H has been corrected in section E.1 and E.6.2</p>	<b>22/11/2011 (2nd round)</b> <b>OK.</b> <p>Section E.1 and E.6.2 of PoA-DD v.03 have been</p>	<b>OK</b>

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		checked. The methodology is correctly indicated. All references have been clearly indicated and referenced documents have been submitted to DOE. CAR is closed.	
<b>PoA-CAR 4 (23/09/2011)</b> The MoC has not yet been submitted by the PP to the validation team.	<b>10/10/2011 (1<sup>st</sup> round)</b> The MOC refer to the latest version issued by EB is under preparation and will be submitted to DOE.	<b>24/10/2011 (1<sup>st</sup> round)</b> <b>NOT OK.</b> MoC is still pending.  CAR is not closed.	-
<b>PoA-CAR 4 (continued...)</b>	<b>08/11/2011 (2<sup>nd</sup> round)</b> The MOC is under circulation for signing. It will be provided to DOE shortly.	<b>22/11/2011 (2<sup>nd</sup> round)</b> <b>NOT OK.</b> MoC is still pending. CAR is not closed.	-
<b>PoA-CAR 4 (continued...)</b>	<b>06/02/2012 (3<sup>rd</sup> Round)</b> MOC has been provided to DOE.	<b>10/02/2012 (3<sup>rd</sup> Round)</b> <b>OK.</b> MoC has been checked: (1) Title of the project and names of project participants and focal points are fully consistent with those indicated in all other project documentation submitted at the request for registration stage (e.g., PDD, LOAs, etc.); (2) Coordinating/managing entity of the PoA is the joint focal point for each area of communication with the Board, and the joint focal points are below the limit of 5 joint focal points for the programme, (3) No modifications to the template/form (e.g.,	<b>OK</b>

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		<p>modifying or deleting sections of the form) has been made;</p> <p>(4) Each document (MOC statement including the Annex 1) is clearly dated;</p> <p>(5) Focal point scopes are clearly and correctly indicated (e.g., one focal point entity cannot be designated with 'sole' authority while another focal point entity is designated with 'joint' authority for the same scope);</p> <p>(6) Contact details and specimen signatures of focal point entities including those of project participants in Annex 1 have been correctly entered;</p> <p>(7) only one telephone, fax, e-mail contact has been entered per authorized signatory.</p> <p>(8) the Statement of Agreement in Section 3 should have been signed by one authorized signatory for each project participant;</p> <p>(9) signatures made available in Section 3 correspond to those indicated in the related Annex 1 document;</p> <p>(10) focal point entities who are not designated as project participants have not signed Section 3 (not applicable).</p> <p>CAR is closed.</p>	
<p><b>PoA-CAR 5 (23/09/2011)</b></p> <p>The letters of approvals from all parties involved have not yet been provided by the</p>	<p><b>10/10/2011 (1<sup>st</sup> round)</b></p> <p>The LOA from Host party is under preparation and will be followed with another parties involved.</p> <p>With regards to the LOA from Annex I, to request the LoA from</p>	<p><b>24/10/2011 (1<sup>st</sup> round)</b></p> <p><b>NOT OK.</b></p> <p>The LoAs and HCA are still pending.</p>	-

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PP.	Switzerland. In that case the following documentation is needed: - PDD under validation - Draft final validation report	CAR is not closed.	
PoA-CAR 5 (continued...)	<b>08/11/2011 (2<sup>nd</sup> round)</b> Host country LoA is under process. Presentation to DNA member has been conducted on Oct 14, 2011.	<b>22/11/2011 (2<sup>nd</sup> round)</b> <b>NOT OK.</b> The LoAs and HCA are still pending.  CAR is not closed.	-
PoA-CAR 5 (continued...)	<b>30/12/2011 (3<sup>rd</sup> Round)</b> LoAs from the Netherlands and Switzerland and HCA from Indonesia have been submitted to DOE.	<b>03/01/2012 (3<sup>rd</sup> Round)</b> <b>OK</b> The letter of approval from the Dutch/ <sup>LoA1/</sup> and Swiss DNA/ <sup>LoA2/</sup> have been submitted to DOE. In addition the Host Country Approval from the Indonesian DNA/ <sup>HCA/</sup> has been submitted. They have been checked and identified to be unconditional with respect to EB 55 Annex 1 para 45 (a) to (d). By means of checking the UNFCCC website it has been identified that the LoAs have been issued by Netherlands' DNA and Switzerland's DNA and HCA has been issued by Indonesia's DNA respectively. The HCA confirms that the programme will contribute to the sustainable development in Indonesia. They are valid for the proposed CDM project activity under validation.  CAR is closed.	<b>OK</b>



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<p><b>PoA-CAR 6 (23/09/2011)</b></p> <p>Information regarding the annual average emission reductions of the PoA or the 1st CPA over the first crediting period has not been included in the description of the PoA. It is not in line with PoA requesting registration uploading step 4.</p>	<p><b>10/10/2011 (1<sup>st</sup> round)</b></p> <p>Information regarding the annual average emission reduction of the PoA has been accommodated in the description of the PoA in section A.2 of PoA-DD</p>	<p><b>24/10/2011 (1<sup>st</sup> round)</b></p> <p><b>NOT OK.</b></p> <p>The information regarding the cap of annual average emission reductions of a CPA has been included in Section A.2 of PoA-DD v.02. It has been confirmed that the type III portion of emission reductions of a CPA will not cross the SSC threshold of 60,000 tCO<sub>2</sub>e.</p> <p>However an estimate of annual average emission reduction of a typical CPA over the first crediting period is pending. It is not in line with PoA requesting registration uploading step 4.</p> <p>CAR is not closed.</p>	<p>-</p>
<p><b>PoA-CAR 6 (continued...)</b></p>	<p><b>08/11/2011 (2<sup>nd</sup> round)</b></p> <p>Each CDM program of activities (CPA) are expected to be reduced up to 60,000 tCO<sub>2</sub>e of green house gases annually for the type III portion of the project. Additional emission reduction will come from type 1 activities at each project site. A CPA such as the first CPA included in this PoA may be expected to achieve additional emissions reductions in the order of 6,000 tCO<sub>2</sub>e annually, as a result of the electricity that is displaced from the grid.</p>	<p><b>22/11/2011 (2<sup>nd</sup> round)</b></p> <p><b>NOT OK.</b></p> <p>PoA-DD v.03 has been assessed.</p> <p>The annual average emission reduction of the first CPA over the first crediting period has not been indicated.</p>	<p>-</p>
<p><b>PoA-CAR 6 (continued...)</b></p>	<p><b>30/12/2011 (3<sup>rd</sup> Round)</b></p> <p>Revision has been made. Annual average emission reduction of the first CPA over the crediting period has been accommodated in the section A.2 of PoA-DD version 4.</p>	<p><b>03/01/2012 (3<sup>rd</sup> Round)</b></p> <p><b>OK</b></p> <p>PoA-DD v.04 has been checked:</p> <p>Section A.2 correctly indicates the amount of ER of the first CPA in line with PoA uploading step 4.</p>	<p><b>OK</b></p>

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		CAR is closed.	
<b>PoA-CAR 7 (23/09/2011)</b> In Section A.4.1.2 following findings have been identified: 1. Confirmation that all applicable national and/or sectoral policies and regulations of each host country within that chosen boundary have been taken into account is missing. 2. It is not clear whether AMS III.H applicability requirement "location of the wastewater treatment plant is uniquely defined and described" has been taken into account. The PoA-DD identifies the location of the biogas plant instead of wastewater treatment plant.	<b>10/10/2011 (1<sup>st</sup> round)</b>  1. Confirmation that all applicable national and/or sectoral policies and regulations of each host country within that chosen boundary has been accommodated in the PoA-DD version 02  The referred requirement has been presented in Section E.2, applicability criteria of approved methodology AMS-III.H para 13.	<b>24/10/2011 (1<sup>st</sup> round)</b> <b>OK.</b> PoA-DD v.02 has been assessed: 1. The confirmation that all applicable national and/or sectoral policies and regulations of the Republic of Indonesia have been taken into account has been provided in Section A.4.1.2. It is in line with EB 55 Annex 38 para 6(b). 2. Section A.4.1.2. and E.2 have been revised appropriately and confirmation has been given that location of wastewater treatment plant will be uniquely defined. It is in line with AMS III.H para 13. CAR is closed.	<b>OK</b>
<b>PoA-CAR 8 (23/09/2011)</b> A list of <u>eligibility criteria</u> has been included in section A.4.2.2 of the PoA-DD v.01, however, the following points are still unclear: <ul style="list-style-type: none"> <li>Methodology applicability requirement of the CPA incl. small-scale threshold,</li> <li>Other methodological / tool requirements of the CPA,</li> <li>Technical requirements of the CPA, including procurement and whether only</li> </ul>	<b>10/10/2011 (1<sup>st</sup> round)</b> Additional eligibility criteria in section A.4.2.2 of the PoA-DD V.02 have been incorporated with the following points: <ul style="list-style-type: none"> <li>Methodology applicability requirement of the CPA of AMS-III.H version 16 and AMS-I.D version 17</li> <li>Technical requirement of the CPA, including the confirmation new biogas recovery equipment is used</li> <li>Geographic requirement for the CPA boundary</li> <li>De-bundling criterion for the CPA</li> <li>Confirmation of no-double counting</li> </ul>	<b>24/10/2011 (1<sup>st</sup> round)</b> <b>NOT OK.</b> The PoA-DD v.02 has been assessed. 1. As per EB 55 Annex 1 para 167 the DOE may raise CARs to ensure the ease of application of eligibility criteria. In order to make eligibility criteria verifiable, each criteria shall refer to a potential source of evidence or list examples of supporting documents for crosschecking purposes.	<b>-</b>

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<p>new equipment is used.</p> <ul style="list-style-type: none"> <li>• Geographic requirement of the CPA boundary.</li> <li>• De-bundling criterion for the CPA</li> <li>• Confirmation of no double-counting, e.g. to avoid the case of including a new CPA that has been already registered either as CDM project activity or as a CPA of another PoA, as well as internal double counting within all CPAs of this PoA.</li> <li>• Contractual provisions to ensure that those operating the CPA are aware and have agreed that their activity is being subscribed to the PoA</li> <li>• Public funding requirement of the CPA</li> <li>• CPA start date not before PoA webhosting date</li> <li>• CPA crediting period not exceed the PoA end date</li> <li>• Local stakeholder consultation prior to inclusion of the CPA</li> <li>• Environmental analysis requirement of the CPA</li> <li>• The additionality assessment criteria for each CPA (as per E.5 particularly in E.5.2 of the PoA-DD are met</li> <li>• Monitoring requirement of the CPA, including sampling and scrapping is applicable.</li> </ul>	<ul style="list-style-type: none"> <li>• Contractual provision to ensure that those operating the CPA are aware and have agreed that their activity is being subscribed to the PoA</li> <li>• Public funding requirement of the CPA</li> <li>• Local stakeholder consultation prior to the inclusion of CPA</li> <li>• CPA start date not before PoA webhosting date</li> <li>• CPA crediting period not exceed the PoA end date</li> </ul>	<ol style="list-style-type: none"> <li>2. A procedure is pending how double counting of Emission Reductions is avoided as per EB 55 Annex 38 para 6(i). It is not clear why PP has listed two criteria (Criteria 5 and 9 as per PoA-DD v.02) both aiming to ensure “no double counting”.</li> <li>3. Criteria 8 of PoA-DD v.02 does not consider whether new equipment for electricity generation will be employed.</li> <li>4. The additionality criterion has not been listed. Clarification requested.</li> <li>5. Although it has been explained that a baseline or project scenario incl. sludge treatment is not considered under this PoA, it is not listed as an eligibility criteria. Further PP did not include emissions from biomass storage under this PoA. Please clarify whether the exclusion shall be addressed in eligibility criteria.</li> <li>6. Remaining criteria can be assessed after references or potential evidences have been included.</li> </ol> <p>CAR is not closed.</p>	
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<ul style="list-style-type: none"> <li>The CPA shall be approved by the CME</li> <li>Each eligibility criterion shall specify at least one supporting document to be submitted at the stage of CPA inclusion.</li> </ul>			
<p><b>PoA-CAR 8 (continued...)</b></p>	<p><b>08/11/2011 (2<sup>nd</sup> round)</b></p> <ol style="list-style-type: none"> <li>Potential source of evidence or list of example of supporting documents for crosschecking purposes has been provided in the eligibility criteria for CPA inclusion and has been accommodated in the PoA_DD v.3</li> <li>Revision is provided that to demonstrate that this project activity is not lead to double counting of Emission Reduction by confirming that this project activity is not be a part of any of the below mentioned category post approval of the project activity under CDM (1) standalone CDM project activity, (2) Bundled CDM project activity, (3) Another registered PoA</li> <li>Revision is made that new equipment for electricity generation is considered in list of eligibility criteria for CPA inclusion. Revision has been accommodated in the PoA-DD v.3</li> <li>Clarification is provided in the section A.4.2.2 that the criteria used for assessing and demonstrating the additionality, the IRR of the proposed CPAs is lower than its benchmark and It is described in the section E.5.1.</li> </ol> <p>Clarification that the baseline or project scenario incl. sludge treatment is not considered under this PoA, is provided in the eligibility criteria. The exclusion of emission from biomass storage is not necessary addressed in the eligibility criteria since the emission from biomass storage is considered in the calculation of project emission. . The justification of emission</p>	<p><b>22/11/2011 (2<sup>nd</sup> round)</b></p> <p><b>NOT OK.</b></p> <p>PoA-DD v.03 has been assessed:</p> <ol style="list-style-type: none"> <li>The list of sources of evidences and examples of supporting documents for CPA inclusion purposes is incomplete w.r.t crosschecking procedures or documents and w.r.t. findings below. <b>NOT OK.</b></li> <li>PoA-DD v.03 has been checked and the confirmation by the first CPA owner<sup>80/</sup> has been reviewed. However a procedure how no double counting is ensured is pending. <b>NOT OK.</b></li> <li>It has been appropriately indicated that only new equipment for the biogas and power plant will be employed. <b>OK.</b></li> <li>It is not clear why the explanation about additionality given in Section A.4.2.2 of PoA-DD v.03 is not included as eligibility criteria. <b>NOT OK.</b></li> <li>It is not clear how the eligibility criteria 3 (emissions from sludge treatment will not be considered) can be crosschecked during CPA inclusion check. <b>NOT OK.</b></li> <li>It is not clear how the debundling criteria can</li> </ol>	<p>-</p>

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	from biomass storage has been accommodated in the section E.6.2 of PoA-DD.	be crosschecked. <b>NOT OK.</b> CAR is not closed.	
PoA-CAR 8 (continued...)	<p><b>30/12/2011 (3<sup>rd</sup> Round)</b></p> <ol style="list-style-type: none"> <li>1. The list of source of supporting document for CPA inclusion purposes w.r.t crosschecking procedures or documents has been completed.</li> <li>2. Compliance with the eligibility criteria that the project activity shall not lead to double counting of emission reduction can be confirmed by means of reviewing the Information provided in the RKS, in addition to the agreements subscribed between the CME and CPA implementer as described in the provision to avoid double counting described in the PoA DD. These constitute a means of effectively reducing the risk of the occurrence of situations that may result in double counting of emissions reductions, for example, whereby a CPA implementer may attempt to seek inclusion of a proposed SSC CPA under the SEA Biogas PoA and at the same time attempt the same with another PoA. Provisions are in place as described in the PoA such that the CPA implementer is made aware of the double counting issues and gives up the right to claim emissions reductions to the SEA Biogas CME. The RKS contains a wealth of information on similar project activities (be these CPAs or SSC project activities), such as the location of the project activity, ownership, methodology applied, etc that enables attributes that are unique to it to be established which can then be contrasted with those of the SSC CPA that seeks inclusion in the SEA Biogas PoA. This enables CME to spot if a given SSC CPA has in effect</li> </ol>	<p><b>03/01/2012 (3<sup>rd</sup> Round)</b></p> <p><b>OK.</b></p> <ol style="list-style-type: none"> <li>1. The PoA-DD v.04 has been assessed and identified that eligibility criteria refer to a potential source of evidence. Further the SSC threshold has been indicated as eligibility criteria and methodology application will be assessed for each CPA. <b>OK.</b></li> <li>2. By means of interviews with the PP and by reviewing PoA-DD v.04 and RKS v. 03 it has been identified that the procedure for no-double counting has been sufficiently described and the RKS will be used to ensure no double-counting. <b>OK.</b></li> <li>3. –</li> <li>4. By means of checking PoA-DD v.04 it has been identified that an eligibility criteria has been added stating that the project IRR shall be below the benchmark. It is deemed appropriate to include this criteria. It is in line with EB 60 Annex 26 para 4. <b>OK.</b></li> <li>5. By means of checking PoA-DD v.04 it has been identified that the eligibility criteria stating that no sludge treatment exists in baseline nor in project activity is properly referenced to potential sources and means of</li> </ol>	<b>OK</b>

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	<p>been included under another PoA or has been registered as a SSC CDM project activity and thus be would be in a position to claim ERs twice if it were also to be included in the SEA Biogas PoA.</p> <p>Internal double counting is also avoided by making use of the wealth of information that is available through the RKS. For example, there can not be more Emissions Reductions data entries than CPAs listed (if there were this would signal ERs for a certain CPA would be counted twice). In addition to this, the RKS system enables the historical performance of each SSC CPA in terms of the ERs achieved to be clearly presented and provides data upon which it can be determined whether there has been an appreciable departure from the SSC CPAs past performance. Any abnormal departure (an increase in ERs reported for a RCPA) that could suggest that double counting may have occurred can be readily investigated.</p> <p>3. -</p> <p>4. An additionality eligibility criteria has been added, stating that for a CPA to be included in the POA it must also meet the criteria that the IRR be below the benchmark. The PoA-DD version 04 has been updated to reflect this.</p> <p>5. Compliance with the eligibility criteria that requires that not sludge treatment exist neither in the baseline nor the RCPA can be confirmed during the visit to the site where the SS-CPA is to be implemented and by the feasibility study and/or the description of the technology to be applied as obtained from the technology provider. This crosscheck procedure has been accommodated in the PoA-DD version</p>	<p>crosschecking. <b>OK.</b></p> <p>6. By means of checking PoA-DD v.04 and RKS v.03 it has been identified that the debundling criteria has been sufficiently explained and will be assessed by means of RKS. <b>OK.</b></p> <p>7. Remaining eligibility criteria have been checked by means of assessing POA-DD v.04 and it can be confirmed that the criteria are complete, clear, references to potential sources have been added and it is in line with EB 55 Annex 38 para 6g. <b>OK.</b></p> <p>CAR is closed.</p>	
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	<p>04.</p> <p>6. Compliance with the debundling criteria, i.e. that the proposed SSC CPA is not a debundled component of a largescale project activity can be assessed and confirmed by analysing the information that is to be provided in the record keeping system submitted to the DOE. The record keeping provides a list of project activities which are located in the same geographical region as the PoA (Indonesia) to which the CPA aims to be added to. As described footnote in Annex 13 of EB 54, there are 3 categories of project activities which need to be taken into account when assessing whether a SSC CPA that seeks inclusion in a PoA is or not a debundled component of a large scale activity. These categories are:</p> <ul style="list-style-type: none"> <li>i) Registered small scale CPA of a PoA applying the same technology/measure</li> <li>ii) Small scale CPA applying for registration applying the same technology/measure</li> <li>iii) Another registered CDM project activity applying the same technology/measure</li> </ul> <p>The record keeping system lists the relevant projects activities (stand alone SSC CDM and CPAs of other PoAs). Relevant information for any activity that is found to fit into any of the above categories and which is used to assess whether debundling is occurring or not includes:</p> <ul style="list-style-type: none"> <li>i) CDM Project name (for stand alone SSC) or CPA ID (in cases where the project activity is a part of a PoA)</li> <li>ii) Project Owner (for standalone SSC) or CPA project implementer (for PoAs)</li> </ul>		
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	<ul style="list-style-type: none"> <li>iii) CME name (for PoAs)</li> <li>iv) Project activity Location coordinates</li> <li>v) Village/district where the project activity</li> <li>vi) Meth or meths applied and their versions</li> <li>vii) Technology applied</li> <li>viii) Waste water treatment type</li> <li>ix) Installed capacity of the power plant</li> </ul> <p>Given the above information, the CME can check if there is another project activity, that fits into any of the 3 project activity categories listed in above (i), (ii) or ( iii) which meets either of the two following conditions :</p> <ul style="list-style-type: none"> <li>a. its boundary is within 1km of the boundary of the proposed small scale CPA that seeks to be included (by means of using Google earth the coordinates of the project activity and those of the proposed SSC CPA seeking inclusion in the SEA Biogas to demonstrate this).</li> <li>b. has the same implementer as the one that would implement that CPA that seeks ti be included in the SEA Biogas PoA or is overseen by a coordinating and managing entity which also manages a large scale PoA of the same technology.</li> </ul> <p>As long as the outcome of one the above to checks is negative, the proposed CPA seeking inclusion in the SEA Biogas PoA will be determined not to be debundled component of a large scale project activity.</p>		
<b>PoA-CAR 9 (23/09/2011)</b> The provided description in section A.4.4.1 of the PoA-DD v.01 regarding the <u>record keeping system</u> for each SSC-CPA under	<b>10/10/2011 (1<sup>st</sup> round)</b>  With regards to the record keeping system for each SSC-CPA under the PoA, the following information has been	<b>24/10/2011 (1<sup>st</sup> round)</b> <b>NOT OK.</b> The PoA-DD v.02 and record keeping system (RKS) <sup>28/</sup> have been assessed.	-



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<p>the PoA is deemed not sufficient w.r.t. the following issues:</p> <ol style="list-style-type: none"> <li>1. The serial number is not included in the Excel database.</li> <li>2. Information regarding date of inclusion, project start date and monitoring period is missing.</li> <li>3. CPA database does not identify the technology type, type of wastewater and unique location of waste water treatment plant.</li> <li>4. CPA database does not summarize all monitoring parameter values during verification, e.g. electricity generated.</li> <li>5. It is not clear how the “certification of the CPA implementer that the proposed project is not yet registered under a CDM project or a CPA of another PoA” will be monitored.</li> <li>6. It is not clear how “certification that the SSC-CPA is not a de-bundled part of a larger project” will be monitored.</li> <li>7. It is not clear how it is ensured that energy generating equipment is not transferred from another activity.</li> </ol>	<p>accommodated in the record keeping system excel sheet.</p> <ol style="list-style-type: none"> <li>1. The serial number (e.x 001)</li> <li>2. Date of inclusion, CPA start date and monitoring period</li> <li>3. Technology type, type of wastewater and unique location of wastewater treatment plant</li> <li>4. Information on monitoring period start date, monitoring period end date, net electricity generated</li> <li>5. In the record keeping system, monitoring also to be conducted for Other PoAs in Indonesia that can include small-scale Biogas project for electricity generations CPAs and other Indonesian biogas to electricity-grid connection CDM standalone project (further is to be provided for South East Asia)</li> <li>6. The monitoring on the bundled part of larger project is done during the inclusion of CPA by meeting the requirement on the eligibility criteria of CPA inclusion</li> <li>7. To ensure that energy generating equipment is not transferred from another activity is to be done during the inclusion of CPA by meeting the requirement on the eligibility criteria of CPA inclusion</li> </ol>	<ol style="list-style-type: none"> <li>1. The serial number has been included in the RKS. As per PoA-DD v.02 the GPS coordinates of the power house will be monitored. It is not clear how this is recorded since a power house is not yet build in the case of e.g. the first CPA. Further it is not in line with AMS III.H. It is not clear whether information on village/district/town will be included as well. <b>NOT OK.</b></li> <li>2. The RKS needs to be verifiable. The source of each date or information given in the RKS has not been provided. For example the source of CPA inclusion date is not indicated in the RKS. Please refer to EB 55 Annex 38 para 7(c). <b>NOT OK.</b></li> <li>3. Technology type is stated “anaerobic digester” as per RKS. However all CPAs will implement an anaerobic digester as required by the methodology. The specifications of technology/measure have not been described. It is not in line with EB 55 Annex 38 para 6(f). <b>NOT OK.</b></li> <li>4. The monitoring parameters listed in the RKS are deemed not sufficient for sampling purposes. <b>NOT OK.</b></li> <li>5. Procedure to avoid double counting is pending. It is not clear whether projects which are not exporting electricity to the grid though using AMS III.H e.g. “Recovery and Avoidance of Methane from Industrial Wastewater Treatment Projects” shall be listed in the RKS. <b>NOT OK.</b></li> <li>6. Eligibility criteria have been revised and the criteria has been integrated to ensure that the</li> </ol>	
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		<p>SSC-CPA is not a de-bundled part of a larger project. However references to appropriate evidence is pending. <b>NOT OK.</b></p> <p>7. As per PoA-DD v.02 it is an eligibility criteria to employ new biogas recovery equipment. However it is not clear whether Leakage is zero in terms of AMS I.D. <b>NOT OK.</b></p> <p>Provision of references and sources has not been made in RKS. <b>NOT OK.</b></p> <p>CAR is not closed.</p>	
PoA-CAR 9 (continued...)	<p><b>08/11/2011 (2<sup>nd</sup> round)</b></p> <p>1. The double counting is avoided by confirming that the project activity is not part of any standalone CDM project activity, bundled CDM project activity or another registered PoA. As per AMS-III.H, the location of wastewater treatment plant shall be uniquely defined. The uniquely identification is used to demonstrate that the proposed CPA is located in the geographical boundary set in the PoA. Revision is made that the location of new wastewater treatment plant is identified instead of powerhouse. In case of new wastewater treatment plant is not yet built, the information on village/district/town is taken to uniquely identify the project. Revision has been accommodated in the section A.4.4.1 of PoA-DD v.3 and RKS excel sheet version 02.</p> <p>2. The revision has been made to RKS. Additional information on source of each date is indicated. Information given in the RKS has been accommodated in the RKS excel sheet version 02.</p> <p>3. Revision is provided. Technology applied by the first CPA is</p>	<p><b>22/11/2011 (2<sup>nd</sup> round)</b></p> <p><b>NOT OK</b></p> <p>PoA-DD v.03 and RKS v.02<sup>/28/</sup> have been assessed.</p> <ol style="list-style-type: none"> <li>1. The RKS indicates a serial number and Longitude and Latitude of waste water treatment plant. <b>OK.</b></li> <li>2. The evidence for the information has not been indicated in the system for DOE to verify. The RKS is not verifiable.</li> <li>3. Type of technology has been correctly indicated in RKS. It is in line with EB 55 Annex 38 para 6(f). However evidence for the technology has not been indicated in the database system for verification. <b>NOT OK.</b></li> <li>4. The RKS only indicates the final value of emission reduction 'Credits'. It is not clear</li> </ol>	-

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	<p>ASBR pond. The revision has been accommodated in the RKS excel sheet version 02.</p> <p>4. Revision is made in the RKS for sampling purposes. The sampling category is provided for CPAs that introduce a sequential stage of wastewater treatment with biogas recovery and combustion, without sludge treatment, to an existing POME anaerobic waste water treatment system without biogas recovery, and where the biogas to be recovered is to be used to generate power for export to a grid. To indicate that a given CPA forms part of the population of sampling category I, parameter of type of baseline scenario is included in RKS. Complete parameter list used to estimate the emission reduction will be provided in the monitoring report. Additional parameters of type of baseline scenario have been accommodated in the RKS excel sheet version 02.</p> <p>5. The procedure to avoid double counting can be sourced from the RKS (please see the RKS sheet version 2). The inclusion CPA under the SEA Biogas PoA should meet the eligibility criteria. As stated in the PoA-DD section A.4.2.2 any CPA to be included in the proposed PoA shall comply with the applicability criteria of AMS-III.H version 16 and AMS-I.D version 17. Therefore any projects which do not export electricity to the grid though using AMS-III.H would not be considered in the RKS.</p> <p>6. As per PoA-DD wrt de-bundled component, the project implementer will certify that the proposed SSC-CPA is not de-bundled part of larger project</p> <p>The appropriate evidence for first CPA-DD which determine that the proposed CPA is not de-bundled is provided (please see attachment no 80_confirmation letter of de-bundled</p>	<p>where the values for monitoring parameters for each CPA are recorded. <b>NOT OK.</b></p> <p>5. Please refer to CAR 8 for the procedure for no double counting. <b>NOT OK.</b></p> <p>6. Please refer to CAR 8 for the procedure for de-bundling check. <b>NOT OK.</b></p> <p>7. Please refer to CAR 8 for the criteria to employ only new equipment. <b>NOT OK.</b></p> <p>8. The RKS does not indicate under which version of PoA each CPA has been included. <b>NOT OK.</b></p> <p>9. The RKS does not make provision for references and sources for each CPA so that each data can be verified. <b>NOT OK.</b></p> <p>CAR is not closed.</p>	
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	<p>project)</p> <p>7. Clarification is made for the inclusion of CPA eligibility criteria that CPA shall employ new both biogas recovery equipment and new power plant to justify the leakage is zero in terms of AMS-I.D</p> <p>8. References or source for the new equipment may include, but are not limited to: vendor proposals, feasibility studies, contracts and agreements with equipment suppliers.</p>		
PoA-CAR 9 (continued...)	<p><b>30/12/2011 (3<sup>rd</sup> Round)</b></p> <ol style="list-style-type: none"> <li>-</li> <li>The evidence for the information of standalone similar CDM project activities and other registered PoA has been taken from UNFCCC website. The source or weblink has been provided and accommodated in the RKS version 03.</li> <li>Additional column to provide Information of evidence for the technology applied by the proposed project activities has been accommodated in the RKS version 03 for inclusion status.</li> <li>The data system offers a consolidated reporting system. It takes the results from the individual CPA reports and aggregates the ERs values. Reproducible calculation processes to derive the final value of emission reduction reported over the given monitoring period for each SSC CPA will be provided in the individual CPA's monitoring report's excel sheet, which can be verified by a DOE. In other words ERs calculations are done and presented once, in the CPA monitoring reports. The ERs presented in each reports are however collated and presented in the RKS database</li> </ol>	<p><b>03/01/2012 (3<sup>rd</sup> Round)</b></p> <p><b>OK</b></p> <ol style="list-style-type: none"> <li>PoA-DD v.04 and RKS Excel sheet v. 03 have been assessed. It has been identified that each CPA refers to a unique ID number. Further the procedure to avoid double counting has been addressed in the eligibility criteria. The validation team confirms that the description is in line with EB 55 Annex 38 para 6(i). <b>OK.</b></li> <li>The RKS has been revised appropriately. The starting date of the CPA's monitoring period is the date of its inclusion. It is in line with EB 55 Annex 38 para 7c. <b>OK.</b></li> <li>The RKS has been revised appropriately. The spreadsheet "Inclusion status" provides information on technology type and for references. <b>OK.</b></li> <li>By means of interviews with the PP and checking PoA-DD v.04 it has been identified that the PP will submit a Monitoring Report</li> </ol>	<b>OK</b>

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	<p>5. Please refer to response CAR 8 for the procedure for no double counting</p> <p>6. Please refer to response CAR 8 for the procedure for de-bundling check</p> <p>7. Refer CAR 8, GLC assessment to CAR 8 for the criteria to employ only new equipment is closed</p> <p>8. Information on which version of PoA each CPA is included has been accommodated in the RKS version 3.</p> <p>9. An additional column has been added in the RKS sheet to indicated the reference (source) from which the reported ERs for each CPA are taken from. The CME and the DOE can therefore identify the report from which the ERs value has been taken from.</p>	<p>and Excel sheet for each CPA during verification. Hence, the RKS is a consolidated system to distinguish between CPAs which will be individually verified and CPAs which will be verified through sampling. Appropriate changes have been made and it has been clearly described how monitoring will be performed and excelled. <b>OK.</b></p> <p>5. The procedure to avoid double counting has been sufficiently described and assessed in CAR 8. <b>OK.</b></p> <p>6. The procedure for debundling check has been sufficiently described and assessed in CAR 8. <b>OK.</b></p> <p>7. It has been appropriately indicated that only new equipment will be used for the project activity and therefore leakage is zero. <b>OK.</b></p> <p>8. By means of checking RKS Excel Sheet v. 03 it has been identified that the RKS documents the information under which PoA version the CPA is included. <b>OK.</b></p> <p>9. By means of checking RKS v. 03 it has been identified that provision for references have been made. <b>OK.</b></p> <p>CAR is closed.</p>	
<p><b>PoA-CAR 10 (23/09/2011)</b></p> <p>It is not clear whether the CPA owners would waive any rights to CERs from the CPAs. Moreover, it has been indicated in</p>	<p><b>10/10/2011 (1<sup>st</sup> round)</b></p> <p>CPA implementers will waive rights to CERs.</p>	<p><b>24/10/2011 (1<sup>st</sup> round)</b></p> <p><b>OK.</b></p> <p>By means of interviews with the CPA implementer and by crosschecking contractual agreements<sup>21a/</sup> it</p>	<b>OK</b>

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Section A.4.4.1. that “the CPA owner will obtain the carbon revenue stream.” The meaning is not clear.	<p>The use of the words project implementer and project host has been made for consistency and its explanation has been provided in the section A.2 of PoA-DD.</p> <p>Clarification is made in the PoA-DD v.2 that the CPA implementer will obtain the expected carbon revenue stream which is that which he is counting on receiving as a result of implementing the project activity under the commercial terms established for his project.</p>	<p>has been identified that the CPA implementer waives the right to CERs from the CPA however for the first CPA the implementer entered into an Emission Reduction Purchase Agreement with the CME and Southpole. Further the CPA implementer confirmed that he shares the CERs received through the ERPA with the owner of the agro-industrial facility.</p> <p>The documentation in PoA-DD v.02 is in line with statements received through interviews.</p> <p>CAR is closed.</p>	
<p><b>PoA-CAR 11 (23/09/2011)</b></p> <p>In Section A.4.4.2. of PoA v.01 following findings have been identified:</p> <p>1. The sentence “CME will therefore design a sampling procedure to be applied by the DOE during verification” is not clear. Firstly it is not clear whether the sampling procedure is in line with the EB requirements. Second PP should take notice of EB 55 Annex 38 Footnote 2 stating: “The Board will develop a guideline containing criteria for determining statistically sound verification techniques and methods. Project developers are requested to take note that programmes which may be registered as a single CDM project activity prior to the adoption of this guideline will be required to comply with</p>	<p><b>10/10/2011 (1<sup>st</sup> round)</b></p> <p>1. This refers to sampling procedure that will be applied to determine the set of CPAs that will be subjected to verification. The coordinating entity will opt for individual verification of a particular CPA if the implementation of the monitoring plan for this particular CPA has been critical during the monitoring period (this could be the case for instance for the first verification of a CPA).</p> <p>The relevant section as been amended to indicate that sampling procedure is a temporary one, and that it will be superseded in due course by an EB guideline containing criteria for determining statistically sound verification techniques and methods as stated in EB 55</p> <p>2. All CPAs will be verified at the same time (same monitoring period). What the PP proposes is that for a given population</p>	<p><b>24/10/2011 (1<sup>st</sup> round)</b></p> <p><b>NOT OK.</b></p> <p>PoA-DD v.02 has been assessed:</p> <p>1.+2.</p> <p>a. It has been identified that PP wishes to apply both option (i) and (ii) as per EB 33 Annex 43. Section A.4.4.2 is not structured clearly into these two options (i) and (ii). It is not clearly indicated that option (i) comprises only those CPAs that comply with Sampling Category I and all other CPAs will be verified as per (ii). Further it is not clear whether a CPA which has been verified as per (ii) in a previous monitoring period shall be eligible to be verified as per (i) in a later monitoring period. The RKS<sup>70/</sup> is not deemed appropriate for this case. Further it is not clear why sampling will be applied although each CPA refers to one</p>	-

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<p>such criteria at the point of verification.” During onsite visit it has been identified that each monitored parameter will be monitored and a monitoring report and emissions reduction calculation in an Excel sheet will be provided to the verifying DOE. The description in the PoA-DD Section A.4.4.2 is thus not clear.</p> <p>2. Furthermore as per PoA v. 01 “CME wished to retain the option to verify individually certain CPAs implemented in the Host Country” is not in line with EB 55 Annex 38 paragraph 37 stating that each “request for issuance shall relate to all CPAs included in the PoA during the specified monitoring period.” It is not clear when CPAs will be monitored.</p>	<p>of CPAs:</p> <p>a) A certain number of CPAs are chosen to be subjected to direct verification (ie as if each were a RCPA.)</p> <p>b) The remaining set of CPAs (category 1) will be verified through sampling ie., a sample of the later will be drawn and the CPAs contained in this sample will be subjected to verification. Sampling in the PP’s view is option that can be exercised if one prefers not to undertake the verification of each CPA .</p> <p>c) For sampling category 1 SSC CPAs, the PP wishes to have the option to verify individual CPAs, in particular those that are to undergo their first verification.</p>	<p>biogas recovery facility and each facility will provide a complete set of monitoring data in a Monitoring Report and Excel sheet to DOE. <b>NOT OK.</b></p> <p>b. Both monitoring approaches (i) and (ii) as per EB 33 Annex 43 are not clearly described in Section A.4.4.2. <b>NOT OK.</b></p> <p>c. In section “<u>collection of monitoring parameters</u>” it is not clearly indicated whether the status of verification can be determined any time for each CPA. <b>NOT OK.</b></p> <p>d. This section is not consistent with Section E.7.2. <b>NOT OK.</b></p> <p>e. It is not clear why it has been indicated that the DOE shall approve a final monitoring report during <u>desk review</u> which is before the <u>onsite assessment</u>. <b>NOT OK.</b></p> <p>CAR is not closed.</p>	
<p>PoA-CAR 11 (continued...)</p>	<p><b>08/11/2011 (2<sup>nd</sup> round)</b></p> <p>a. The clarification has been provided and accommodated in the PoA_DD v.3 and the parameter of option of verification status has been included in the RKS v.2</p> <p>b. Revision is made. The both verification approach of sampling or individual verification have been clearly described and accommodated in the PoA-DD v.3</p> <p>c. The collection of monitoring parameters to ensure the status</p>	<p><b>22/11/2011 (2<sup>nd</sup> round)</b></p> <p><b>OK</b></p> <p>PoA-DD and RKS <sup>/28/</sup> have been assessed.</p> <p>a. It has been clearly described that:</p> <ul style="list-style-type: none"> <li>- The coordinating entity will continuously update the list of all SSC-CPAs under the PoA.</li> <li>- The coordinating entity will collate the</li> </ul>	<p><b>OK</b></p>

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	<p>of verification has been provided in the PoA-DD v.3</p> <p>d. The information has been made for consistency with section E.7.2. Clarification has been accommodated in the PoA-DD v.3</p> <p>e. Revision has been made. The sentence which stated the DOE shall approved a final monitoring report during desk review has been taken out in the PoA-DD v.3</p>	<p>monitoring information for all SSC-CPAs and prepare a monitoring report for each SSC-CPA.</p> <ul style="list-style-type: none"> <li>- The DOE will perform a desk review and on-site assessments of the SSC-CPAs.</li> <li>- The DOE will compute total emissions reductions by the PoA. <b>OK.</b></li> </ul> <p>b. It has been clearly described that each CPA will be monitored. <b>OK.</b></p> <p>c. By means of interviews with the PP and assessing PoA-DD it can be confirmed that CME is aware of their responsibility to ensure that the status of verification can be determined any time for each CPA. <b>OK.</b></p> <p>d. E.7.2 has been made consistent with A.4.4.2. <b>OK.</b></p> <p>e. The information given on DOEs verification process has been revised appropriately. <b>OK.</b></p> <p>CAR is closed.</p>	
<p><b>PoA-CAR 12 (23/09/2011)</b></p> <p>Following Findings have been identified in Section A.4.4.2 Step 4-Determination of samples and Table 2 of PoA v.01:</p> <p>1. The meaning of “similar risk profile” of CPA’s which will be included in one sampling category is not clear.</p>	<p><b>10/10/2011 (1<sup>st</sup> round)</b></p> <p>1. Clarification is provided that the sampling method is based on the stratified random sample methodology described “general guidelines for a sampling and surveys for small scale CDM project activities”, EB 50 annex 30. The sampling categories selected for verification of this PoA is described in the PoA-DD version 02. Capacity expansion and Greenfield projects shall be individually verified. Similar risk</p>	<p><b>24/10/2011 (1<sup>st</sup> round)</b></p> <p><b>OK.</b></p> <p>PoA-DD has been assessed:</p> <p>1.</p> <p>It has been identified that Step 4 “Determination of samples “ has been removed from the PoA-DD which is deemed appropriate. GLC identified that</p>	<p><b>OK</b></p>



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<p>2. It is not clear whether the population of which the sample is taken is supplying electricity to the same Grid (therefore same Grid EF), what are the characteristics of the population.</p>	<p>profile has been limited to SSC CPAs that introduce a sequential stage of wastewater treatment with biogas recovery and combustion, without sludge treatment and where the recovered biogas is used to generate power for export to a grid, to an existing anaerobic wastewater treatment system without biogas recovery that treats POME.</p> <p>2. The population from which the sample is drawn from does not have to that which comprises CPA the supply power to the same grid. The sample may comprise CPAs that supply power to other grids as well, as long as these grids are located in Indonesia and have had their relevant CM GEFs published by the DNA of the Republic of Indonesia. This is because the CM GEF is determined by the DNA and quoted in the CPA DD that is submitted to a DOE for validation prior to it being included as a SSC CPA in the POA. Once such inclusion has taken place, the CM GEF contained in that CPA remains fixed throughout the crediting period of that CPA. In other words there is no need to monitor any parameter in relation to the determination of the GEF, and thus has no impact on the choice of the population of CPAs from which the sample is to be drawn.</p>	<p>the PP originally discussed CPA sampling instead of sampling of monitored parameters. During onsite visit and during the course of this validation GLC identified that each CPA refers to one biogas recovery facility. Each facility will monitor every required monitored parameter as per the monitoring plan of the CPA-DD and a monitoring report and emissions reduction Excel calculation will be provided for each CPA. Thus sampling does not apply as per EB 65 Annex 2 which refers to “sampling for the determination of parameter values for calculating emission reductions”. The PoA-DD clearly indicates that each monitored parameter will be measured as required by the monitoring plan of the CPA. Thus sampling of monitored parameters does not apply.</p> <p>Further GLC identified that EB 64 Annex 2 explains that PoA Standards released in EB 63 are not applicable for PoAs which have been webhosted before EB 65. Since this project falls under this category, EB 64 Annex 2 explains that an 8 month grace period applies for implementation of EB 63 resp. EB 65 PoA Standards.</p> <p>2. It has been clearly described in Section A.4.4.2 of PoA-DD that “under the current version of the PoA-DD all CPAs will need to undergo verification”.</p> <p>CAR is closed.</p>	
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<p><b>PoA-CAR 13 (23/09/2011)</b></p> <p>Following Findings have been identified in Section A.4.4.2 Step 6 of PoA v.01: The calculation for the error and subsequent Emission Reductions is not correct.</p> <ol style="list-style-type: none"> <li>1. The use of Index "L" is not clear since there is only one category.</li> <li>2. It shall be clear whether index "k" stands for a SSC-CPA taken as sample</li> <li>3. Error &gt;1, if <math>\sum ER_{monitored,k} &gt; \sum ER_{verified,k}</math> This implies that First summand of ER calculation can be negative.</li> <li>4. The time period y when ER occur is not clear.</li> <li>5. It is not clear whether the end of the monitoring period shall be same for each CPA.</li> </ol>	<p><b>10/10/2011 (1st round)</b></p> <ol style="list-style-type: none"> <li>1. Correction has been made. The Term "L" is redundant</li> <li>2. "k" stands for any CPA number, whether it is a CPA in a sample group or the rest of the population of monitored CPAs that form part of the PoA. For the determination of error, the sum of the ERs from the CPAs "k" that are found a sample group are determined from the ERs obtained from the monitoring reports of those CPAs "k" contained in the sample group and contrasted with the ERs determined from the individual verifications of each and every one of the CPAs "k" in the same sample group.</li> <li>3. Correction has been made. How to determine the error is provided as follow : <math display="block">error_l = \frac{\sum_k ER_{verified,l,k}}{\sum_k ER_{monitored,l,k}}</math></li> <li>4. The period of time over which the ERs are computed shall be the same as for <math>ER_{monitored,k}</math>, <math>ER_{verified,k}</math> and <math>ER_j</math>. Relevant text has been added.</li> <li>5. The end of the monitoring period shall be equal for each CPA. Relevant text has been added in section A.4.4.2 of PoA-DD v.02.</li> </ol>	<p><b>24/10/2011 (1st round)</b></p> <p><b>NOT OK.</b></p> <p>PoA-DD v.02 has been assessed:</p> <ol style="list-style-type: none"> <li>1. Please clarify why "L" is still used as index. <b>NOT OK.</b></li> <li>2. Explanation of index k is not appropriate. The population and the sample have same indices. <b>NOT OK.</b></li> <li>3. The calculation of "error" has been revised. It is not clear whether "error" can be greater than 1. <b>NOT OK.</b></li> <li>4. The time period of the monitoring period of each CPA is not clear. <b>NOT OK.</b></li> <li>5. It has been correctly indicated that the verification will happen for all CPAs at the same time. Hence the end of the monitoring period is same for all CPAs. This is in line with EB 55 Annex 38 para 37. <b>OK.</b></li> <li>6. The combination of total emission reduction as per Section A.4.4.2. with the emission reductions indicated in Section E.6.2. for "total estimation of emission reduction" is missing. <b>NOT OK.</b></li> </ol> <p>CAR is not closed.</p>	<p>-</p>
<p><b>PoA-CAR 13 (continued...)</b></p>	<p><b>08/11/2011 (2nd round)</b></p> <ol style="list-style-type: none"> <li>1. Typing error. Index "L" has been taken out in the formulae. Revision has been made in the PoA-DD v.3</li> </ol>	<p><b>22/11/2011 (2nd round)</b></p> <p><b>NOT OK.</b></p> <ol style="list-style-type: none"> <li>1. PoA-DD v.03 has been checked and identified</li> </ol>	<p>-</p>

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	<p>2. Revision has been provided for the explanation of index. Index k = a CPA in sample group; index q = Total population of projects under sampling category I Revision has been accommodated in the PoA-DD v.03</p> <p>3. Clarification that error can not be greater than 1 has been provided in the PoA-DD v.3</p> <p>4. Clarification is provided in the sampling monitoring that for the first monitoring period, each CPA can have a different crediting start date but will have similar monitoring end date. The following monitoring period for the CPA under sampling category I will be defined based on specific needs. "specific needs" in this context refers to the demand for the sales market to initiate the verification on the monitoring period. Thus, following monitoring periods a CPA can have the different time periods.</p> <p>5. –</p> <p>6. Total estimation of emission reductions in section E.6.2 has been combined with the formulae for total emission reduction as per section A.4.4.2</p>	<p>that index L has been appropriately deleted and it has been made clear that error<sub>1</sub> stands for sampling category 1. <b>OK.</b></p> <p>2. The indices have been correctly defined. <b>OK.</b></p> <p>3. The error has been capped to 1 which is deemed appropriate. <b>OK.</b></p> <p>4. As per EB 55 Annex 38 para 37 all CPAs included in the PoA shall request issuance at the same time. Hence Section A.4.4.2 c) is not in line with this requirement. <b>NOT OK.</b></p> <p>5. –</p> <p>6. The formula for total emission reductions has been correctly indicated in Section E.6.2. <b>OK.</b> CAR is not closed.</p>	
PoA-CAR 13 (continued...)	<p><b>30/12/2011 (3<sup>rd</sup> Round)</b> For point 1+2+3: During the validation process, EB has released new standard for sampling and survey for CDM project activity and programme of activities, version 02.0 (EB 65 annex 2).</p> <p>As per new standard, para 24, in order to determine the size of the sample for field/onsite check, the DOE shall specify in advance, using own professional judgement: "(i) acceptable</p>	<p><b>03/01/2012 (3<sup>rd</sup> Round)</b> <b>OK.</b> It has been identified that Step 4 "Determination of samples " has been removed from the PoA-DD which is deemed appropriate. GLC identified that the PP originally discussed CPA sampling instead of sampling of monitored parameters. During onsite visit and during the course of this validation GLC identified that each CPA refers to one biogas recovery facility. Each facility will monitor every</p>	<b>OK</b>

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	<p>quality level ....., (ii) the proportion of discrepancies between the PPs record and the DOE record that are unacceptable..”.</p> <p>Therefore for the sampled SSC-CPA, the emission reduction achieved by the population from which such sample was drawn shall be determined by the DOE and approach of introduction errors in the final amount of verified ERs is no longer exist and has been removed from the PoA-DD.</p> <p>Modification has been incorporated in the PoA-DD.</p> <ol style="list-style-type: none"> <li>1. –</li> <li>2. –</li> <li>3. –</li> <li>4. Revision has been made. The request issuance to all CPAs during the specified monitoring period is conducted at the same time. Revision has been accommodated in the section A.4.42 c) of PoA-DD version 4.</li> <li>5. –</li> </ol>	<p>required monitored parameter as per the monitoring plan of the CPA-DD and a monitoring report and emissions reduction Excel calculation will be provided for each CPA. Thus sampling does not apply as per EB 65 Annex 2 which refers to “sampling for the determination of parameter values for calculating emission reductions”. The PoA-DD clearly indicates that each monitored parameter will be measured as required by the monitoring plan of the CPA. Thus sampling of monitored parameters does not apply.</p> <p>It has been clearly described in Section A.4.4.2 of PoA-DD that “under the current version of the PoA-DD all CPAs will need to undergo verification”.</p> <p>CAR is closed.</p>	
<p><b>PoA-CAR 14 (23/09/2011)</b></p> <p>Following findings have been identified w.r.t Section B.1 of PoA v.01:</p> <p>The <u>start date of a small-scale PoA</u> is not in line with PoA requesting registration uploading step 4. Correction is sought.</p>	<p><b>10/10/2011 (1<sup>st</sup> round)</b></p> <p>Start date of the PoA is estimated to be 01/01/2012 or the date of registration which ever is later. Thus, revision has been made in PoA-DD version 02.</p>	<p><b>24/10/2011 (1<sup>st</sup> round)</b></p> <p><b>OK.</b></p> <p>PoA-DD v.02 has been assessed.</p> <p>It has been identified that the start date of the PoA as described in Section B.1 is in line with PoA requesting registration uploading step 4.</p> <p>CAR is closed.</p>	<b>OK</b>

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<p><b>PoA-CAR 15 (23/09/2011)</b></p> <p>In Section E.2. of PoA v.01 w.r.t applicability criteria of AMS III.H:</p> <ol style="list-style-type: none"> <li>1. The reference to paragraph 4 of AMS III.H is misleading.</li> <li>2. § 4 of PoA v.01: It is not clear whether all CPAs will apply both methodologies AMS III.H and AMS I.D.</li> <li>3. Paragraph 10 and 11 of AMS III.H is missing.</li> <li>4. Further §10 of PoA v.01 is not complete because the justification does not provide information whether CPAs under the SEA Biogas PoA which are Greenfield or capacity addition shall comply with "General Guidelines to SSC methodologies" esp. § 19 of AMS III.H.</li> <li>5. § 10 of PoA v.01: it has been indicated that under the SEA Biogas PoA "Greenfield" SSC-CPAs might be implemented. A Greenfield project is considered to be a project where no waste water treatment system exists prior to the project activity. The Greenfield scenario is not addressed consistently throughout the whole PoA esp. in the section E.6.2.</li> <li>6. § 11 of PoA v.01: Justification is pending</li> </ol>	<p><b>10/10/2011 (1<sup>st</sup> round)</b></p> <ol style="list-style-type: none"> <li>1. Modification is made to the reference paragraph to avoid misleading information.</li> <li>2. Clarification is provided in the PoA-DD v.02, that all CPAs will apply both methodologies AMS-III.H and AMS-I.D</li> <li>3. paragraph 10 and 11 of AMS-III.H has been accommodated in the PoA-DD</li> <li>4. clarification is made in the justification of the choice of methodology under paragraph 10 PoA-DD v.01 that both Greenfield and/or capacity addition shall comply with "General Guidelines to SSC methodologies"</li> <li>5. A Greenfield project is considered under the SEA biogas PoA. Any information relates to greenfield project has been addressed in the PoA_DD version 02 including in the section E.6.2</li> <li>6. The location of wastewater treatment plant and source of generating will be defined in each CPA and its information will be provided under section A.4.1.2 of CPA-DD.</li> <li>7. Revision is made in the paragraph 12 of PoA v.02 : that the emission reduction from the methane recovery component of each SSC-CPAs shall be less or equal to 60 kt CO<sub>2</sub> equivalent per year</li> <li>8. In section E.2 of PoA-DD, justification is requested of the choice of the methodology and not for tool. Therefore, clarification is requested to DOE concerning the applicability of tool to determine project emissions from flaring gases containing methane to be addressed.</li> </ol>	<p><b>24/10/2011 (1<sup>st</sup> round)</b></p> <p><b>NOT OK.</b></p> <p>PoA-DD v.02 has been assessed.</p> <p>The corrections addressed in CAR 15 have been made appropriately. However since it has been explained that neither baseline nor project emissions from sludge treatment will be accounted, it is not clear why AMS III.H para 1 b + c is applicable to the programme. Further justification is pending how it can be ensured that baseline and project emissions from sludge treatment will not occur.</p> <p>Correction is sought.</p> <p>CAR is not closed.</p>	<p>-</p>
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<p>how and where the location of wastewater treatment plant and source of wastewater will be defined and documented.</p> <p>7. §12 of PoA v.01: it is not clear whether “each” or “all” SSC-CPA will generate Emission Reductions of less than 60,000 tCO<sub>2</sub>e per year.</p> <p>8. Applicability of the tool to determine project emissions from flaring gases containing methane: “the residual gas stream to be flared contains no other combustible gases than methane, carbon monoxide and hydrogen” has not been addressed.</p>			
<b>PoA-CAR 15 (continued...)</b>	<p><b>08/11/2011 (2<sup>nd</sup> round)</b></p> <p>Correction has been made and accommodated on the applicability of AMS-III.H in section E.2 of PoA-DD v.3</p>	<p><b>22/11/2011 (2<sup>nd</sup> round)</b></p> <p><b>OK.</b></p> <p>PoA-DD v.03 Section E.2 has been corrected appropriately and is in line with the project description.</p> <p>PP explained that no biogas recovery system will be introduced to a sludge treatment system (either existent or new). However project emissions from sludge treatment systems such as PE<sub>s,treatment,y</sub> and PE<sub>s,final,y</sub> have been included in the boundary.</p> <p>CAR is closed.</p>	<b>OK</b>

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<p><b>PoA-CAR 16 (23/09/2011)</b></p> <p>Following findings have been identified in Section E.2 of PoA v.01 w.r.t AMS I.D:</p> <ol style="list-style-type: none"> <li>1. The version number of the methodology is not in line with the version indicated in Section E.1.</li> <li>2. The applicability criteria AMS I.D §1 is not correctly quoted</li> <li>3. Justification for AMS I.D §3 and 7 is not in line with AMS III.H. During onsite visit it has been identified that the SEA Biogas PoA anticipates including CPAs which fall under (a) (Greenfield plant) only.</li> </ol>	<p><b>10/10/2011 (1<sup>st</sup> round)</b></p> <ol style="list-style-type: none"> <li>1. Revision on version number has been made accordingly to version 17.</li> <li>2. The applicability criteria of AMS-I.D has been corrected</li> <li>3. Justification for AMS-I.D has been made to be inline that the SEA biogas PoA does not include the project activities that involve the addition of renewable energy generation units.</li> </ol> <p>Revision has been accommodated in the section E.2 of PoA-DD v.02</p>	<p><b>24/10/2011 (1<sup>st</sup> round)</b></p> <p><b>OK.</b></p> <p>PoA-DD v.02 has been assessed:</p> <ol style="list-style-type: none"> <li>1. The version number has been corrected appropriately.</li> <li>2. The applicability criteria have been stated as per methodology.</li> <li>3. The justification of the criteria AMS I.D para 3 has been corrected appropriately. It is in line with AMS III.H.</li> </ol> <p>CAR is closed.</p>	<p><b>OK</b></p>
<p><b>PoA-CAR 17 (23/09/2011)</b></p> <p>Following findings have been identified w.r.t Section E.3 of PoA v.01:</p> <ol style="list-style-type: none"> <li>1. The description of the boundary is not in line with AMS III.H.</li> </ol> <p>Please clarify whether there could be occasions which might lead to emissions of more than 1% of the overall expected average annual emission reductions. It shall be described how these emissions can be accounted for.</p>	<p><b>10/10/2011 (1<sup>st</sup> round)</b></p> <ol style="list-style-type: none"> <li>1. The description of the boundary has been revised to be inline with approved methodology AMS-III.H</li> </ol> <p>Project emissions are from sources identified in AMS III H. Project emissions (CO<sub>2</sub>) from the onsite combustion of fossil fuels due to the project activity shall be calculated using the latest version of the Tool to calculate project or leakage CO<sub>2</sub> emissions from fossil fuel combustion.</p>	<p><b>24/10/2011 (1<sup>st</sup> round)</b></p> <p><b>OK.</b></p> <p>PoA-DD v.02 has been assessed:</p> <ol style="list-style-type: none"> <li>1. The description of boundary has been revised. It is in line with AMS III.H</li> </ol> <p>The description of boundary as per AMS I.D has been indicated correctly.</p> <ol style="list-style-type: none"> <li>2. During onsite visit it has been assessed based on local and sectoral knowledge that no emissions which might lead to more than 1% of overall expected ER and are not addressed in the methodologies, occur. However the PP correctly added that emissions from combustion of fossil fuel might occur which is</li> </ol>	<p><b>OK</b></p>

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		addressed in AMS I.D para 21. Table 3 of PoA-DD v.02 has been revised appropriately. Project Emissions have been explained correctly. It is in line with AMS III.H. The parameter has been correctly used in E.7.1. CAR is closed.	
<p><b>PoA-CAR 18 (23/09/2011)</b></p> <p>Following findings have been identified w.r.t Section E.4 of PoA v.01:</p> <ol style="list-style-type: none"> <li>1. The description under case B) is not clear w.r.t the sludge treatment. It is not clear whether a sludge treatment system will be included as a potential baseline scenario.</li> <li>2. The reference to the step wise approach to identify the baseline in case of Greenfield Projects is not correct.</li> <li>3. Explanation is pending how the baseline has been identified.</li> <li>4. It is not clear if all options are in line with Host Country regulatory or legislation.</li> </ol>	<p><b>10/10/2011 (1<sup>st</sup> round)</b></p> <ol style="list-style-type: none"> <li>1. The sludge treatment is not included as a potential baseline scenario. Therefore, emission from sludge treatment is neglected. Revision is made accordingly in the emission reduction calculation.</li> <li>2. The step wise approach to identify the baseline in case of Greenfield projects is referring to approach prescribed in paragraph 19 of EB 61 annex 21.</li> <li>3. The baseline is prescribed as the continuation of the operation of the existing wastewater treatment facilities provided there is no legislation in place that requires biogas to be recovered. The later is in fact an eligibility criteria. In cases where in the absence of the project activity the existing wastewater treatment system would have been expanded or in cases where a new wastewater treatment facility is to be built, the baseline is identified following the approach provided in AMS III-H. The baseline is identified at the CPA level to account for the variations in baseline scenarios and GHG mitigation approaches.</li> <li>4. All options in the determination of baseline scenario are in line with the Host country regulatory or regulation. There is no mandatory regulation to recover the biogas</li> </ol>	<p><b>24/10/2011 (1<sup>st</sup> round)</b></p> <p><b>NOT OK.</b></p> <p>PoA-DD v.02 has been assessed.</p> <ol style="list-style-type: none"> <li>1. The CME explained that he does not anticipate to introduce a biogas treatment system to a sludge treatment system (either existen or new). Thus scenario 1 (b) and 1(c) have been excluded from the potential technologies/measures to be implemented as per AMS III.H. However baseline and project emissions from sludge treatment have been included in the CPA boundary. Changes have been made throughout the documentation appropriately. <b>OK.</b></li> <li>2. The reference has been corrected and the distinction between Green field and existing waste water treatment facilities, both eligible as baseline as per AMS III.H, has been made appropriately. <b>OK.</b></li> <li>3. The whole Section E.4. is not structured well because it is not clear which baseline is identified for which type of pre-project scenario. <b>NOT OK.</b></li> </ol>	-



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	from wastewater, such as in Indonesia, there is only regulation which manage the effluent quality of wastewater before being discharged as per Ministerial Decree of environment No.51/1995 concerning effluent quality standard for industrial activities	4. Ministerial Decree No 51/1995 has been checked and identified that effluent standards for the palm oil industry are indicated for BOD5, COD, TSS, Oil and Grease, Nh3-N, pH and max. waste discharge. Based on local and sectoral knowledge it has been identified that the baseline "continuation of current situation" in case the pre-project scenario is existing wastewater treatment facility is in line with Host Country Regulations. In case of Greenfield or capacity addition, the baseline shall be identified on CPA level and hence it shall be assessed whether the options are in line with Host country regulation at CPA level. <b>OK.</b> CAR is not closed.	
<b>PoA-CAR 18 (continued...)</b>	<b>08/11/2011 (2<sup>nd</sup> round)</b> 1. – 2. – 3. The modification to identify the baseline for which type of pre-project scenario has been provided in the PoA-DD v.3 4. –	<b>22/11/2011 (2<sup>nd</sup> round)</b> <b>OK.</b> 3. PoA-DD v.03 has been checked and identified that it has been made clear which baseline scenario applies for which kind of project scenario. CAR is closed.	<b>OK</b>
<b>PoA-CAR 19 (23/09/2011)</b> Following findings have been identified w.r.t Section E.5.1 of PoA v.01.: 1. The description of identification of a typical CPA start date has not been	<b>10/10/2011 (1<sup>st</sup> round)</b> 1. The description of identification of a typical CPA start date has been included in the table 5 of PoA-DD v.2. Typical start date of a CPA can be either when financial closure has been achieved, when EPC contract has been signed or	<b>24/10/2011 (1<sup>st</sup> round)</b> <b>NOT OK</b> The PoA-DD v.02 has been assessed: 1. The description of typical start date has been included in Table 5. However the description	<b>-</b>

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<p>made.</p> <ol style="list-style-type: none"> <li>The steps taken to demonstrate additionality have not been clearly described. It is not in line with EB 55 Annex 38 §7e "Information stipulated in the PoA for use by each CPA to demonstrate how it meets requirements with respect to: "Fulfilling the eligibility criteria specified in the CDM-PoA-DD, incl., as appropriate, the demonstration of the additionality of the CPA"</li> <li>the option of flaring the biogas without exporting electricity to the grid is considered in the description which is not in line with EB requirements</li> <li>The version number of Guidelines for the Assessment of Investment analysis is not correct.</li> <li>The sentence "either the Project Pre-tax IRR or the Project Post-tax IRR [is chosen], where a post-tax benchmark is used for comparison" is not clear. In case a post-tax benchmark is chosen, the project IRR includes tax as an expense as per EB 62 Annex 5 § 5. Further it is not clear whether actual interest payable is taken into account in the calculation of income tax when a post-tax benchmark is chosen.</li> </ol>	<p>when a first payment for a major item of plant equipment is made.</p> <ol style="list-style-type: none"> <li>The SEA biogas PoA is small scale CDM programmatic of activities and investment analysis is chosen for the demonstration of additionality of the CPAs. Steps taken to conduct the investment analysis is using the following steps: <ol style="list-style-type: none"> <li>identify the financial/economic indicator (IRR)</li> <li>calculation and comparison of financial indicators (benchmark)</li> <li>conduct the sensitivity analysis</li> </ol> </li> <li>Further clarification is requested to DOE in which sentence in section E.5.1 which describe about flaring.</li> <li>The version of number of guideline for the assessment of investment analysis is corrected to be version 5. Revision has been made accordingly in PoA-DD v.02</li> <li>Clarification is made in the section E.5.1 of PoA-DD v.02 that In so doing the economic indicator chosen to assess additionality may be either the Project Pre-Tax IRR or the Project Post-tax IRR. Taxation should only be included as an expense in the IRR calculation in cases where a post tax benchmark is used for comparison.</li> </ol>	<p>is not in line with EB 41 para 67. <b>NOT OK.</b></p> <ol style="list-style-type: none"> <li>Firstly it has been explained that additionality is demonstrated on CPA level which is in line with current EB requirements (EB 47 para 73). Secondly Attachment A to Appendix B is used to demonstrate additionality which is appropriate for a SSC CPA. Further distinction has been made appropriately between SSC-CPA implemented at a site where a waste water treatment facility existed and on the other hand SSC-CPA falling under Greenfield and Capacity addition. The later case uses barrier analysis according to EB 61 Annex 21 which is deemed appropriate. CPAs at existing wastewater treatment facilities use the investment barrier. However it is not clear why the Benchmark approach is selected to demonstrate Additionality. <b>NOT OK.</b> Further the Section for Greenfield and Capacity Addition is not clear. <b>NOT OK.</b></li> <li>The option of flaring without using biogas to generate electricity has been removed. Documentation has been checked for consistency. <b>OK.</b></li> <li>The version number has been corrected appropriately. <b>OK.</b></li> <li>Section E.5.1 has been divided into Project Pre-Tax IRR and Project Post-Tax IRR: <ul style="list-style-type: none"> <li>However it is not clear why this separation has</li> </ul> </li> </ol>	
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		<p>been made since “Interest Rate on Loan” is included in the list of parameters for pre-tax IRR. <b>NOT OK.</b></p> <ul style="list-style-type: none"> <li>Further it shall be clear what the data source for input parameters is. <b>NOT OK.</b></li> </ul> <p>CAR is not closed.</p>	
PoA-CAR 19 (continued...)	<p><b>08/11/2011 (2<sup>nd</sup> round)</b></p> <ol style="list-style-type: none"> <li>The identification of a typical CPA start date has been corrected as per Glossary of CDM term version 05, which is the date on which contracts have been signed for equipment for project activity.</li> <li>The benchmark approach is selected since the alternative to the project activity is the supply of electricity from grid (paragraph 15 of the “Tool for the demonstration and assessment of additionality” Version 05.2 . Further clarification is provided in the PoA –DD v.3. Revision for the section for greenfield and capacity addition has been made.</li> <li>–</li> <li>–</li> <li>Revision is made. The list of interest rate on loan has been taken out from the table 5 of PoA-DD v.3 since it is provided for parameter for pre-tax IRR project</li> </ol>	<p><b>22/11/2011 (2<sup>nd</sup> round)</b></p> <p><b>OK.</b></p> <p>PoA-DD v.03 has been assessed:</p> <ol style="list-style-type: none"> <li>It has been identified that project start date has been correctly indicated. <b>OK.</b></li> <li>Section E.5.1 correctly indicated when the benchmark approach is used and why it is applicable for this PoA. <b>OK.</b></li> <li>–</li> <li>–</li> <li>The parameter “interest loan” has been deleted from PoA-DD v.03. This is deemed appropriate since parameters for calculation of a pre-tax IRR have been listed. Post-tax IRR shall be calculated according to EB 62 Annex 5 which is correctly indicated. <b>OK.</b></li> </ol> <p>CAR is closed.</p>	<b>OK</b>
<p><b>PoA-CAR 20 (23/09/2011)</b></p> <p>Following findings were identified in Section E.5.1 of PoA v.01 w.r.t. IRR calculation:</p>	<p><b>10/10/2011 (1<sup>st</sup> round)</b></p>	<p><b>24/10/2011 (1<sup>st</sup> round)</b></p> <p><b>NOT OK</b></p> <p>PoA-DD v.02 has been assessed:</p>	-

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<ol style="list-style-type: none"> <li>1. It is not clear how the technical lifetime can be evidenced and whether the technical lifetime is the period chosen for the investment analysis for the CPA</li> <li>2. It is not clear which date will be considered as CPA project start date.</li> <li>3. Footnote 18 and 19 are not clear.</li> <li>4. Electricity price: It is not clear whether an alternative can be considered in case contract with electricity buyer is not available at time of investment decision</li> <li>5. Inflation rate: It is not clear which reference year will be taken for change in consumer price index.</li> <li>6. It is not clear which reference year the Exchange Rate will be sourced from.</li> <li>7. It is not clear where the total investment cost can be sourced from.</li> <li>8. The comment to the parameter "Insurance" is not clear.</li> <li>9. It is not clear whether actual interest payable is taken into account in case a post-tax benchmark is chosen.</li> <li>10. The parameter Tax is missing.</li> </ol>	<ol style="list-style-type: none"> <li>1. Estimation of technical lifetime can be justified based on the information of similar project activity publicly available (registered project) and/or if applicable, confirmation of project lifespan from the technology provider. For the 1<sup>st</sup> CPA, period chosen for the investment analysis is based on estimation technical lifetime. For the subsequent CPAs, it would be determined in the CPA level.</li> <li>2. The starting date of a CDM project activity is the earliest date at which either the implementation or construction or real action of a project activity begins: The start date shall be considered to be the date on which the project participant has committed to expenditures related to the implementation or related to the construction of the project activity. This, for example, can be the date on which contracts have been signed for equipment or construction/operation services required for the project activity and indicate it in DD/MM/YYYY</li> <li>3. Reference has been removed</li> <li>4. In Republic of Indonesia, if PPA is not available at the time investment decision then the electricity price as per regulation of the minister of energy and mineral resource no.31/2009 concerning the electricity purchasing price by PT PLN (persero) from small scale and medium electric power plants using renewable energy or excess electricity power can be used.</li> <li>5. Most recent years data of consumer price index is taken as reference for value of inflation rate in the investment analysis.</li> <li>6. Most recent years data of exchange rate is sourced for value</li> </ol>	<ol style="list-style-type: none"> <li>1. Examples for evidences for technical lifetime have been given in the PoA-DD v.02. <b>OK.</b></li> <li>2. project start date examples have been indicated. However it is not in line with EB requirements. Please refer to PoA-CAR 19. <b>NOT OK.</b></li> <li>3. Footnotes have been deleted. <b>OK.</b></li> <li>4. Explanation of potential sources for electricity price has been given in the response to the CAR however not indicated in the PoA-DD. <b>NOT OK.</b></li> <li>5. Further specification is requested. <b>NOT OK.</b></li> <li>6. Further specification is requested. <b>NOT OK.</b></li> <li>7. Total Investment is indicated in local currency however the RFR refers to U.S long term government bond and it was justified that investment is made in USD. <b>NOT OK.</b></li> <li>8. Comment is clear. <b>OK.</b></li> <li>9. It is not clear whether "interest rate on the loan" or the "loan repayment is meant under parameter "interest loan". <b>NOT OK.</b></li> <li>10. Tax has been considered. Tax law has not been indicated. <b>NOT OK.</b></li> <li>11. It is not clear whether depreciation shall be considered. <b>NOT OK.</b></li> </ol> <p>CAR is not closed.</p>	
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	<p>of exchange rate in the investment analysis</p> <p>7. Total investment cost can be sourced from Feasibility study.</p> <p>8. Comment for the insurance has been modified.</p> <p>9. The interest payable would be taken into account in case a post-tax benchmark is chosen</p> <p>Parameter tax has been included in the table 5 of PoA-DD v.02</p>		
PoA-CAR 20 (continued...)	<p><b>08/11/2011 (2<sup>nd</sup> round)</b></p> <p>1. –</p> <p>2. Project start date example has been revised to be the date on which contracts have been signed for equipment as per Glossary of CDM term version 05.</p> <p>3. –</p> <p>4. Explanation of potential sources for electricity price has been provided in the table 5 of PoA-DD v.3</p> <p>5. Further clarification is provided that inflation rate can be sourced from Central Bureau Statistic or any relevant evidences</p> <p>6. Further clarification is provided that the exchange rate in Indonesia can be sourced from the Central Bank of Indonesia</p> <p>7. Total investment is indicated in USD currency. Please refer to the “111007_WACC_IRR_analysis_bahari_biogas_to_electricity_V2”</p> <p>8. –</p> <p>9. Interest loan means interest rate on the loan. However, Interest loan is removed in the list of table 5 as per discussion CAR 19. It has been described in the PoA-DD</p>	<p><b>22/11/2011 (2<sup>nd</sup> round)</b></p> <p><b>OK.</b></p> <p>PoA-DD v.03 has been assessed:</p> <p>1. –</p> <p>2. Explanation of project start date is in line with EB 41 Para 67. <b>OK</b></p> <p>3. –</p> <p>4. Appropriate source has been indicated for electricity price. OK.</p> <p>5. An appropriate source for inflation rate has been indicated. <b>OK.</b></p> <p>6. An appropriate source for exchange rate has been indicated. <b>OK</b></p> <p>7. An appropriate source for investment cost has been indicated. <b>OK</b></p> <p>8. –</p> <p>9. Interest rate on the loan is not considered for a pre tax IRR hence it has been appropriately removed from the list of parameters for pre-tax IRR. Post tax IRR is calculated as per EB 62 Annex 5 which is</p>	<b>OK</b>

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	<p>that for post tax IRR, if chosen as the indicator, shall follow EB 62 annex 5, version 5 of the Guidelines for the Assessment of Investment Analysis. As per guidelines para 11, in cases where a post-tax benchmark is applied, the interest payable is taken into account in the calculation of income tax..</p> <p>10. Tax law no.36 year 2008 has been indicated in the PoA-DD v3</p> <p>As per EB 62 annex 5, version 5 of the Guidelines for the Assessment of Investment Analysis, depreciation which has been deducted in estimating gross profits upon which tax is calculated, should be added back to net profits for the purpose of calculating the financial indicator (IRR). Thus, it means the depreciation will be considered for Post-tax IRR calculation and treated as described above. It has been explained in the PoA-DD that the above referred guidelines will be used as reference for Post-tax IRR calculation purposes..</p>	<p>deemed appropriate. <b>OK</b></p> <p>10. An appropriate source for tax has been indicated. <b>OK</b></p> <p>11. It is deemed appropriate that the parameter depreciation is not listed in the table 5 for pre tax IRR. However it is considered when calculating the post tax benchmark which is correctly stated in the documentation. <b>OK</b></p> <p>CAR is closed.</p>	
<p><b>PoA-CAR 21 (23/09/2011)</b></p> <p>Following findings were identified Section E.5.1 of PoA v.01 w.r.t. Benchmark calculation:</p> <ol style="list-style-type: none"> <li>1. It is not clear whether U.S longterm bonds are a more appropriate source than Indonesian government bonds for the risk free rate.</li> <li>2. It is not clear which time period is chosen to calculate beta.</li> <li>3. It is not clear whether SP is used for all SSC-CPAs or only when a project is</li> </ol>	<p><b>10/10/2011 (1<sup>st</sup> round)</b></p> <ol style="list-style-type: none"> <li>1. The risk free rate is the rate of return that can be obtained from investing in a security that has no risk in terms of either the level of return, or the risk of a default. Although it is the pp's opinion that a host developing country govt bond could be used in certain cases, it is clear that the US longterm treasury has offers a lower risk on both counts. Moreover, taking the US treasury bond as the source of the value for the risk free rate will result in a lower, more conservative WACC benchmark.</li> <li>2. Most recent data available before the investment decision</li> </ol>	<p><b>24/10/2011 (1<sup>st</sup> round)</b></p> <p><b>NOT OK.</b></p> <p>PoA-DD v.02 has been assessed.</p> <ol style="list-style-type: none"> <li>1. Since additionality is proven on CPA level, it is not clear whether both sources are applicable and the most conservative RFR is used for benchmark calculation. <b>NOT OK.</b></li> <li>2. It is not clear what is meant by "most recent data available" in terms of the time period. <b>NOT OK.</b></li> <li>3. It has been assessed by our financial expert that it is appropriate to factor in SP. The</li> </ol>	-

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<p>considered to be “small”. Clarification requested how SP is sourced.</p> <ol style="list-style-type: none"> <li>4. Cost of debt: source as an example is pending.</li> <li>5. The reference to the guidelines on the assessment of investment analysis is not correct.</li> <li>6. It is not clear whether the default value for cost of equity of EB 62 Annex 5 can be considered.</li> <li>7. It is not clear how D/E will be calculated, state possible sources for Tax and date of investment calculation.</li> <li>8. Date of performing financial analysis is not in line with the investment decision date.</li> </ol>	<p>was made is chosen to calculate beta.</p> <ol style="list-style-type: none"> <li>3. The size premium may be applied to any of the <i>small scale CPAs</i> that seek to be included in the SEA Biogas PoA. This is because capital costs of all of such projects will be less than USD 100 Million, which is the more or less the upper size limit of the smallest 10% of companies in US Stock Exchanges. The size premium values are sourced from the <i>Ibbotson SBBI valuation yearbook</i> which presents tables from which such size premiums can be obtained for companies with different sizes, measured in terms of the market value of their issued share capital. Smaller business have less flexibility to deal with financial problems than larger firms do and therefore investors expect greater returns to compensate for the risk they take. Ibbotson 2009 statistics for example show how risk premium reduces as the size of a firm reduces. In our opinion it is reasonable to expect that small companies in developing countries would not be in a better position to deal with such financial problems than their US counterparts would. On the contrary, they would find it more difficult and thus for an investor the risks would even be higher and the returns demanded, higher too as a result. Nevertheless, the pp proposes to apply the t size premium corresponding to smallest 10% of companies in the <i>US stock exchanges</i> given in the most recent publication of the <i>SBBI Ibbotson Valuation Year book</i>. In so doing it is being conservative because the risk premium values is drawn from a more mature and lower risk market (US market) than the host country (developing country) where the CPA is to be</li> </ol>	<p>source is appropriate and has been submitted to DOE<sup>79/</sup>. However it is not clear whether SP will always be factored in in case CAPEX is smaller than 100 million USD as justified. <b>NOT OK.</b></p> <ol style="list-style-type: none"> <li>4. Sources are pending and comments are not structured appropriately. <b>NOT OK.</b></li> <li>5. Reference has been corrected. <b>OK.</b></li> <li>6. Since EB 62 Annex 5 default values are not mandatory, PP is free to choose CAPM. <b>OK.</b></li> <li>7. D/E is sourced in line with EB 62 Annex 5. Source for Tax has been indicated. However source for date of investment calculation is not appropriate. <b>NOT OK.</b></li> <li>8. Date of performing financial analysis is not in line with Investment decision date. <b>NOT OK.</b></li> </ol> <p>CAR is not closed.</p>	
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	<p>implemented.</p> <ol style="list-style-type: none"> <li>The cost of debt can be assumed as the commercial lending rate in the host country or the yield of a 10 year bond issued by the government of the host country or, if this is not available, the bond with the maturity which is closest to 10 years. - EB61 Annex 13, Para 16.) if a company's internal benchmark is used.</li> <li>Reference to the guidelines on the assessment of investment analysis has been corrected</li> <li>The cost of equity is calculated as per CAPM.</li> <li>D/E will be calculated as per EB 62 annex 5 if debt/equity finance structure is not yet available. Plausible source for the tax is from tax regulation, e.g in Indonesia tax rate could be sourced from tax law No. 36/2008 and date of investment calculation could be source from the date of feasibility study.</li> </ol> <p>Confirmed. Revision is made for the date of investment decision to be indicated in DD/MM/YYYY</p>		
PoA-CAR 21 (continued...)	<p><b>08/11/2011 (2<sup>nd</sup> round)</b></p> <ol style="list-style-type: none"> <li>Revision has been made that the Indonesian government bond is stated under table of RFR.</li> <li>Clarification is provided for beta that most recent year data available In terms of the time period</li> <li>The clarification is provided that the PP may apply the SP in case CAPEX is smaller than 100 million USD. Clarification has been accommodated in the PoA-DD v.3</li> <li>Source of cost of debt has been included in the table 5 of PoA-DD. Comments has been modified. Clarification</li> </ol>	<p><b>22/11/2011 (2<sup>nd</sup> round)</b></p> <p><b>OK.</b></p> <p>PoA-DD v.03 has been assessed:</p> <ol style="list-style-type: none"> <li>The appropriate source for RFR has been indicated. <b>OK.</b></li> <li>The appropriate source for beta has been indicated. <b>OK.</b></li> <li>It has been clearly explained when SP is factored in. <b>OK.</b></li> <li>The appropriate source for cost of debt has been indicated. <b>OK.</b></li> </ol>	<b>OK</b>



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	<p>and modification have been made in the PoA-DD v.3</p> <ol style="list-style-type: none"> <li>5. –</li> <li>6. –</li> <li>7. Revision is made that date of investment calculation is the date of investment decision. Revision has been made as well in the IRR excel sheet version 3</li> </ol> <p>Date of performing financial analysis is revised to be the date of investment decision. Revision has been accommodated in the PoA-DD v.3</p>	<ol style="list-style-type: none"> <li>5. –</li> <li>6. –</li> <li>7. The appropriate source for date of performing financial analysis has been indicated. <b>OK.</b></li> <li>8. The appropriate source for date of performing financial analysis has been indicated. <b>OK.</b></li> </ol> <p>CAR is closed.</p>	
<p><b>PoA-CAR 22 (23/09/2011)</b></p> <p>Following findings have been identified w.r.t Section E.6.1 of PoA-DD v.01:</p> <ol style="list-style-type: none"> <li>1. Conditions to apply AMS III.H as per point 4 in PoA v.01 are not clear. During onsite visit PP mentioned that emissions from sludge treatment system will not be considered.</li> <li>2. Epy=0 is not clear.</li> </ol>	<p><b>10/10/2011 (1<sup>st</sup> round)</b></p> <ol style="list-style-type: none"> <li>1. Revision is made, in order to calculate the emission reduction, emission from sludge treatment will not be considered.</li> <li>2. Revision is made that the project emission for most renewable energy project activity, PEy=0</li> </ol>	<p><b>24/10/2011 (1<sup>st</sup> round)</b></p> <p><b>OK.</b></p> <p>PoA-DD v.02 has been assessed.</p> <ol style="list-style-type: none"> <li>1. Correction has been made. The CME explained that biogas recovery systems will not be introduced to sludge treatment system.. Please refer to PoA-CAR 8 for further assessment.</li> <li>2. Correction has been made.</li> </ol> <p>CAR is closed.</p>	<b>OK</b>
<p><b>PoA-CAR 23 (23/09/2011)</b></p> <p>Following findings have been identified w.r.t Section E.6.2 of PoA-DD v.01:</p> <ol style="list-style-type: none"> <li>1. References to equations, tables and paragraphs are not correct.</li> <li>2. "Tool to determine methane emissions avoided from disposal of waste at a solid waste disposal site" is stated under equation 6. It is not clear whether</li> </ol>	<p><b>10/10/2011 (1<sup>st</sup> round)</b></p> <ol style="list-style-type: none"> <li>1. References to equations, tables and paragraphs have been corrected. The revision has been accommodated in the PoA-DD version 02.</li> <li>2. Tool to determine methane emissions avoided from disposal of waste at a solid waste disposal site is not used since Methane emissions from anaerobic decay of the final sludge is not considered. Clarification that the emission relates to sludge treatment system is not taken into account in the</li> </ol>	<p><b>24/10/2011 (1<sup>st</sup> round)</b></p> <p><b>NOT OK.</b></p> <p>PoA-DD v.02 has been assessed.</p> <ol style="list-style-type: none"> <li>1. References have been corrected appropriately.</li> <li>2. It has not been indicated in the PoA-DD why the tool "Emissions from SWDS" ver. 6 is not listed..</li> <li>3. The referred paragraphs of the methodology</li> </ol>	<b>-</b>

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<p>it is used and whether it is stated in Section E.1 accordingly.</p> <ol style="list-style-type: none"> <li>3. It is not clear whether Greenfield projects w.r.t. AMS III.H esp. § 27-28 are applicable and will be included in Section E.6.2.</li> <li>4. The description of how to calculate PE from flaring is not in line with the "Tool to determine project emissions from flaring gases containing methane".</li> <li>5. The description of Leakage and <math>EG_{BL,y}</math> under AMS I.D is not correct.</li> <li>6. A formula is missing combining the ER from AMS III.H with ER from AMS I.D.</li> <li>7. Justification for Grid Emission Factors is pending.</li> <li>8. The description of parameters, source and justification is not clear, accurate, traceable, properly sourced, consistent with rCPA and gCPA and in line with the methodology and tool e.g. Parameter description ID.68 is not clear.</li> <li>9. Please clarify whether PE and Leakage is considered under AMS I.D.</li> </ol>	<p>emission reduction calculation is provided in the PoA-DD version 02.</p> <ol style="list-style-type: none"> <li>3. Greenfield project projects w.r.t AMS-III.H is applicable and has been included in section E.6.2 of PoA-DD version 02.</li> <li>4. Revision on description how to calculate PE from flaring is made to be in line according to tool to determine project emissions from flaring gases containing methane. The change has been accommodated in the PoA-DD version 02.</li> <li>5. The description of Leakage and <math>EG_{B,y}</math> under AMS-I.D have been corrected. The revision has been accommodated in the PoA-DD version 02.</li> <li>6. Formula combining the ER from AMS-III.H and ER from AMS-I.D has been provided and accommodated in PoA-DD version 02</li> <li>7. Justification for grid Emission Factors has been provided in the Section E.6.2 of PoA-DD version 02.</li> <li>8. The description of parameter, source and its justification has been modified to be in line with methodology and tool and consistent with rCPA and gCPA.</li> <li>9. As per AMS-I.D applied for the SEA biogas PoA projects, for most renewable energy project activities, <math>PE_y=0</math>, however, should there be any fossil fuel consumption due to the SSC-CPA project activity, CO<sub>2</sub> emissions from on-site consumption of fossil fuels shall be calculated using the latest version of the Tool to calculate project or leakage CO<sub>2</sub> emissions from fossil fuel combustion. Leakage emission is not considered since the equipment in the project activity is not transferred from another activity. Description on those emission has been provided in the PoA-DD section E.6.2</li> </ol>	<p>have been included in the PoA-DD correctly.</p> <ol style="list-style-type: none"> <li>4. The description of how to calculate PE from flaring has been checked and identified to be in line with the tool.</li> <li>5. Description has been revised appropriately and is in line with methodology.</li> <li>6. the formula combining ER from both methodologies has been provided correctly.</li> <li>7. Grid EF have been crosschecked with DNA website and identified to be correctly stated.</li> <li>8. The descriptions of parameters in Section E.6.2 have been made consistent throughout the documentation.</li> <li>9. It has been explained appropriately that emissions from combustion of fossil fuel will be monitored. Further leakage w.r.t AMS I.D shall be zero because only new electricity generation equipment will be installed. Please refer to PoA-CAR 8 for assessment of eligibility criteria.</li> </ol> <p>CAR is closed.</p>	
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PoA-CAR 23 (continued...)	<b>04/04/2012 (2<sup>nd</sup> round)</b> Justification why tool Emission from SWSD has been provided in p. 23 of PoA-DD	<b>(16/04/2012) (2<sup>nd</sup> round)</b> <b>NOT OK.</b> As per AMS III.H BE <sub>s,final,y</sub> can only be neglected in certain case, e.g. soil application. It is not clear which case is applicable for the baseline scenario. Evidence is pending. Further it is not clear why monitoring parameters to determine PE <sub>s,final,y</sub> have not been indicated. MCF <sub>s,PJ,final</sub> and S <sub>final,PJ,y</sub> is missing. In addition it has not been justified appropriately why PE <sub>biomass,y</sub> is neglected. It is not clear whether in some cases of CPAs the Tool "Emissions from SWDS" is applied.	-
PoA-CAR 23 (continued...)	<b>23/04/2012 (3<sup>rd</sup> round)</b> Clarification has been provided in the PoA-DD that BE <sub>s,final,y</sub> can only be neglected in certain case e.g soil application. Monitoring parameters to determine PE <sub>s,final,y</sub> , has been indicated. MCF <sub>s,PJ,final</sub> and S <sub>final,PJ,y</sub> have been provided in the PoA-DD. PE <sub>biomass,y</sub> is included in determining the PE <sub>y</sub> in the PoA-DD.	<b>05/05/2012 (3<sup>rd</sup> round)</b> <b>OK</b> It has been identified that the PP changed the approach and takes into account methane emissions avoided from disposal of waste at a solid waste disposal site in case they occur at a specific CPA. The tool has been referred to appropriately. However the response of the PP is not in accordance to the submitted PDDs	OK
<b>PoA-CAR 24 (23/09/2011)</b> Following findings have been identified w.r.t Section E.6.3 of PoA-DD v.01: 1. Description of parameters is not in line with the methodology 2. $\eta_{\text{biogas,reactor}}$ and $\eta_{\text{pj,k}}$ : It is not clear whether these parameters will be	<b>10/10/2011 (1<sup>st</sup> round)</b> <ol style="list-style-type: none"> <li>Description of parameter has been revised to be inline with the methodology.</li> <li>The efficiency of biogas reactor is taken out from the list to be available at validation or parameter to be monitored. The sample for measuring the efficiency of</li> </ol>	<b>24/10/2011 (1<sup>st</sup> round)</b> <b>NOT OK.</b> PoA-DD v.02 has been assessed: 1. - Reference for UF <sub>BL</sub> is missing - Source of data of GWP not readable. <b>NOT OK.</b>	-

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<p>continuously monitored by each CPA. It is not clear where the sample for measuring the efficiency of the biogas reactor and the project wastewater treatment system is taken and where the meters will be located.</p> <p>3. In Section E.6.3 the grid EF is stated as "EF<sub>grid,y</sub>" whereas in Section E.6.2. it is stated as "EFCO<sub>2</sub>". Parameters are not consistent.</p> <p>4. Parameter List is not in line with rCPA and gCPA, e.g. COD<sub>discharged</sub>, BL<sub>y</sub> is missing.</p>	<p>biogas digester is taken in sampling point of COD<sub>ww,untreated,y</sub> and COD<sub>ww,treated,y</sub>. <math>\eta_{PJ,k}</math> will be monitored.</p> <p>3. Revision is made to be inline with approved methodology EF<sub>CO<sub>2</sub>,grid,y</sub></p> <p>4. Parameter list is made to be in line with rCPA and gCPA</p>	<p>2.</p> <ul style="list-style-type: none"> <li>By means of interviews with the CME and checking revised documentation it has been identified that the efficiency of the biogas digester <math>\eta_{biogas,reactor}</math> will be calculated as the difference between the inflow COD (COD<sub>ww,untreated,y</sub>) and the outflow COD (COD<sub>ww,treated,y</sub>). Hence the calculation of PE<sub>fugitive, ww,y</sub> is in line with methodology. However formulas have not been clearly indicated.</li> <li>However it is still not clear with which COD measurements efficiency of project treatment system <math>\eta_{pj,k}</math> will be calculated. <b>NOT OK.</b></li> </ul> <p>3. Parameter has been made consistent and in line with methodology. <b>OK.</b></p> <p>4. The list of parameters has been crosschecked with Section B.5.1 of rCPA and gCPA and identified to be in line. <b>OK.</b></p> <p>CAR is not closed.</p>	
<p><b>PoA-CAR 24 (continued...)</b></p>	<p><b>08/11/2011 (2<sup>nd</sup> round)</b></p> <p>1. - Reference of UF<sub>BL</sub> has been provided as footnote in the section B.6.3 of PoA-DD version 03</p> <p>- Source of data GWP is revised to be as per SSC approved methodology AMS-III.H. Revision has been accommodated in the PoA-DD v.3 and to be made consistency with rCPA</p>	<p><b>22/11/2011 (2<sup>nd</sup> round)</b></p> <p><b>NOT OK</b></p> <p>PoA-DD v. 03 has been checked:</p> <p>1) Parameter UF<sub>BL</sub> has been properly referenced and source of data for parameter GWP is clear. <b>OK.</b></p>	<p>-</p>

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	<p>and gCPA</p> <p>2. Clarification is made. To calculate the <math>PE_{ww, treatment, y}</math>, the measurement will be performed to justify the COD inflow to the treatment system 'k' (<math>COD_{ww, treated, y}</math>). This parameter will be measured in the outlet of digester (inlet to the anaerobic treatment system). For project emission ex-ante calculation in the PDD, <math>COD_{inflow, PJ-anaerobic, y}</math> is calculated by considering the untreated COD and the efficiency of biogas reactor/digester as described in the section B.5.2 of CPA-DD.</p> <p>3. –</p> <p>4. –</p>	<p>2) It is still not clear with which COD measurements efficiency of project treatment system <math>\eta_{pj, k}</math> will be calculated. <b>NOT OK.</b></p> <p>3) –</p> <p>4) –</p> <p>CAR is closed.</p>	
<b>PoA-CAR 24 (continued...)</b>	<p><b>30/12/2011 (3<sup>rd</sup> round)</b></p> <p>1. –</p> <p>2. Revision is made that <math>\eta_{PJ, k, y}</math> will be calculated (with 'k' = anaerobic ponds in project activity) which is derived from the difference of the inflow COD and outflow COD in the project system 'k' as per methodology. The inflow COD (<math>COD_{ww, treated, y}</math>) to be measured and considered in the monitoring parameter. The outflow COD (<math>COD_{ww, out, anaerobic, PJ, y}</math>) to be measured and has been added in the parameter to be monitored in the PoA-DD and rCPA-DD to estimate the COD removal efficiency of the project wastewater treatment system 'k' in year 'y'.</p> <p>3. –</p> <p>4. –</p>	<p><b>03/01/2012 (3<sup>rd</sup> round)</b></p> <p><b>OK</b></p> <p>PoA-DD v. 04 has been checked:</p> <p>1. –</p> <p>2.</p> <ul style="list-style-type: none"> <li>Correct changes have been made. The formulas indicated in the PoA-DD are in line with AMS III.H. Hence the calculation of <math>PE_{ww, treatment, y}</math> is in line with methodology.</li> </ul> <p>CAR is closed.</p>	<b>OK</b>
<p><b>PoA-CAR 25 (23/09/2011)</b></p> <p>Following findings have been identified w.r.t Section E.7.1 of PoA-DD v.01:</p>	<p><b>10/10/2011 (1<sup>st</sup> round)</b></p> <p>1. The title of the section E.7.1 of PoA-DD has been</p>	<p><b>24/10/2011 (1<sup>st</sup> round)</b></p> <p><b>NOT OK.</b></p> <p>PoA-DD v.02 has been checked:</p>	-

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<ol style="list-style-type: none"> <li>Title of this Section is not correct.</li> <li>Description of parameters is not in line with methodology.</li> <li>It is not clear whether amount of dry matter in the sludge will be measured</li> <li>It is not clear whether "Quantity of fossil fuel consumed in the project activity" shall be monitored.</li> <li>It is not clear where <math>COD_{ww,untreated,y}</math>, <math>COD_{ww,treated,y}</math> and <math>COD_{ww,discharged,y}</math> etc. will be measured.</li> <li>The description of measurement method for <math>\eta_{flare,h}</math> is not clear since default values are stated instead of monitored values.</li> </ol>	<p>revised to be in line with the CDM-SSC-PoA-DD form.</p> <ol style="list-style-type: none"> <li>Description has been made to be inline with the methodology</li> <li>Amount of dry matter in the sludge in the baseline (<math>BE_{s,treatment,y}</math>) will not be measured or taken into accounted for the ER calculation. Clarification for the exclusion of baseline emission from sludge treatment system has been accommodated in the PoA-DD v.02.</li> <li>Quantity of fossil fuel consumed in the project activity will be monitored and included in the list of parameter to be monitored in section E.7.1 of PoA-DD v.02</li> <li>where <math>COD_{ww,untreated,y}</math>, <math>COD_{ww,treated,y}</math> and <math>COD_{ww,discharged,y}</math> will be measured through representative sampling and will be determined at CPA level. In 1<sup>st</sup> CPA, the measurement will be done at : <ul style="list-style-type: none"> <li><math>COD_{ww,untreated,y}</math> (effluent mill)</li> <li><math>COD_{ww,treated,y}</math> (effluent A.D system)</li> <li><math>COD_{ww,discharged,y}</math> (effluent anaerobic pond)</li> </ul> </li> <li>Efficiency flare is determined by default value as per Tool to determine project emissions from flaring gases containing methane. Monitoring is conducted for the <math>t_{flare}</math> to justify the default flare efficiency.</li> </ol> <p>List of parameter already made to be inline with rCPA.</p>	<p>Numbering is still incorrect but it was identified that template as per EB 33 Annex 34 is not correct. Hence <b>OK</b>.</p> <p>2. Description of parameters has been corrected and is in line with methodology. <b>OK</b>.</p> <p>3. It has been identified that parameters related to <math>BE_{s,final,y}</math>; <math>PE_{s,treatments,y}</math>; <math>PE_{s,final,y}</math> and <math>PE_{biomass,y}</math> will be measured. Parameters related to <math>BE_{s,treatment,y}</math> will not be measured which is deemed conservative. Further parameters related to <math>PE_{fugitive,s,y}</math> have been identified to be zero because the CPA under this PoA does not introduce biogas recovery systems to sludge treatment system (either existent or new). Further assessment has been provided in Section 4.7.4 of this Report. <b>OK</b>.</p> <p>4. The parameter for quantity of fossil fuel has been listed and is in line with tool. <b>OK</b>.</p> <p>5. The explanation by the PP about the location of measurement is correct. However it is not incorporated in the PoA. It is not clear where <math>COD_{ww,discharged,y}</math> is measured. <b>NOT OK</b>.</p> <p>6. Explanation is clear and in line with methodology. <b>OK</b>.</p> <p>7. The list of parameters has been crosschecked with rCPA and gCPA and identified not to be complete. Correction is sought. <b>NOT OK</b>.</p> <p>CAR is not closed.</p>	
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PoA-CAR 25 (continued...)	<b>08/11/2011 (2<sup>nd</sup> round)</b> 1. – 2. – 3. – 4. – 5. Revision is made that COD <sub>ww,discharged,y</sub> that it is measured in the last anaerobic pond or after aerobic pond ( in case existence). Clarification has been accommodated in the rCPA-DD. 6. – 7. Correction has been accommodated in the list of parameter to inline between the rCPA and gCPA	<b>22/11/2011 (2<sup>nd</sup> round)</b> <b>NOT OK</b> 1.- 4. + 6. <b>OK</b> 5. In case an aerobic pond is existent the COD measurement will be taken after the anaerobic ponds instead of where the water is discharged to the river. This is not in line with methodology. <b>NOT OK.</b> 7. The list is not complete, hence not in line with final rCPA. <b>NOT OK.</b>  <b>NOT OK.</b>	-
PoA-CAR 25 (continued...)	<b>30/12/2011 (3<sup>rd</sup> Round)</b> 5. Revision was given that the COD <sub>ww,discharge,PJ,y</sub> is measured in the last anaerobic pond or after aerobic pond ( in cases where such pond is present) and where the water is discharged to the river. 7. Data and parameters to be monitored in section B.6.1 had been made to be inline with approved methodology and final rCPA.	<b>03/01/2012 (3<sup>rd</sup> Round)</b> <b>OK.</b> 5. The calculation of PE <sub>ww,treatment,y</sub> is in line with methodology. It has been clarified that PP will monitor the COD from the effluent of the last anaerobic pond COD <sub>ww,out-flow,k,y</sub> . Moreover in case an aerobic pond is existent at the end of the treatment PP will measure COD <sub>ww,discharged,y</sub> which is measured after the last aerobic pond and where the water gets discharged into the river. However, in order to calculate PE <sub>ww,treatment,y</sub> the PP uses $\eta_{PJ,k,y}$ which is derived from the difference of the inflow COD and outflow COD in the project system k which is in line with methodology. <b>OK.</b> 7. List of parameters is in line with methodology and consistent with rCPA and gCPA.. <b>OK.</b>	<b>OK</b>

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		CAR is closed.	
<b>PoA-CAR 26 (23/09/2011)</b> In Section E.7.2 of PoA v.01 a clear organizational chart has not been indicated explaining the responsibilities and relations between the different entities involved in the PoA and potential CPAs. The meaning of "Program Manager" as stated on p. 13 of PoA v.01 is not clear.	<b>10/10/2011 (1<sup>st</sup> round)</b> Organizational Chart explaining the responsibilities and relations between the different entities involved in the PoA and potential CPAs has been included in the Section A..4.4.1 of PoA-DD v.02.	<b>24/10/2011 (1<sup>st</sup> round)</b> <b>NOT OK.</b> PoA-DD v.02 has been assessed. As per EB 55 Annex 1 para 166 the CME shall be in a position to ensure each CPA is being operated in accordance with the specific requirements of the PoA. A clear definition of roles and responsibilities of personnel involved in the process of inclusion and operation of CPAs is pending. It has been stated in Section A.4.4.1 that a "specific Programme Manager [...]" ensures that the programme is operated in line with Operational and Management Plan." It is still not clear to which entity this Manager belongs and it has not been indicated in the Orga Chart in Figure 2 of A.4.4.1. CAR is not closed.	-
<b>PoA-CAR 26 (continued...)</b>	<b>08/11/2011 (2<sup>nd</sup> round)</b> The revision is made in the PoA-DD v.3. " a specific programme [...] is deleted for further clarification.	<b>22/11/2011 (2<sup>nd</sup> round)</b> <b>OK</b> Section A.4.4.1 of PoA-DD v.03 contains a clear definition of roles and responsibilities of personnel involved in the process of inclusion and operation of CPAs. CAR is closed.	OK



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<p><b>24/10/2011 (1<sup>st</sup> round)</b> <b>PoA-CAR 27</b></p> <p>In Section A.4.2.1 of PoA-DD v.02 the technical details of a typical CPA have been deleted.</p> <p>However, as per EB 55 Annex 38 para 6(f) and EB 55 Annex 1 para 59 a clear description of the project activity i.e. a typical CPA is to be included in the PoA. Further details of a typical CPA, e.g. the average emission reductions, typical COD removal rate, etc. has not been included in Section A.4.2.1.</p>	<p><b>08/11/2011 (2<sup>nd</sup> round)</b></p> <p>Clarification and information about the description of the project activity i.e a typical CPA has been provide and accommodated in the PoA-DD v.3</p>	<p><b>22/11/2011 (2<sup>nd</sup> round)</b> <b>OK.</b></p> <p>The description of a typical CPA has been provided in Section A.4.2.1. It is in line with per EB 55 Annex 38 para 6(f) and EB 55 Annex 1 para 59.</p> <p>CAR is closed.</p>	<p><b>OK</b></p>
<p><b>PoA-CL 1 (23/09/2011)</b></p> <p>The sentence in Section A.3 of PoA v.01 “other local, host country entities may however be set up to manage day to day operation of the programme in such host countries” w.r.t. identification of the CME of this PoA is not clear.</p>	<p><b>10/10/2011 (1<sup>st</sup> round)</b></p> <p>This refers to situation in which it might be in the PoA’s best commercial interest to set up / or develop partnerships with local market players to role out the programme, in a more cost effective manner in a way that enables a more attractive solution to be offered to potential CPA implementer. Communication with CDM Executive board however is carried out by the designated CME though, ie PT Biogas Program International. “day to day “ refers to the ongoing effort that are done to market the PoA, respond to would be developer’s enquiries, facilitate access to technology suppliers, raise awareness, facilitate access to finance. The overall strategy of the PoA is one that aims t be inclusive, whereby the strength of local market players is harnessed to develop a local and sustainable, and commercially attractive offering to would be CPA implementers.</p>	<p><b>24/10/2011 (1<sup>st</sup> round)</b> <b>NOT OK.</b></p> <p>The responsibilities of the CME compared to “other local, host country entities” are not clear. The description given in Section A.3 and A.4.4.1 of PDD v.02 is not in line with EB 55 Annex 1 para 165a “the arrangements shall be sufficient to ensure that the CME will have control of all records and information related to the implementation of individual CPAs and will be in the position to ensure each CPA is being operated in accordance with the specific requirements of the programme.”</p> <p>CL is not closed.</p>	<p>-</p>

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<b>PoA-CL 1 (continued...)</b>	<b>08/11/2011 (2<sup>nd</sup> round)</b> The paragraph in section A.3 has been deleted. Details concerning the management of the PoA once it is rolled out to another host country shall be described once such host country is added to the PoA.	<b>22/11/2011 (2<sup>nd</sup> round)</b> <b>OK</b> PoA-DD v.03 has been assessed and identified that Section A.3 and A.4.4.1 of PDD v.03 is in line with EB 55 Annex 1 para 165a. CL is closed.	<b>OK</b>
<b>PoA-CL 2 (23/09/2011)</b> W.r.t Section A.4.3 of PoA v.01 it is not clear whether a full additionality assessment on CPA level is anticipated or whether as per EB 60 Annex 26 a confirmation of additionality by means of eligibility criteria is anticipated..	<b>10/10/2011 (1<sup>st</sup> round)</b> Additionality is to be assessed at CPA level.	<b>24/10/2011 (1<sup>st</sup> round)</b> <b>OK.</b> PoA-DD v.02 has been assessed. PP explained that he wishes to prove additionality on CPA level which is in line with current EB requirements (EB 47 para 73). The documentation has been checked for consistency. It has been correctly and consistently explained that additionality is demonstrated on CPA level. However additionality criteria has not been included in the eligibility criteria as per EB 55 Annex 38 para 6(g). Please refer to PoA-CAR 8. CL is closed.	<b>OK</b>
<b>PoA-CL 3 (23/09/2011)</b> The contractual agreements between the CME, the implementing entity, the operating entity and in case activities are outsourced the third party are not clear. In the context of ensuring that the monitoring plan is in compliance with the applied methodologies, it is not clear which entity is responsible or in charge of implementing the monitoring plan	<b>10/10/2011 (1<sup>st</sup> round)</b> The CPA implementer is responsible for implementing the monitoring plan. The CME however, who is ultimately responsible for the whole PoA ensures that this is so, by providing the CPA Implementer's staff with the necessary training and thereafter undertaking checks to ensure that the monitoring plan is adhered to. In certain cases, certain elements of the monitoring plan may be outsourced to specialist	<b>24/10/2011 (1<sup>st</sup> round)</b> <b>OK.</b> The PoA-DD v.02 has been assessed and in addition interviews with the CME have been carried out. It can be confirmed that the CME is clearly aware of their responsibility towards managing this PoA and has full control of all records and information related to the implementation of	<b>OK</b>

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<p>as described in the PoA DD. Besides, the meaning of “monitoring data Note” as per Table 1 of PoA v. 01 is not clear.</p>	<p>monitoring and metering companies. In such cases, the CPA implementer is still responsible to the implementation of the monitoring plan and the CME will ensure as well as that the plan is being implemented properly, again, because it is the CME who is responsible for the entire PoA, and for the collation and presentation of ERs reports to the DOE for verification. In other words, the CPA Implementer is free to subcontract or outsource specialist services which if feels could be better sourced from a specialist company provided it manages and oversees the work that is done and ensures compliance to CPA’s monitoring plan.</p>	<p>individual CPAs in the Republic of Indonesia.</p> <p>As per PoA-DD v.02 “monitoring data note” has been replaced with an appropriate description of implementation of the monitoring plan.</p> <p>In Section A.2 and A.4.4.1 of POA-DD v.02 the roles of all entities have been described appropriately. The contract between the CPA implementer and the owner of the agro-industrial facility has been checked<sup>/73a/</sup>. It is evident that the agro-industrial facility owner steps into an agreement with the CPA implementer which allows the CPA implementer to build a biogas plant and use the wastewater coming from the agro-industrial plant and sell electricity to PLN. In return the agro-industrial plant owner shares the CERs with the CPA implementer. The contract between CME and the CPA implementer<sup>/21a/</sup> is the ERPA and the CER buyer is Swiss Carbon Asset Ltd.. Southpole Carbon Asset Management Ltd confirmed that Swiss Carbon Asset Ltd is a 100% sister of Southpole Carbon Asset Management Ltd<sup>/21c/</sup>. Further the Joint Development Agreement<sup>/21b/</sup> between Southpole Carbon Asset Management Ltd. And E.ON Carbon Sourcing GmbH has been checked. It can be confirmed that all PPs mentioned in the PoA v.02 are correctly indicated, their contractual agreements have been checked. The validation team identified that the presented operational and management arrangements for the implementation of CPAs within the Republic of</p>	
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		<p>Indonesia are in line with EB 55 Annex 38 para 6 and EB 55 Annex 1 para 165a.</p> <p>Further it can be confirmed that it is ensured that the CPA implementer is aware and has agreed that their activity is being subscribed to the PoA since it is an eligibility criteria as per PoA-DD v.02 in line with EB 55 Annex 38 para 6(i).</p> <p>However, it is not clear whether the CME will have full control of all records and information once other host parties will be included in the geographical boundary of the PoA. Please refer to CL 1.</p> <p>CL is closed.</p>	
<p><b>PoA-CL 4 (23/09/2011)</b></p> <p>it is not clear how the management plan makes provisions for meeting training and maintenance needs of the implementation of the PoA.</p>	<p><b>10/10/2011 (1<sup>st</sup> round)</b></p> <p>General system procedures have been provided for training and auditing.</p>	<p><b>24/10/2011 (1<sup>st</sup> round)</b></p> <p><b>NOT OK.</b></p> <p>As per EB 63 Annex 3 §6 procedures for training and capacity development for personnel shall be provided to the DOE. The training procedure v. 1.1.<sup>77/</sup> has been assessed and identified to be not sufficient e.g. the frequency of trainings, the qualification of the trainer, duration etc. is not clear. CL is not closed.</p>	-
<p><b>PoA-CL 4 (continued...)</b></p>	<p><b>08/11/2011 (2<sup>nd</sup> round)</b></p> <p>According to EB 64 annex 2, The three standard (EB annex 2,3 and 4) will be consolidated into one PoA standard and included as an annex to the annotations of the sixty-fifth meeting. It will become effective on the date of publication of the report of the sixty-fifth meeting on the Board, unless otherwise stated in the</p>	<p><b>22/11/2011 (2<sup>nd</sup> round)</b></p> <p><b>OK</b></p> <p>PoA-DD v.03 has been assessed:</p> <p>By means of reviewing the training procedure<sup>77/</sup> and by means of interviews with the CME it has been identified that CME is aware of their</p>	<b>OK</b>

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	report. Therefore, EB 63 annex 3 is not applied.	responsibility to provide training. The PoA-DD v.04 has been checked and identified that meeting training needs has been sufficiently described in Section A.4.4.1. CL is closed.	
<b>PoA-CL 5 (23/09/2011)</b> It is not clear whether the CPA crediting period shall be renewable and/or fixed.	<b>10/10/2011 (1<sup>st</sup> round)</b>  CPA crediting period shall be determined at the CPA level	<b>24/10/2011 (1<sup>st</sup> round)</b> <b>OK.</b> PoA-DD v.02 has been assessed. As per current EB requirements different CPAs under one PoA can have either renewable or fixed crediting periods. Hence, CL is closed.	<b>OK</b>
<b>PoA-CL 6 (23/09/2011)</b> Please also provide clarification on the comment received during Global Stakeholder Consultation: 1. Please clarify whether the existence of the Malaysian PoA "Malaysia Biogas Projects" currently under validation has been taken into account. Section A.4.3. states "There are also no similar programmes in place, aimed at achieving such an objective". 2. Section A.4.3 – the statement "In the absence of the proposed PoA, the referred voluntary coordinated action will not be implement" is not accurate – there exists many CDM registered projects utilizing the same concept as	<b>10/10/2011 (1<sup>st</sup> round)</b> 1. No, Malaysian CDM projects have not been taken into account because the PoA has not yet been rolled out to Malaysia. 2. The PoA is a voluntary effort coordinated by the CME. This doesn't mean though that SSC CDM projects may be developed in a host country by other project developers, outside the PoA. The CPAs that are developed by any PoA registered to date, in theory be developed as stand alone SSC CDM project activities. The PoA offers a means of incentivising the <i>widescale implementation</i> of GHG mitigation actions under the CDM which would have otherwise not have been able to be implemented. A voluntary coordinated action is not our opinion the development of a single standalone CDM project activity. 3. Transboundary impacts need not be assessed for such	<b>24/10/2011 (1<sup>st</sup> round)</b> <b>OK.</b> Global stakeholder comments have been invited by the DOE during 11 Aug 11 - 09 Sep 11 through the UNFCCC website ( <a href="http://cdm.unfccc.int/ProgrammeOfActivities/Validation/DB/REKUSXC1LPW3KEK8RG3GSAJBOO6P10/view.html">http://cdm.unfccc.int/ProgrammeOfActivities/Validation/DB/REKUSXC1LPW3KEK8RG3GSAJBOO6P10/view.html</a> ). One comment has been received by means of email to <a href="mailto:markus.weber@gl-group.com">markus.weber@gl-group.com</a> . The sender <a href="mailto:Siew_Theng_Foo@gpcarbon solutions.com">Siew_Theng_Foo@gpcarbon solutions.com</a> has commented on this PoA as outlined in this CL. 1. The DOE has taken into consideration the comment received by means of interviews with the PPs and CME and by means of background research. It has been identified that the "Malaysia	<b>OK</b>

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<p>per the PoA</p> <p>3. Section C.2 – how would the trans-boundary impacts be conducted at the CPA level?</p> <p>4. Section C.2 – does this PoA conduct a cross-border/ regional impact assessment?</p>	<p>CPAs given that environmental impact assessments are not required.</p> <p>Since there are no transboundary impacts, then there are no cross border/regional impacts either</p>	<p>Biogas Project” is a PoA under Validation since 23.11.2010. Since the referred PoA is not yet registered and since the SEA Biogas PoA –as of now- is aiming to implement CPAs in Indonesia only, the Validation team accepts the statement by the CME “that no similar programmes are in place”. This has been validated based on local and sectoral knowledge. However, the CME is requested to monitor similar projects and programmes as discussed in CAR 9.</p> <p>2. The stakeholder has raised concern whether “in the absence of the PoA, the voluntary action would not be implemented”. The validation team assessed that as per EB 55 Annex 38 para 4, it shall be demonstrated that in the absence of the PoA, none of the implemented CPAs would occur. This requirement has been assessed thoroughly by means of investment analysis as discussed in the rCPA Validation Report and is addressed in CAR 8.</p> <p>3. The validation team assessed based on local and sectoral knowledge that trans-boundary impacts do not need to be assessed based on Government Regulation PP NO. 11/2006. Appendix 1 of Regulation of the State Minister of Environment No. 11/2006<sup>64b/64c/</sup> has been checked and identified that biogas power plants fall under section “other power plants” which need to conduct an EIA if the installed capacity is greater than 10 MW. Since the CPAs eligible under this PoA will be</p>	
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		<p>smaller than 10 MW, an EIA is not required as per Indonesian law. This has been confirmed by our local expert.</p> <p>4. The validation team assessed that cross border/regional impact assessments do not need to be undertaken since an EIA is not required as outlined in paragraph above.</p> <p>CL is closed.</p>	
<b>Findings CPA-DD generic</b>			
<b>gCPA-CAR 1</b> The template CPA-DD has been altered.	<b>10/10/2011 (1<sup>st</sup> round)</b>  The template of CPA-DD has been revised as per EB 33 Annex 44	<b>24/10/2011 (1<sup>st</sup> round)</b> <b>NOT OK.</b> gCPA-DD v.02 has been assessed. The template is still altered. The "NAME /TITLE OF THE PoA:" has been deleted. Title of the PoA has not been inserted. CAR is not closed.	-
<b>gCPA-CAR 1 (continued...)</b>	<b>08/11/2011 (2<sup>nd</sup> round)</b> The template CPA –DD has been revised as per EB 33 annex 44. NAME/TITLE OF POA has been re-inserted. Title of the PoA has been inserted in the section A.1. Revision has been accommodated in the gCPA-DD v.3	<b>22/11/2011 (2<sup>nd</sup> round)</b> <b>OK.</b> By means of checking gCPA v.03 it has been identified that the template is not altered anymore. CAR is closed.	OK
<b>gCPA-CAR 2</b> In Section A.4.1.1. of gCPA v.01 the host party is not indicated.	<b>10/10/2011 (1<sup>st</sup> round)</b>  The CPA is under SEA biogas PoA. The PoA boundary as set in PoA in the future covers South East Asia countries. Therefore, the host party in section A.4.1.1.of gCPA-DD is not indicated	<b>24/10/2011 (1<sup>st</sup> round)</b> <b>OK.</b> gCPA-DD v.02 has been assessed. The Host Country is not indicated in Section A.4.1.1. because the PP wishes to include other Host	OK

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		Countries within SEA at a later stage which is in line with EB 60 Annex 26. CAR is closed.	
<b>gCPA-CAR 3</b> The indication of Longitude and Latitude in Section A.4.1.2. of gCPA v.01 is not clear.	<b>10/10/2011 (1<sup>st</sup> round)</b>  The indication of Longitude and Latitude in Section A.4.1.2 of gCPA is not indicated. Revision to decimal format has been revised in the rCPA-DD version 02.	<b>24/10/2011 (1<sup>st</sup> round)</b> <b>OK.</b> gCPA-DD v.02 has been assessed. The provision of the correct format for Longitude and Latitude has been made. CAR is closed.	<b>OK</b>
<b>gCPA-CAR 4</b> The generic CPA-DD does not include a confirmation that the start date of any CPA is not, or will not be, prior to the PoA validation commencement, i.e. the date on which the PoA-DD is first published for GSC.	<b>10/10/2011 (1<sup>st</sup> round)</b>  Confirmation on the start date eligibility criteria has been accommodated in section A.4.2.1 of gCPA-DD	<b>24/10/2011 (1<sup>st</sup> round)</b> <b>OK.</b> gCPA-DD v.02 has been assessed. Correct changes have been made. CAR is closed.	<b>OK</b>
<b>gCPA-CAR 5</b> it is not clear in Section A.4.3.2 gCPA v.01 whether crediting period of all CPAs are renewable as discussed in PoA-CL 5.	<b>10/10/2011 (1<sup>st</sup> round)</b>  The crediting period in Section A.4.3.2 gCPA-DD is not indicated since this matter will be determined at the CPA level as per response in PoA-CL 5	<b>24/10/2011 (1<sup>st</sup> round)</b> <b>OK.</b> Please refer to PoA-CL 5. CAR is closed.	<b>OK</b>
<b>gCPA-CAR 6</b> The information in the following sections needs to be checked for consistency of the PoA-DD (after all Findings are closed) and the generic CPA-DD:  <div style="border: 1px solid black; width: 100px; height: 15px; margin-bottom: 5px;"></div> <div style="border: 1px solid black; width: 100px; height: 15px;"></div>	<b>30/12/2011 (3<sup>rd</sup> round)</b> The information in the section mentioned in the gCPA-CAR6 has been consistently provided between PoA-DD and the generic CPA-DD.	<b>03/01/2012 (3<sup>rd</sup> Round)</b> <b>OK</b> The generic CPA-DD v.04 has been crosschecked with PoA-DD v.04 and identified that information is consistent. CAR is closed.	<b>OK</b>

Generic CPA-DD      Finalized PoA-DD



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A.1	A.1	
A.2	A.2 and A.4.2.1	
A.3	A.3	
A.4.1.1	A.4.1.1	
A.4.1.2	A.4.1.2	
A.4.2.1	Not prior to GSP of PoA-DD	
A.4.2.2	-	
A.4.3.1	B.1	
A.4.3.2	B.2	
A.4.4.	-	
A.4.5	A.4.5	
A.4.6	A.4.4 and A.4.4.1	
A.4.7.		
B.1	A.1	
B.2	A.4.2.2	
B.3	A.4.3, E.5; E.5.1 and E.5.2	
B.4	E.3	
B.5	E.6	
B.5.1	E.6.3	
B.5.2	E.6.1 and E.6.2	
B.5.3	-	
B.6	E.1 and E.2	
B.6.1	E.7, E.7.1, E.7.2 and A.4.4.2	

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C.1 to C.3	C.1 to C.3			
D.1 to D.4	D.1 to D.4			
Annex 1 to Annex 4	Annex 1 to Annex 4			

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### ANNEX B: ASSESSMENT OF ELIGIBILITY CRITERIA

#	Eligibility criteria	Minimum Expected Evidence(s) to be provided during CPA inclusion	Means of Validation	
			Assessment	Concl.
1.	Have a start date which is not prior to the date at which the CDM-PoA-DD was first published for Global Stakeholder Consultation on 2011-08-11.	The start date CPA can be sourced from the contract which has been signed for the equipment (in case available); can also be checked during physical site visit for projects where construction has not started yet.	This criteria is in line with EB 55 Annex 38 para 7(d) and EB 63 Annex 2 para 13(d). The cross-checking reference is deemed appropriate to prove the CPA start date.	OK
2.	Demonstrate that its geographical boundary is consistent with the geographical boundary set in the PoA. The location (coordinate or village/town/district/province) of the project activity as per AMS-III.H and AMS-I.D shall meet the geographical boundary set in the PoA.	A map to assess that the location of project activity lies within the geographical boundary set in the PoA will be provided and presented in CPA-DD.	This criterion ensures that the CPA is within the PoA boundary in line with EB 63 Annex 2 para 13(a). As the site visit to each CPA project plant will be carried out, the location of the CPA can be confirmed directly at on-site visit and identified whether the CPA is located within the Republic of Indonesia.	OK
3.	Demonstrate that the methane recovery component shall not exceed 60 ktCO <sub>2</sub> e/yr and that the output capacity of the electricity production component does not exceed 15 MW and comply with the applicability criteria of AMS-III.H version 16 and AMS-I.D version 17. The project must comprise measures that recover biogas from biogenic matter in wastewater as per AMS-III.H version 16. The electricity generated by the project activity will be exported to the grid to be in line with AMS-I.D.	The crosschecking refers to the section E.2 of PoA-DD. All requirements listed in section E.2 are to be met.	This criterion is in line with EB 63 Annex 2 para 13(e) and (j). Each CPA shall comply with the applicability criteria of the methodologies. The crosschecking references as per section E.2 are deemed appropriate.	OK

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#	Eligibility criteria	Minimum Expected Evidence(s) to be provided during CPA inclusion	Means of Validation	
			Assessment	Concl.
4.	Be implemented at a site where at the time of validation of the CPA there are neither any mandatory requirements in place, nor under discussion by the relevant regulatory authorities in the host country, that prohibit or limit in any way the amount of greenhouse gases that result from waste water treatment facilities from being released into the atmosphere.	This can be verified by reviewing the regulation on effluent quality standard for industrial activity or any other relevant document	This criterion ensured that each CPA under the PoA is a voluntary effort driven project in line with EB 55 Annex 38 para 6(c). The environmental standards released by the Indonesian government are deemed a sufficient source to cross-check this criterion.	OK
5.	Have entered a cooperation agreement between the CPA implementer with the Coordinating/Managing Entity or CME (PT. Biogas Program International), authorizing the CME to include the CPA to participate in the PoA and therefore ceding the carbon rights to CME.	Compliance with this eligibility criteria can be confirmed by means of the ERPA or contract with the CME.	A confirmation that the CME approves this CPA is deemed sufficient evidence to ensure that the procedure for CPA inclusion is followed. This criterion also ensures that all participating entities agree to their participation in the PoA.	OK
6.	Employ new biogas recovery equipment and new power plant.	Sources of information that can be reviewed to confirm compliance with this eligibility criteria include but are not limited to proposals and data from vendors of equipment, feasibility studies and the contract with the technology provider.	This criterion ensures that leakage will not be accounted for which has been considered in the calculation of Emission Reductions. The references are deemed sufficient as potential cross check evidence.	OK
7.	Demonstrate that this project activity shall not lead to double counting of Emission Reduction by confirming that this project activity shall not be a part of any of the below mentioned category post approval of the project activity under CDM (1) standalone CDM project activity, (2) Bundled CDM project activity, (3) Another registered PoA.	Compliance with this criteria can be confirmed by reviewing and assessing the information contained in the record keeping system and by applying the provisions in the Section A.4.4.1 of PoA-DD.	This criterion is in line with EB 55 Annex 38 para 6 (i) and para 7 (h). The Record Keeping System is deemed an appropriate source to check this criterion.	OK

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#	Eligibility criteria	Minimum Expected Evidence(s) to be provided during CPA inclusion	Means of Validation	
			Assessment	Concl.
8.	Demonstrate the compliance with the EB 54 Annex 13 "Guidelines on assessment of debundling for SSC project activities". The CPA is considered as debundled if both conditions (a) and (b) below are satisfied: a. Has the same activity implementer as the proposed small scale CPA or has a coordinating or managing entity, which also manages a large scale PoA of the same technology/measure, and; b. The boundary is within 1 km of the boundary of the proposed small-scale CPA at the closest point.	Compliance with this eligibility criteria can be assessed and confirmed by analysing the information that is to be provided in the record keeping system and by following the procedure described in Section A.4.4.1 of PoA-DD.	This criterion is in line with EB 63 Annex 2 para 13(k). A debundling check shall be assessed. The Record Keeping System is deemed an appropriate mean to assess this criterion.	OK
9.	Have a crediting period that does not exceed the duration of the PoA.	It can be crosschecked from the start date of the crediting period of the PoA and the length of the crediting period of the SSC CPA.	This criterion is in line with EB 55 Annex 38 para 6(h). The cross check reference is deemed sufficient to assess this criterion.	OK
10.	Have a Local stakeholder consultation undertaken.	It can be sourced from the minutes of stakeholders meeting.	This criterion is in line with EB 55 Annex 38 para 6 (m). The cross check reference is deemed sufficient to assess this criterion.	OK
11.	In the event that it receives public funding, clearly describe this in the SSC-CPA-DD and provide an affirmation indicating that such funding does not result in a diversion of Official Development Assistance (ODA).	It can be sourced from the confirmation of non-ODA letter.	This criterion is in line with EB 55 Annex 38 para 6 (n). The cross check reference is deemed sufficient to assess this criterion.	OK
12.	If being implemented at a site where there is an existing wastewater treatment facility, demonstrate that the IRR of the proposed CPA (without CDM revenues) shall be below its benchmark and that the sensitivity analysis confirms this conclusion.	Compliance with such eligibility criteria can be confirmed by reviewing the information and data used for assessing and demonstrating additionality of SSC-CPA as described as per section A.4.3 and E.5.1. and presented in the	This criterion is in line with EB 63 Annex 2 para 13(f). The additionality criterion has been included which is deemed appropriate and the additionality check will be assessed at CPA level which is in line with EB 47	OK

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#	Eligibility criteria	Minimum Expected Evidence(s) to be provided during CPA inclusion	Means of Validation	
			Assessment	Concl.
		CPA's corresponding CPA DD.	para 73.	
13.	If being implemented at a site where there is a plan to increase the wastewater treatment capacity, or where no wastewater treatment facility exists, the CPA shall be deemed additional if as according to EB 61 Annex 21 and Attachment A of Appendix B of 4/CMP.1 Annex II it can be shown that the project activity would otherwise not have been implemented due to the existence of an investment barrier, and that therefore a financially more viable alternative to the project activity would have led to higher emissions.	Compliance with such criteria can be confirmed by reviewing the information and data used for assessing and demonstrating additionality of SSC-CPA as described as per section A.4.3 and E.5.1 and presented in the CPA's corresponding CPA-DD.	This criterion is in line with EB 63 Annex 2 para 13(f). The additionality criterion has been included which is deemed appropriate and the additionality check will be assessed at CPA level which is in line with EB 47 para 73.	OK

# PoA Validation Report

PoA title: South East Asia Biogas Programme of Activities  
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## ANNEX C: CERTIFICATES OF COMPETENCE

# PoA Validation Report

PoA title: South East Asia Biogas Programme of Activities

GLC Report No. 178, Rev. 04



## Certificate



Name : Mr. José Emilio Moreno (Dipl.-Ing.)

Certificate No. : 016

This document certifies that Mr. José Emilio Moreno, citizen of Spain, is assigned as CDM assessment team leader, validator/verifier and expert by Germanischer Lloyd Certification GmbH.

Mr. José Emilio Moreno fulfils GLC's competence requirements to validate and verify CDM projects within the following sectoral scopes and technical areas.

CDM Sectoral Scope (SS) and Technical Area (TA)	Validity date:
<b>SS 1: Energy Industries (renewable / non-renewable sources)</b>	
TA 1.1: Thermal energy generation from fossil fuels and biomass including thermal electricity from solar	2010-09-25
TA 1.2: Energy generation from renewable energy sources	2010-10-22
<b>SS 2: Energy Distribution</b>	
TA 2.1: Electricity distribution	
TA 2.2: Heat distribution	
<b>SS 3: Energy Demand</b>	
TA 3.1: Energy demand	2011-03-20
<b>SS 7: Transport</b>	
TA 7.1: Transport	
<b>SS 10: Fugitive Emissions from Fuels</b>	
TA 10.1: Mining and mineral processes (excluding those included in TA 10.2)	
TA 10.2: Oil and gas industry, coal mine methane recovery and use	
<b>SS 13: Waste Handling and Disposal</b>	
TA 13.1: Waste handling and disposal	
TA 13.2: Animal waste management	

Hamburg      2011-03-20  
Date

  
GLC Management

Germanischer Lloyd Certification  
Code: DC-GHG 009\_E, Rev. 03  
Date: 2011-04-27; Tris

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# PoA Validation Report

PoA title: South East Asia Biogas Programme of Activities

GLC Report No. 178, Rev. 04



## Certificate



Name : Mrs. Ellen Goel (Dipl. Wi-Ing.)

Certificate No. : 041

This document certifies that Mrs. Ellen Goel, citizen of Germany, is assigned as CDM validator/verifier and financial expert by Germanischer Lloyd Certification GmbH.

Mrs. Ellen Goel fulfils GLC's competence requirements to validate and verify CDM projects within the following sectoral scopes and technical areas.

CDM Sectoral Scope (SS) and Technical Area (TA)	Validity date:
<b>SS 1: Energy Industries (renewable / non-renewable sources)</b>	
TA 1.1: Thermal energy generation from fossil fuels and biomass including thermal electricity from solar	
TA 1.2: Energy generation from renewable energy sources	
<b>SS 2: Energy Distribution</b>	
TA 2.1: Electricity distribution	
TA 2.2: Heat distribution	
<b>SS 3: Energy Demand</b>	
TA 3.1: Energy demand	
<b>SS 7: Transport</b>	
TA 7.1: Transport	
<b>SS 10: Fugitive Emissions from Fuels</b>	
TA 10.1: Mining and mineral processes (excluding those included in TA 10.2)	
TA 10.2: Oil and gas industry, coal mine methane recovery and use	
<b>SS 13: Waste Handling and Disposal</b>	
TA 13.1: Waste handling and disposal	
TA 13.2: Animal waste management	

Mrs. Ellen Goel fulfils GLC's competence requirements to validate financial analysis of CDM project activities.

Validity date:  
2011-07-14

Hamburg      2011-08-26  
Date

GLC Management

Germanischer Lloyd Certification  
Code: DC-GHG 009\_E, Rev. 03  
Date: 2011-04-27; Tris

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# PoA Validation Report

PoA title: South East Asia Biogas Programme of Activities

GLC Report No. 178, Rev. 04



## Certificate



Name : Mr. Hang Zhou (M.Sc.)

Certificate No. : 021

This document certifies that Mr. Hang Zhou, citizen of China, is assigned as CDM assessment team leader, validator/verifier and expert by Germanischer Lloyd Certification GmbH.

Mr. Hang Zhou fulfils GLC's competence requirements to validate and verify CDM projects within the following sectoral scopes and technical areas.

CDM Sectoral Scope (SS) and Technical Area (TA)	Validity date:
<b>SS 1: Energy Industries (renewable / non-renewable sources)</b>	
TA 1.1: Thermal energy generation from fossil fuels and biomass including thermal electricity from solar	
TA 1.2: Energy generation from renewable energy sources	2011-09-20
<b>SS 2: Energy Distribution</b>	
TA 2.1: Electricity distribution	
TA 2.2: Heat distribution	
<b>SS 3: Energy Demand</b>	
TA 3.1: Energy demand	
<b>SS 7: Transport</b>	
TA 7.1: Transport	
<b>SS 10: Fugitive Emissions from Fuels</b>	
TA 10.1: Mining and mineral processes (excluding those included in TA 10.2)	
TA 10.2: Oil and gas industry, coal mine methane recovery and use	
<b>SS 13: Waste Handling and Disposal</b>	
TA 13.1: Waste handling and disposal	2010-12-10
TA 13.2: Animal waste management	

Mr. Hang Zhou fulfils GLC's competence requirements to validate financial analysis of CDM project activities.

Validity date:  
2012-01-16

Hamburg      2012-01-16  
Date

  
GLC Management

Germanischer Lloyd Certification  
Code: DC-GHG 009\_E, Rev. 03  
Date: 2011-04-27; Tris

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# PoA Validation Report

PoA title: South East Asia Biogas Programme of Activities  
GLC Report No. 178, Rev. 04



## Certificate



Name : Mr. Ravindra Kathale (B.Sc.)

Certificate No. : 012

This document certifies that Mr. Ravindra Kathale, citizen of India, is assigned as CDM expert by Germanischer Lloyd Certification GmbH.

Mr. Ravindra Kathale fulfils GLC's competence requirements to validate and verify CDM projects within the following sectoral scopes and technical areas.

CDM Sectoral Scope (SS) and Technical Area (TA)	Validity date:
<b>SS 1: Energy Industries (renewable / non-renewable sources)</b>	
TA 1.1: Thermal energy generation from fossil fuels and biomass including thermal electricity from solar	
TA 1.2: Energy generation from renewable energy sources	
<b>SS 2: Energy Distribution</b>	
TA 2.1: Electricity distribution	
TA 2.2: Heat distribution	
<b>SS 3: Energy Demand</b>	
TA 3.1: Energy demand	
<b>SS 4: Manufacturing industries</b>	
TA 4.1: Cement sector	
TA 4.2: Aluminium	
TA 4.3: Iron and steel	
TA 4.4: Refinery	
<b>SS 5: Chemical industry</b>	
TA 5.1: Chemical process industries	
<b>SS 7: Transport</b>	
TA 7.1: Transport	
<b>SS 8: Mining/mineral production</b>	
TA 8.1: Mining and mineral processes, excluding those included in TA 8.2 below	
TA 8.2: Oil and gas industry, coal mine methane recovery and use	
<b>SS 10: Fugitive Emissions from Fuels</b>	
TA 10.1: Mining and mineral processes (excluding those included in TA 10.2)	
TA 10.2: Oil and gas industry, coal mine methane recovery and use	
<b>SS 13: Waste Handling and Disposal</b>	
TA 13.1: Waste handling and disposal	
TA 13.2: Animal waste management	
<b>SS 15: Agriculture</b>	
TA 15.1: Agriculture	
TA 15.2: Animal waste management	

Mr. Ravindra Kathale fulfils GLC's competence requirements to validate financial analysis of CDM project activities.

Validity date:  
2009-07-16

Hamburg      2012-07-19  
Date

*M. Walter*  
GLC Management

Germanischer Lloyd Certification  
Code: DC-GHG 009\_E, Rev. 05  
Date: 2012-06-04; MN

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# PoA Validation Report

PoA title: South East Asia Biogas Programme of Activities

GLC Report No. 178, Rev. 04



## Certificate



Name : Mrs Jun Wang

Certificate No. : 51

This document certifies that Mrs Jun Wang citizen of China with experience in the region China and Germany, is assigned as CDM assessment team leader, validator/verifier and expert by Germanischer Lloyd Certification GmbH.

Mrs Jun Wang fulfils GLC's competence requirements to validate and verify CDM projects within the following sectoral scopes and technical areas.

CDM Sectoral Scope (SS) and Technical Area (TA)	Validity date:
<b>SS 1: Energy Industries (renewable / non-renewable sources)</b>	
TA 1.1: Thermal energy generation from fossil fuels and biomass including thermal electricity from solar	
TA 1.2: Energy generation from renewable energy sources	2012-03-09
<b>SS 2: Energy Distribution</b>	
TA 2.1: Electricity distribution	
TA 2.2: Heat distribution	
<b>SS 3: Energy Demand</b>	
TA 3.1: Energy demand	
<b>SS 7: Transport</b>	
TA 7.1: Transport	
<b>SS 10: Fugitive Emissions from Fuels</b>	
TA 10.1: Mining and mineral processes (excluding those included in TA 10.2)	
TA 10.2: Oil and gas industry, coal mine methane recovery and use	
<b>SS 13: Waste Handling and Disposal</b>	
TA 13.1: Waste handling and disposal	
TA 13.2: Animal waste management	

Hamburg      2012-03-12  
Date

  
GLC Management

Germanischer Lloyd Certification  
Code: DC-GHG 009\_E, Rev. 03  
Date: 2011-04-27; Tris

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# PoA Validation Report

PoA title: South East Asia Biogas Programme of Activities

GLC Report No. 178, Rev. 04



## Certificate



Name : Mr. Stephen Etheridge (Ph. D.)

Certificate No. : 031

This document certifies that Mr. Stephen Etheridge, citizen of UK and with experience in the region of Thailand, is assigned as expert by Germanischer Lloyd Certification GmbH.

Mr. Stephen Etheridge fulfils GLC's competence requirements to validate and verify CDM projects within the following sectoral scopes and technical areas.

CDM Sectoral Scope (SS) and Technical Area (TA)	Validity date:
<b>SS 1: Energy Industries (renewable / non-renewable sources)</b>	
TA 1.1: Thermal energy generation from fossil fuels and biomass including thermal electricity from solar	2010-11-22
TA 1.2: Energy generation from renewable energy sources	
<b>SS 2: Energy Distribution</b>	
TA 2.1: Electricity distribution	
TA 2.2: Heat distribution	
<b>SS 3: Energy Demand</b>	
TA 3.1: Energy demand	
<b>SS 7: Transport</b>	
TA 7.1: Transport	
<b>SS 10: Fugitive Emissions from Fuels</b>	
TA 10.1: Mining and mineral processes (excluding those included in TA 10.2)	
TA 10.2: Oil and gas industry, coal mine methane recovery and use	
<b>SS 13: Waste Handling and Disposal</b>	
TA 13.1: Waste handling and disposal	2010-11-22
TA 13.2: Animal waste management	

Hamburg      2011-03-17  
Date

  
GLC Management

Germanischer Lloyd Certification  
Code: DC-GHG 009\_E, Rev. 03  
Date: 2011-04-27; Tris

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# PoA Validation Report

PoA title: South East Asia Biogas Programme of Activities

GLC Report No. 178, Rev. 04



## Certificate



Name : Mr. Markus Weber (Dipl.)

Certificate No. : 001

This document certifies that Mr. Markus Weber, citizen of Germany, is assigned as CDM assessment team leader, validator/verifier and expert by Germanischer Lloyd Certification GmbH.

Mr. Markus Weber fulfils GLC's competence requirements to validate and verify CDM projects within the following sectoral scopes and technical areas.

CDM Sectoral Scope (SS) and Technical Area (TA)	Validity date:
<b>SS 1: Energy Industries (renewable / non-renewable sources)</b>	
TA 1.1: Thermal energy generation from fossil fuels and biomass including thermal electricity from solar	
TA 1.2: Energy generation from renewable energy sources	2011-09-09
<b>SS 2: Energy Distribution</b>	
TA 2.1: Electricity distribution	
TA 2.2: Heat distribution	
<b>SS 3: Energy Demand</b>	
TA 3.1: Energy demand	
<b>SS 7: Transport</b>	
TA 7.1: Transport	
<b>SS 10: Fugitive Emissions from Fuels</b>	
TA 10.1: Mining and mineral processes (excluding those included in TA 10.2)	
TA 10.2: Oil and gas industry, coal mine methane recovery and use	
<b>SS 13: Waste Handling and Disposal</b>	
TA 13.1: Waste handling and disposal	2008-12-15
TA 13.2: Animal waste management	

Hamburg      2011-09-09  
Date

  
GLC Management

Germanischer Lloyd Certification  
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Date: 2011-04-27; Tris

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