PoA Validation Report
PT. GP CARBON SOLUTIONS SERVICES INDONESIA

Validation of the CDM-POA INDONESIA BIOGAS PROJECTS

Report No. INDONESIA-VAL/0001/2012

Revision No. 03

BUREAU VERITAS CERTIFICATION

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Date of first issue: 22/02/2012	Organizational unit: Bureau Veritas Certification Holding SAS
Client: PT. GP Carbon Solutions Services Indonesia	Client ref.: Mr. Henricus Hutabarat

Summary:

Bureau Veritas Certification has made the validation of the PoA Indonesia Biogas Projects, project of PT. GP Carbon Solutions Services Indonesia located in Indonesia and CPA Number 01, Negeri Lama I&II Biogas Project (NL 22110002-1) located at Labuhan Batu, Sumatera Utara, Indonesia on the basis of UNFCCC criteria for the CDM, 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 rules and modalities and the subsequent decisions by the CDM Executive Board, as well as the host country criteria.

The validation scope is defined as an independent and objective review of the project design document, the project's baseline study, monitoring plan and other relevant documents, and consisted of the following three phases: i) desk review of the project design and the baseline and monitoring plan; ii) follow-up interviews with project stakeholders; iii) resolution of outstanding issues and the issuance of the final validation report and opinion. The overall validation, from Contract Review to Validation Report & Opinion, was conducted using Bureau Veritas Certification internal procedures.

The first output of the validation process is a list of Clarification and Corrective Actions Requests (CL and CAR), presented in Appendix A. Taking into account this output, the project proponent revised its project design document.

In summary, it is Bureau Veritas Certification's opinion that the project correctly applies the baseline and monitoring methodology AMS III H and version 16 and meets the relevant UNFCCC requirements for the CDM and the relevant host country criteria.

Report No.: INDONESIA-val/0001/2012	Subject Group: CDM
Project title: INDONESIA BIOGAS PROJECTS	
Work carried out by: Ram Madhukar Desai – Lead Verifier; Toh Ket Tiong – Verifier. Selina Cheang - Verifier Matthew Tang – Financial Specialist.1 Lim Chai Eng – Financial Specialist 2 Sushil Budhia - Second Financial Specialist HB Muralidhar – Internal Technical Reviewer Kusheru Wibowo – Legal specialist	
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Date of this revision:	Rev. No.:	Number of pages:
27/08/2012	03	56

Indexing terms

Work approved by:

Name and signature of GPM

Flavio Gomes

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1 INTRODUCTION

PT. GP Carbon Solutions Services Indonesia has commissioned Bureau Veritas Certification to validate its CDM project PoA Indonesia Biogas Projects (hereafter called “the project”) at Indonesia.

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

1.1 Objective

The validation serves as project design verification and is a requirement of all projects. The validation is an independent third party assessment of the project design. In particular, the project's baseline, the monitoring plan (MP), and the project’s compliance with relevant UNFCCC and host country criteria are validated in order to confirm that the project design, as documented, is sound and reasonable, and meet the stated requirements and 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).

UNFCCC criteria refer to Article 12 of the Kyoto Protocol, the CDM rules and modalities and the subsequent decisions by the CDM Executive Board, as well as the host country criteria.

1.2 Scope

The validation scope is defined as an independent and objective review of the PoA-DD, a typical CPA-DD and specific real case CPA-DD (CPA 01), the project’s baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against Kyoto Protocol requirements, UNFCCC rules and associated interpretations.

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

1.3 Validation team

The validation team consists of the following personnel:

FUNCTION	NAME	CODE HOLDER*	TASK PERFORMED
Lead Verifier	Ram Madhukar Desai	☒Yes ☐ No	☒DR ☒SV ☒RI
Verifier	Toh Ket Tiong	☒Yes ☐ No	☒DR ☒SV ☒RI
Technical Specialist	N.A	☐Yes ☐ No	☐DR ☐SV ☐RI
Financial Specialist 1	Mathew Tang	☐Yes ☒ No	☒DR ☐SV ☒RI
Financial Specialist 2	Lim Chai Eng	☐Yes ☒ No	☒DR ☐SV ☒RI
Second Financial Specialist	Sushil Budhia	☐Yes ☒ No	☒DR ☐SV ☒RI
Internal Technical Reviewer (ITR)	HB Muralidhar	☒Yes ☐ No	☐DR ☐SV ☒RI
Specialist supporting ITR	N.A.	☐Yes ☐ No	☐DR ☐SV ☐RI

*DR = Document Review; SV = Site Visit; RI = Report issuance

2 METHODOLOGY

The overall validation, from Contract Review to Validation Report & Opinion, was conducted using Bureau Veritas Certification internal procedures.

In order to ensure transparency, a validation protocol was customized for the project, according to the version 01.2 of the Clean Development Mechanism Validation and Verification Manual, issued by the Executive Board at its 55th meeting on 30/07/2010. The protocol shows, in a transparent manner, criteria (requirements), means of validation and the results from validating the identified criteria. The validation protocol serves the following purposes:

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

The completed validation protocol is enclosed in Appendix A to this report.

2.1 Review of Documents

The PoA-DD, typical CPA-DD and a real case CPA-DD (CPA 01) were submitted by PT. GP Carbon Solutions Services Indonesia and additional background documents related to the project design and baseline, i.e. country Law, Guidelines for Completing the Project Design Document (CDM-PDD), Approved methodology, Kyoto Protocol, Clarifications on Validation Requirements to be Checked by a Designated Operational Entity were reviewed.

To address Bureau Veritas Certification corrective action and clarification requests, PT. GP Carbon Solutions Services Indonesia revise the PoA-DD, typical CPA-DD and a real case CPA-DD (CPA 01) and resubmitted it on 22 August 2012

The validation findings presented in this report relate to the project as described in the PoA-DD version 4.1 dated 22 August 2012, typical CPA-DD and a real case CPA, i.e Negeri Lama I & II Biogas Project (NL 22110002-1) CPA-DD version 4 dated 6 June 2012.

2.2 Follow-up Interviews

On 12-13/10/2011 Bureau Veritas Certification performed interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of Negeri Lama I&II Biogas Project - Mr Medi Sahputra – Manager Negeri Lama I and Sulianta F Ginting – Manager Negeri Lama II and PT. GP Carbon Solutions Indonesia - Mr Asrulnizam Alias and Irfan Haddy R.were interviewed (see References). The main topics of the interviews are summarized in Table 1.

Table 1 Interview topics

Interviewed organization	**Interview topics**
Negeri Lama I & II Palm Oil Mills	➢ PoA-DD, typical CPA-DD and a real case CPA-DD (CPA 01) design document ➢ Technology description ➢ Additionality assessment ➢ Environmental approval from Department of Environment ➢ Monitoring plan
LOCAL Stakeholder	➢ Stakeholder consultation process
PT. GP Carbon Solutions Services Indonesia	➢ Technology description ➢ Additionality of the PoA-DD and a real case CPA-DD (CPA 01) ➢ Monitoring plan ➢ Monitoring methodology ➢ Baseline emission estimation ➢ Project emission estimation ➢ Emission reduction estimation. ➢ Environmental requirement compliance. ➢ Stakeholder consultation process

2.3 Resolution of Clarification and Corrective Action Requests

The objective of this phase of the validation is to raise the requests for corrective actions and clarification and any other outstanding issues that needed to be clarified for Bureau Veritas Certification positive conclusion on the project design.

Corrective Action Requests (CAR) is issued, where:

(a) The project participants have made mistakes that will influence the ability of the project activity to achieve real, measurable additional emission reductions;
(b) The CDM requirements have not been met;
(c) There is a risk that emission reductions cannot be monitored or calculated.

The validation team may also use the term Clarification Request (CL), if information is insufficient or not clear enough to determine whether the applicable CDM requirements have been met.

To guarantee the transparency of the verification process, the concerns raised are documented in more detail in the verification protocol in Appendix A.

2.4 Internal Technical Review

The validation report underwent a Internal Technical Review (ITR) before requesting registration of the project activity.

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

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

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

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

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

The reviewer compiles clarification questions for the Lead Verifier and Validation Team and discusses these matters with Lead Verifier.

After the agreement of the responses on the 'Clarification Request' from the Lead Verifier as well as the PP(s) the finalized validation report is accepted for further processing such as uploading on the UNFCCC webpage.

3 VALIDATION CONCLUSIONS

In the following sections, the conclusions of the validation are stated.

The findings from the desk review of the original project design documents and the findings from interviews during the follow up visit are described in the Validation Protocol in Appendix A.

The Clarification and Corrective Action Requests are stated, where applicable, in the following sections and are further documented in the Validation Protocol in Appendix A. The validation of the project resulted in 05 Corrective Action Requests (CARs) and 01 Clarification Requests (CL).

The CARs and CL were closed based on adequate responses from the Project Participant(s) which meet the applicable requirements. They have been reassessed before their formal acceptance and closure.

The number between brackets at the end of each section correspond to the VVM paragraph

3.1 Approval (49-50)

A letter of approval has been received and the following support documentation:

Letter of approval of PoA from DNA Indonesia /8/ has received directly from the project participant ref no: B 077/KNMPB/03/2012 dated 06 March 2012 confirming Indonesia is party to Kyoto Protocol and has ratified Kyoto Protocol on 28 July 2004 and participates voluntarily in this proposed CDM activity. Letter of approval also been obtained from UK DNA /9/ confirming that the UK ratified the Kyoto Protocol on 31st May 2002, participates voluntary in the CDM and authorized PT. GP Carbon Solutions, L.P. to participates in this CDM project.

Bureau Veritas Certification received this letter from the project participants and does not doubt its authenticity.

The title and contents of the letter of approval refer to the precise proposed CDM project activity title in the PoA-DD being submitted for registration.

Bureau Veritas Certification considers the letters are in accordance with paragraphs 45 - 48 of the VVM.

3.2 Participation (54)

The participation for each project participant has been approved by a Party of the Kyoto Protocol.

The validation team concluded this by referring to the information on UNFCCC website and also letter of approval of PoA from DNA Indonesia and UK respectively confirming Indonesia and UK ratified the Kyoto Protocol.

3.3 Project design document (57)

The validation team hereby confirms that the PoA-DD, typical CPA-DD and a real case CPA-DD (CPA 01) complies with the latest forms of the guidance documents for completion of PoA-DD, typical CPA-DD and a real case CPA-DD.

3.3.1 Specific PoA Requirements (167)

(a) Eligibility Criteria for Enrolling CPA

According to the EB 60 Annex 26 Clarifications regarding the .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 01), 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.

Indonesia Biogas projects PoA clearly establishes eligibility criteria for inclusion of a project as a CPA under the PoA in section A.4.2.2 Eligibility criteria for inclusion of a SSC-CPA in the PoA of the POA-DD. The 5 eligibility criteria are as below:

1. The project must comprise measures that recover biogas from biogenic organic matter in wastewater by means of one, or a combination, of the following options:

    i. Substitution of aerobic wastewater or sludge treatment systems with anaerobic systems with biogas recovery and combustion.

    ii. Introduction of anaerobic sludge treatment system with biogas recovery and combustion to wastewater treatment plant without sludge treatment.

    iii. Introduction of biogas recovery and combustion to sludge treatment system.

    iv. Introduction of biogas recovery and combustion to an anaerobic wastewater treatment system such as anaerobic reactor, lagoon, septic tank or an on site industrial plant that does not collect biogas.

    v. Introduction of anaerobic wastewater treatment with biogas recovery and combustion, with or without anaerobic sludge treatment, to an untreated wastewater stream.

    vi. Introduction of sequential stage 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 wastewater that is presently being treated in an anaerobic lagoon without methane recovery).

2. At the time of inclusion of the CPA in the PoA, there is no enforced regulation in Indonesia that requires the recovery of methane from anaerobic ponds treating wastewater from agro-industry mill or factory.

3. CPA must be in compliance with all laws and regulations of Indonesia.
4. Each CPA must be approved by the managing entity prior to its incorporation into the PoA.
5. Each CPA must demonstrate in the CPA-DD that the project activity characteristics are defined in a way that precludes project activities to go beyond the limits:
   i. For type I: project participants shall provide proof that the installed capacity of the proposed project activity will not increase beyond 15 MW_e;
   ii. For type III: project participants shall provide an estimation of emission reductions by the project activity over the crediting period and proof that the emission reductions every year will not go beyond the limits of 60 ktCO2e/y over the entire crediting period.

The Indonesia Biogas Projects PoA also requires the additionality assessment to be done at CPA level as per section E.5.2 Key criteria and data for assessing additionality of a SSC-CPA. Each CPA will have to demonstrate additionality based on the following criteria before inclusion in the PoA:

1. Define credible possible alternative scenarios to the project activity. Ensure that the proposed CPA is not the only alternative amongst those considered that is in compliance with mandatory regulations.
2. Determine most relevant barrier in terms of investment analysis and barrier analysis to make sure the project activity is additional.
3. Either simple cost analysis, investment comparison analysis or benchmark analysis will be carried out to demonstrate the additionality of the project.
4. The CPA participation is voluntary and there is no requirement or enforcement under existing national/state/local regulations to introduce or substitute the biogas recovery system.

Each CPA will have to demonstrate the additionality individually at CPA level and this will be checked at the CPA level by the managing entity and can be confirmed by the DOE during inclusion. Every CPA will have to meet all the criteria to ensure eligibility to participate in this PoA.

Prior incorporation of any CPA into the PoA, an assessment on eligibility criteria and additionality will be done to determine whether the project activity is eligible to be

included into the PoA or not. A form/checklist must be completed to check the requirements set up by the PoA. The eligibility criteria assessment and additionality assessment was done by CME on 3 May 2011 /10/. CME has check all the information required during the assessment for the inclusion of the first CPA in the PoA and the DOE has verified that Indonesia Biogas Projects Inclusion Form has been completed and approved by Henricus Hutabarat.

The investment analysis is expected to be used by all of the CPA for this PoA to demonstrate the CPA additionality. An investment analysis is used to demonstrate the CPA additionality, then either one of the three options for the appropriate analysis method: simple cost analysis (Option I), investment comparison analysis (Option II) and benchmark analysis (Option III) can be used. For example, Option III, the benchmark analysis is chosen for the Negeri Lama I & II Biogas Project (NL 22110002-1) CPA because the project activity is able to generate financial/economic benefit beside the revenue from the sale of CERs.

For the 1st Real case CPA validated by DOE, investment analysis is the main and important additionality, which is discussed in detail in CPA validation report Section 3.5.2.

The eligibility criteria for inclusion of CPA in the PoA are justified based on the following:
(i) The applicability conditions of the applied methodology has been described;
(ii) The means of demonstrating the additionality of the CPA has been explained;
(iii) The eligibility criteria are verifiable, explicit and objective.

Based on these criteria, the DOE conclude that it was sufficient to ensure that all CPAs would comply with the CDM requirements applicable to the PoA.

(b) Operational and Management Arrangements for the PoA (166)

As describe in section A4.4, PTGPCS is the coordinating or managing entity of the management and monitoring plan for the PoA. To ensure PTGPCS has controlled of all records and information related to the implementation of individual CPAs and also in the position to ensure each CPA is operated in accordance with the specific requirements of the monitoring programme, contractual arrangement will be signed with each participating palm oil mill and technology provider. For the first specific CPA-DD (CPA 01), contract agreement has been signed between PTGPCS, technology provider and the palm oil mill.

A record keeping for each CPA under the PoA

Each CPA will maintain its monitoring data and submit semi annually to PTGPCS as managing entity to archive the data in secure database. PTGPCS will conduct audit for each CPA 2 times per year to assess compliance to the monitoring plan. Monitoring records will be kept during entire crediting period and 2 years thereafter

A procedure to avoid double accounting

A avoid double accounting, each CPA will be given a unique identification number a reference, In addition to that, prior to register new CPA into the proposed PoA, PTGPCS will check UNFCCC website and consult DNA of Malaysia to ensure that the CPA is not another CDM project activity or CPA of another PoA.

For the first specific CPA-DD (CPA 01), contract agreement between CPA01 and PTGPCS has been signed to show they are agreed to be included in the PoA and they are not registered either as a CDM project activity of CPA of another PoA. The unique identification number of CPA 01 is Negeri Lama I & II Biogas Project (NL 22110002-1). CER ownership agreement also been signed between PTGPCS and CPA 01.

The SSC-CPA included is not a de-bundled component of another CDM project activity

Guidance for determining the occurrence of de-bundling under a PoA version 03 will be follow by GPCS to ensure that the proposed CPA is not a de-bundled component of another project activity. The guidance specify the a proposed small scale CPA of a PoA shall be deemed to be a de-bundled component of a large scale activity if there is already an activity, which satisfies both conditions (a) and (b) below:

(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 1km of the boundary of the proposed small scale CPA, at the closest point.

For the first specific CPA-DD (CPA 01), it was confirmed that it is not a de-bundled component of another CDM project activity by cross check the UNFCCC website and also reviewing the contract agreement between the palm oil mill and GPCS.

(c) Validation of the First Specific CPA-DD (CPA 01) (168)

The Negeri Lama I & II Biogas Project (NL 22110002-1) CPA comply with all the eligibility criteria and therefore is eligible to be included under the PoA. The justifications are as follows:

(i) The new project fulfil option (f) of AMS III H methogology, version 16;
(ii) There is no enforced regulation in Indonesia that requires the recovery of methane from anaerobic ponds treating wastewater from agro-industry processing plants;
(iii) The CPA is in compliance with all laws and regulations in Indonesia;
(iv) The CPA is approved by PTGPCS as the managing entity;
(v) The CPA has emission reductions of 52,262 tCO_{2e} annually (less than the limit of 60,000 tCO_{2e} annually for type III small scale category)

This has been further confirmed via the site visit and interview with the project participants.

3.4 Changes in the Project Activity

During the site visit following no changes were observed in project as compared to details mentioned in webhosted PoA-DD, typical CPA-DD and the first specific CPA-DD (CPA 01). The changes only involve correction to the PoA-DD and the first specific CPA-DD (CPA 01) as a result to response to CAR and CL raised by DOE.

3.5 Project description (64)

The process undertaken to validate the accuracy and completeness of the project description include the document review, interview of project participants and on-site assessments on 12-13 October 2011.

The proposed PoA will be developed within one country only, Indonesia. The location of which the CPAs will be implemented is between the latitude of 6° 00'00'' N to 11° 00'00'' S and the longitude of 97° 00'00'' E to 141° 00'00'' E*.

A typical CPA will be an individual palm oil mill that will implement the project activity by installing a new treatment system with biogas recovery or installing a biogas recovery system for the existing anaerobic treatment system that currently emits biogas containing 60-65% methane directly to the atmosphere. The POME will be treated under controlled conditions mostly by a new enclosed digester tank before subsequently being treated further in the existing treatment system at the mill. The project will capture the biogas and completely combust the biogas in an enclosed flare with the option to instead utilize the biogas captured for power or heat based on the necessities at each specific site.

The main objective of this PoA is to reduce a significant amount of greenhouse gas emissions from the palm oil mills in Indonesia by installing a biogas recovery system instead of release it to the atmosphere as per current practice. It will also help to promote biogas recovery technology within the palm oil industry.

PT. GP Carbon Solutions Services Indonesia will be the coordinating/managing entity of the PoA Indonesia Biogas Project. There are no mandatory regulations to recover methane gas from the POME treatment plant and the proposed PoA is a voluntary action by PT. GP Carbon Solutions Services Indonesia.

In the absence of the proposed PoA, most of the palm oil mills will continue to use open pond or lagoon system to treat POME as this is the most common and least costly solution.

PTGPCS has targeted agro-industry processing facilities in Indonesia to be included in the PoA focusing specifically on palm oil mills and cassava mills.

The length of the PoA is 28 years.

The proposed PoA contributes to sustainable development (social, environmental and economic benefits) of the host country.

It is expected that several technologies will be available to be considered for each CPA and each technology must comprise measures that recover biogas from biogenic organic matter in wastewater by means of one or a combination of methods based on AMS III H methodology (version 16 and later).

Starting date of PoA will be the date on which the PoA is registered with the CDM executive board.

PP confirms no public funding (ODA – official development assistance) is used in the proposed project activity.

The DOE hereby confirms that the project description in PoA-DD /1/ is accurate and complete in all respects and that there are no changes to the project activity/design or boundary as compared to the webhosted PoA-DD.

3.6 Baseline and monitoring methodology

3.6.1 General requirement (76-77)

According to the PoA-DD, the CPA under the PoA will apply the small scale methodology AMS III H “Methane recovery in wastewater treatment” version 16. As this PoA only includes individual CPA that result in annual emission reductions of less than 60 kt CO_2 equivalent from type III components of the project activity and thus comply to the eligibility limit for being small scale CDM project activity. The methodology comprises measures that recover biogas from biogenic organic mater from POME treatment plant by means of one or a combination of the 6 options in the methodology.

The PoA can use all the combination of AMS-III.H version 16 with any Type I methodologies that was covered by the AMS-III.H version 16. The combination can directly apply to the CPA depending on the biogas utilization for each CPA.

The PoA is using one methodology, which is AMS-III.H version 16. The AMS-III.H version 16 allowed combination of Type I methodologies. In EB 61 Annex 21 - General Guidelines to SSC CDM methodologies version 17 para 10, combination of SSC methodologies that has been applied in a registered project may also be applied in the context of PoAs without the preapproval.

The specific CPA-DD has defined the justification type I methodology, AMS-I.F version 02 in section B.2.

The PoA-DD has defined the Type I methodology combination as in Section E.2. The generic CPA-DD has defined the Type I methodology combination as in Section E.2 .

The steps taken to assess the relevant information contained in the first real case CPA-DD (CPA 01) against each applicability condition are described in first CPA validation report.

The DOE hereby confirms that the selected baseline and monitoring methodology /27/ is previously approved by the CDM Executive Board, and is applicable to the project activity, which, complies with all the applicability conditions therein.

The DOE hereby confirms that, as a result of the implementation of the proposed CDM project activity, there are no greenhouse gas emissions occurring within the proposed CDM project activity boundary, which are expected to contribute more than 1% of the overall expected average annual emissions reductions, which are not addressed by the applied methodology

3.6.2 Project boundary (80)

The geographical boundary of the PoA will be within the country of Indonesia.

PoA-DD has described the GHG emission sources and sinks that will occur during the operation of the project activity. The emission included in or excluded from the project boundary is justified and explained.

For PoA Indonesia Biogas Projects, the source and sink of greenhouse gases is described as per table below

Table 2 – Source and Sink of Greenhouse Gases

	Source	Gas	Included	Justification / Explanation
Baseline	Direct emissions from the wastewater treatment processes	CH_4	Yes	Main emission source
	Emissions from electrical energy generation	CO_2	Yes	Main emission source
	Emissions from thermal energy generation	CO_2	Yes	Main emission source
Project Activity	Biogas recovery system	CH_4	Yes	Main emission source
	Wastewater treatment processes without biogas recovery	CH_4	Yes	Main emission source
	Emissions from electrical energy generation	CO_2	Yes	Main emission source
	Emissions from thermal energy generation	CO_2	Yes	Main emission source

The emission which is expected to sink during the operation of the project activity is methane gas from the open anaerobic ponds.

Emissions from the project activity are as follows:
(i) Methane gas from biogas recovery system;
(ii) Methane gas from flaring system.

PoA-DD explained methane gas is included as this is main emission source and carbon dioxide and nitrogen oxide are excluded for simplification purpose

As such, DOE confirm that the project boundary is correct and the selected sources and gases are justified for the project activity and meet the requirements of the methodology.

Based on the above assessment, the DOE hereby confirms that the identified boundary and the selected sources and gases are justified for the project activity.

3.6.3 Baseline identification (87-88)

The steps taken to assess the requirement given in paragraph 81 and 82 of the VVM are described below:

As per the PoA-DD, a baseline shall be established on a project specific basis for each CPA. The identified baseline must be in accordance with procedures provided in the approved small scale baseline and monitoring methodology of AMS-III.H version 16.

In the PoA, all scenario from 'a' to 'e' is applicable as per methodology AMS-III.H version 16. The first CPA is using scenario 'f'. Each CPA that will be included in this PoA will have to justify the applicable measures for recovering biogas from biogenic organic matter in wastewater by one, or a combination of the scenario 'a' to 'f' listed in the PoA eligibility criteria. This will be determined at CPA level.

3.6.4 Algorithms and/or formulae used to determine emission reductions (92-93)

The steps taken to assess the requirement outlined in paragraph 89 the VVM are described below:

According to the PoA-DD, a typical CPA will apply AMS III H "Methane recovery in wastewater treatment" version 16 to determine emission reductions. There are 4 tools that can be used a reference with the AMS III H methodology version 16:

(a) Tool to calculate project or leakage CO_2 emissions from fossil fuel combustion version 02;
(b) Tool to determine methane emissions avoided from disposal of waste a solid waste disposal site version 06.01;
(c) Tool to determine project emissions from flaring gases containing methane version 01;
(d) Tool to calculate baseline, project and or leakage emissions from electricity consumption version 01.

DOE confirms that baseline emission, project emission and emission reduction equation are correct.

For baseline emission calculation, the following equation is used:

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

No	Parameters	Value	Source of value
1	$BE_{power,y}$	Determined using "Tool to calculate baseline, project and/or leakage emissions from electricity consumption version 01" and "Tool to calculate project or leakage CO2 emissions from fossil fuel combustion version 02"	
2.	$BE_{ww,treatment,y} = \sum_i (Q_{ww,i,y} * COD_{inflow,i,y} * \eta_{COD,BL,i} * MCF_{ww,treatment,BL,i}) * B_{o,ww} * UF_{BL} * GWP_{CH4}$		
2(a)	$Q_{ww,i,y}$	To be determined with respect to each CPA	Historical data or measurement campaign.or designer data
2(b)	$COD_{inflow,i\,y}$	To be determined with respect to each CPA	Historical data or measurement campaign.or designer data
2(c)	$n_{COD,BL,i}$	To be determined with respect to each CPA	Historical data or measurement campaign.or designer data
2(d)	$MCF_{ww,treatment,BL,i}$	Based on type of wastewater system	Table III.H.I., AMS.III.H version 16
2(e)	$B_{o,ww}$	0.25	IPCC value.in methodology AMS III H version 16.
2(f)	UF_{BL}	0.89	IPCC value.in methodology AMS III H version 16.
2(g)	GWP_{CH4}	21	IPCC value.in methodology AMS III H version 16.
3	$BE_{s,treatment,y} = \sum_j S_{j,BL,y} * MCF_{s,treatment,BL,j} * DOC_s * UF_{BL} * DOC_F * F * 16/12 * GWP_{CH4}$		
3(a)	$S_{j,BL,y}$	To be determined with respect to each CPA	Historical data or measurement campaign.or designer data
3(b)	DOC_s	To be determined with respect to each CPA	Default value in AMS III.H version 16
3(c)	$MCF_{s,treatment,BL,j}$	Based on type of wastewater system	Table III.H.I., AMS.III.H version 16
3(d)	DOC_F	0.5	IPCC value.in methodology AMS III H version 16.
3(e)	F	0.5	IPCC value.in methodology AMS III H version 16.
4	$BE_{ww,discharge,y} = Q_{ww,y} * GWP_{CH4} * B_{o,ww} * UF_{BL} * COD_{ww,discharge,BL,y} * MCF_{ww,BL,discharge}$		
4(a)	$Q_{ww,y}$	To be determined with respect to each CPA	Historical data or measurement campaign or designer data
4(b)	$COD_{ww,discharge,BL,y}$	To be determined with respect to each CPA	Historical data or measurement campaign.or designer data
4(c)	$MCF_{ww,BL,discharge}$	Based on type of wastewater system	Table III.H.I., AMS.III.H version 16

5	$BE_{s,final,y} = S_{final,BL,y} * DOC_s * UF_{BL} * MCF_{s,BL,final} * DOC_F * F * 16/12 * GWP_{CH4}$		
5(a)	$S_{final,BL,y}$	To be determined with respect to each CPA	Historical data, measurement campaign or designer data
5(b)	$MCF_{s,BL,final}$	Based on type of wastewater system	Table III.H.I., AMS.III.H version 16

For project emission calculation, the following equation is used:

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

No	Parameters	Value	Source of value
1	$PE_{power,y}$	Determined using “Tool to calculate baseline, project and/or leakage emissions from electricity consumption version 01” and “Tool to calculate project or leakage CO2 emissions from fossil fuel combustion version 02”	
2	$PE_{ww,treatmenty} = \sum_i (Q_{ww,k,y} * COD_{\inf low,k,y} * \eta_{COD,PJ,k} * MCF_{ww,treatmentPJ,k}) * B_{o,ww} * UF_{PJ} * GWP_{CH4}$		
2(a)	$Q_{ww,k,y}$	To be determined with respect to each CPA	Historical data or measurement campaign or designer data
2(b)	$COD_{inlow,k,y}$	To be determined with respect to each CPA	Historical data or measurement campaign or designer data
2(c)	$MCF_{ww,treatment,PJ,k}$	Based on type of wastewater system	Table III.H.I., AMS.III.H version 16
2(d)	$B_{o,ww}$	0.25	IPCC value.in methodology AMS III H version 16.
2(e)	UF_{PJ}	0.89	IPCC value.in methodology AMS III H version 16.
2(f)	GWP_{CH4}	21	IPCC value.in methodology AMS III H version 16.
2(g)	$\eta_{COD,PJ,k}$	To be determined with respect to each CPA	Historical data or measurement campaign.or designer data
3	$PE_{s,treatment,y} = \sum_l S_{l,PJ,y} * MCF_{s,treatment,PJ,l} * DOC_s * UF_{PJ} * DOC_F * F * 16/12 * GWP_{CH4}$		
3(a)	$S_{l,PJ,y}$	To be determined with respect to each CPA	Historical data or measurement campaign.or designer data
3(b)	DOC_s	To be determined with respect to each CPA	Default value in AMS III.H version 16
3(c)	$MCF_{s,treatment,PJ,l}$	Based on type of wastewater system	Table III.H.I., AMS.III.H version 16
3(d)	UF_{PJ}	0.5	IPCC value.in methodology AMS III H version 16.
3(e)	DOC_F	0.5	IPCC value.in methodology AMS

			III H version 16.
3(f)	F	0.5	IPCC value.in methodology AMS III H version 16.
4	$PE_{s,treatment,y} = \sum_{l} S_{l,PJ,y} * EF_{composting} * GWP_{CH4}$		
4(a)	$EF_{composting}$	0.01	IPCC value.in methodology AMS III H version 16.
5	$PE_{ww,discharge,y} = Q_{ww,y} * GWP_{CH4} * B_{o,ww} * UF_{PJ} * COD_{ww,discharge,PJ,y} * MCF_{ww,PJ,discharge}$		
5(a)	$Q_{ww,y}$	To be determined with respect to each CPA	Historical data or measurement campaign or designer data
5(b)	UF_{PJ}	To be determined with respect to each CPA	Historical data or measurement campaign.or designer data
5(c)	$COD_{ww,discharge,PJ,y}$	To be determined with respect to each CPA	Historical data or measurement campaign.or designer data
5(d)	$MCF_{ww,PJ,discharge}$	Based on type of wastewater system	Table III.H.I., AMS.III.H version 16
6	$PE_{s,final,y} = S_{final,PJ,y} * DOC_s * UF_{PJ} * MCF_{s,PJ,final} * DOC_F * F * 16/12 * GWP_{CH4}$		
6(a)	$S_{final,PJ,y}$	To be determined with respect to each CPA	Historical data, measurement campaign or designer data
6(b)	$MCF_{s,PJ,final}$	Based on type of wastewater system	Table III.H.I., AMS.III.H version 16
6(c)	UF_{PJ}	To be determined with respect to each CPA	Historical data or measurement campaign.or designer data
7	$PE_{fugitive,y} = PE_{fugitive,ww,y} + PE_{fugitive,s,y}$		
	$PE_{fugitive,ww,y} = (1 - CFE_{ww}) * MEP_{ww,treatment,y} * GWP_{CH4}$		
7(a)	CFE_{ww}		
7(b)	$MEP_{ww,treatment,y}$		
8	$MEP_{ww,treatment,y} = Q_{ww,y} * B_{o,ww} * UF_{PJ} * \sum_{k} COD_{removed,PJ,k,y} * MCF_{ww,treatment,PJ,k}$		
8(a)	$COD_{removed,PJ,k,y}$		
8(b)	$MCF_{ww,treatment,PJ,k}$	To be determined with respect to each CPA	Measured or default value as per AMS.III.H version 16
8(c)	UF_{PJ}	To be determined with respect to each CPA	Historical data or measurement campaign.or designer data
9	$PE_{fugitive,s,y} = (1 - CFE_s) * MEP_{s,treatment,y} * GWP_{CH4}$		
9(a)	CFE_s	0.9	Measured or default value as per AMS.III.H version 16
9(b)	$MEP_{s,treatment,y}$	To be determined with respect to each CPA	Calculated
10	$MEP_{s,treatment,y} = \sum_{l} (S_{l,PJ,y} * MCF_{s,treatment,PJ,l}) * DOC_s * UF_{PJ} * DOC_F * F * 16/12$		
10(a)	$S_{l,PJ,y}$		

10(b)	$MCF_{s,treatment,PJ,l}$	To be determined with respect to each CPA	Default value as per AMS.III.H version 16
10(c)	UF_{PJ}	To be determined with respect to each CPA	Historical data or measurement campaign.or designer data
11	$PE_{flaring,y}$	Determine using "Tool to determine project emissions from flaring gases containing methane version 01" (tCO_2e)	
12	$PE_{biomass,y}$	Determine using "Tool to determine methane emissions avoided from disposal of waste at a solid waste disposal site version 06.01" (tCO_2e)	

If the technology is using equipment transferred from another activity, leakage effects at the site of the other activity are to be considered and estimated (LE_y)

Emission reduction is estimated ex-ante as follows:
$ER_{y,\ ex\ ante} = BE_{y,\ ex\ ante} – (PE_{y,\ ex\ ante} + LE_{y,\ ex\ ante})$

As per methodology AMS-III.H version 16, SSC-CPA can opt to use the other methodologies i.e. AMS-I.A version 15.0, AMS-I.C version 19, AMS-I.D version 17.0, AMS-I.F version 2.0, AMS-III.O version 1.0 and AMS-III.AQ version 1.0. Each CPA would use the relevant methodology(s) (i.e case specific to the CPA) and respective formulae, parameters for calculations of baseline emissions and estimated reductions by sources, at CPA level.

All the parameters (for each of these Methodologies) to be used as ex-ante and ex-post at CPA level are included in the section E.6.2, E.6.3 and E.7.1. of the PoA-DD respectively. Therefore, while developing a SSC-CPA-DD the emission reduction calculations (for utilization of Biogas) will be carried out at CPA level by using the appropriate methodology(s) (out of these 6 Methodologies) relevant and specific to the case presented in that CPA. Also, the relevant monitoring parameters (both ex-ante & ex-post) would be applied to the CPA and would be demonstrated in the relevant sections of the CPA-DD. Hence, the monitoring provisions and parameters of the CPA has been applied and monitored in line with the applied methodology(ies), which is in line with paragraph 6(j) and paragraph 7 (e) (ii) of EB 55 annex 38.

3.7 Additionality of a project activity (97)

The steps taken and sources of information used, to cross-check the information contained in the PoA-DD and CPA-DD on this matter are described below:

Additionality is demonstrated at CPA level.

The CPA additionality will be demonstrated by applying either the "Attachment A to Appendix B" version 08 or "Non-binding best practise examples to demonstrate additionality for SSC project activities version 01". Project participants shall provide an explanation to show that the project activity would not have occurred anyway due to at least one of the following barriers:

1. Investment barrier
2. Technological barrier
3. Barrier due to prevailing practice
4. Other barriers.

The investment barrier is identified as the main barrier for the first CPA. Investment analysis was done to show the project activity would not be implemented in the absence of CDM revenue (carbon credit). A financial expert has been employed to cross-check the information contained in the first real case CPA, Negeri Lama I & II Biogas Proejct (NL 22110002-1) on additionality of the project activity.

3.7.1 Prior consideration of the clean development mechanism (104)

The DOE validated the project activity start date provided in the PoA-DD by assessing notification letter to DNA Malaysia and consulting UNFCCC website.

The project activity will only start when the CPA is registered as there is no other revenue except from carbon credits.

According to EB 49 Annex 22, if the starting date of project activity is after 2nd August 08, the project participant must inform a host party DNA and the UNFCCC secretariat in writing of the commencement of the project activity and of their intention to seek CDM status. However, such notification is not necessary if the PoA-DD and CPA-DD has been published for GSP before the start date of the project activity. The PoA and first real case CPA, Negeri Lama I & II Biogas Project (NL 22110002-1) CPA were web posted for first GSP from 28-08-2011 to 26-09-2011 and second GSP from 05-10-2011 to 03-11-2011. Since the GSP is before the start date of the proposed activity, the project participant is not required to inform the DNA and the UNFCCC secretariat.

The assessment of the Prior Consideration of the project activity “Indonesia Biogas Projects” is conducted by consulting the UNFCCC website, and the DOE hereby confirms that the Period for Comments related to this project activity is from 28-08-2011 to 26-09-2011 for first GSP and second GSP from 05-10-2011 to 03-11-2011 and that the CDM benefits were considered necessary in the decision to undertake the project as a proposed CDM project activity.

Based on the above assessment, the DOE hereby confirms that the proposed CDM project activity complies with the requirements of the latest version of the Guidance on prior consideration of CDM.

3.7.1.1 Historical information on project timeline

This section is not applicable.

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3.7.2 Identification of alternatives (107)

As the proposed project activityis a Greenfield project under type III, the general guidelines to SSC CDM methodologies is followed. Details explanation on the identification of alternatives has been described in Annex 3 of the PoA-DD.

The DOE considers the listed alternatives to be credible and complete.

3.8 Monitoring plan (124)

The DOE hereby confirms that the monitoring plan complies with the requirements of the methodology.

The steps taken to assess whether the monitoring arrangements described in the monitoring plan are feasible within the project design are described below.

Determination of the baseline project parameters are explained in section B.6. of the PoA-DD and found acceptable and in accordance to methodology AMS III H version16.

For the first real case CPA, for parameters monitored ex-post, their monitoring methods, frequencies and measurement equipment are acceptable and in line to methodology AMS III H version 16.

If the technology is using equipment transferred from another activity, leakage effect will be considered and estimated.

PT. GP Carbon Solutions Services Indonesia as a managing entity will manage the monitoring done by each CPA to make sure every CPA meets the requirement for data collection, processing and reporting. Each CPA will be verified individually based on the unique identification number as a reference to ensure single counting of the PoA. The CPA reference number will be linked with geographical coordinates marked by GPS coordinate based on each specific fixed site location.

A CDM team will be established for monitoring and recording data of operation and maintenance of the equipments. All relevant monitoring equipment will be calibrated at pre-determined frequency to ensure valid monitoring results. CDM operations and monitoring manual will be prepared before the start of the first crediting period to ensure that CERs are calculated in a transparent manner and monitoring is carried at as specified in the manual. A competent manager will be assigned for the generation of CERs including monitoring, record keeping, computation of ERs, audits and verifications and sign-off on all GHG emission worksheets.

PT. GP Carbon Solutions Services Indonesia will conduct a data audit and compliance check with the monitoring plan at least 2 times per year for the CPA. Maintenance and calibration of the equipment used is as per manufacturer’s specification.

The DOE hereby confirms that the project participants are able to implement the monitoring plan.

3.9 Sustainable development (127)

The host Party's DNA confirmed the contribution of the project to the sustainable development of the host Party. Refer to item 3.1 of this report.

3.10 Local stakeholder consultation (130)

The steps taken to assess the adequacy of the local stakeholder consultation are described below.

Local stakeholder consultation process is done at CPA level in order to reach a wider group of stakeholders due to the CPAs geographical positions and different groups of stakeholders affected.

3.11 Environmental impacts (133)

The project participants have undertaken an analysis of environmental impacts at CPA level due to the nature of the individual CPA which is unique and site specific. The impacts are confined to each CPA and all CPAs will adhere to the environmental regulations in Indonesia.

4 COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS

The PDD using methodology AMS III H Version 16 was webhosted on the UNFCCC for global stakeholders comments as per CDM requirements. The project was webhosted from 28-08-2011 to 26-09-2011 for first GSP and from 05-10-2011 to 03-11-2011 for second GSP..

No comments were received.

5 VALIDATION OPINION

Bureau Veritas Certification has performed a validation of the PoA Malaysia Biogas Projects, typical CPA-DD and first real case CPA, Negeri Lama I & II Biogas Project (NL 22110002-1) CPA Project in Indonesia. The validation was performed on the basis of UNFCCC criteria and host country criteria and also on the criteria given to provide for consistent project operations, monitoring and reporting.

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

Project participant/s used the latest tool for demonstration of the additionality. In line with this tool, the first real case CPA provides analysis of investment, technological and barrier due to prevailing

practice to determine that the project activity itself is not the baseline scenario.

By synthetic description of the project, the project is likely to result in reductions of GHG emissions partially. An analysis of the investment and technological barriers and barrier due to prevailing practice demonstrates that the proposed project activity is not a likely baseline scenario. Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity. Given that the project is implemented and maintained as designed, the project is likely to achieve the estimated amount of emission reductions.

The review of the project design documentation (PoA-DD version 04.1 and CPA-DD version 04) and the subsequent follow-up interviews have provided Bureau Veritas Certification with sufficient evidence to determine the fulfillment of stated criteria. In our opinion, the project correctly applies and meets the relevant UNFCCC requirements for the CDM and the relevant host country criteria. Bureau Veritas Certification thus requests registration of ‘project title’ as CDM project activity.

6 REFERENCES

Category 1 Documents:
Documents provided by Type the name of the company that relates directly to the GHG components of the project.

/1/ CDM-SSC-PoA-DD dated 30 April 2011, version 1.1 – GSP
/2/ CDM-SSC-CPA-DD dated 20 September 2011 version 1.1 - GSP
/3/ CDM-SSC-CPA Generic
/4/ CDM-SSC-PoA-DD dated 22 August 2012, version 4.1
/5/ CDM-SSC-CPA-DD dated 06 June 2012, version 4
/6/ Emission reduction calculation spreadsheet
/7/ Financial investment analysis excel spreadsheet
/8/ LoA from DNA Indonesia
/9/ LoA from DNA UK
/10/ CPA inclusion form dated 3 May 2011
/11/ BPS http://dds.bps.go.id/eng/tab_sub/view.php?tabel=1&daftar=1&id_subyek=54&notab=1
/12/ FAOSTAT – countries by commodity, 2008 by quantity http://faostat.fao.org/site/339/default.aspx
/13/ BPS http://dds.bps.go.id/tnmn_pgn.php?eng=1
/14/ F. Schuchardt, *et. al.*Composting of Empty Fruit Bunch (EFB) with simultaneous evaporation of oil mill waste water (POME). 2002 International Oil Palm Conference, Nusa Dua, Bali, Indonesia, July 8 – 12 2002
/15/ Eco-Ideal Consulting Sdn. Bhd. (Eco-Ideal). MEWC/PTM/DANIDA: Study on Clean Development Mechanism Potential in the Waste Sectors in Malaysia. December 2004
/16/ http://pasarkarbon.dnpi.go.id/web/index.php/dnacdm/cat/5/sustainable-development-criteria-.html
/17/ http://www.indonesia.bg/indonesian/indonesia/index.htm
/18/ B.G. Yeoh "A Technical and Economic Analysis of Heat and Power Generation from Biomethanation of Palm Oil Mill Effluent." Electricity Supply Industry in Transition: Issues and Prospect for Asia 14-16 January 2004
/19/ "*Palm Oil - The Sustainable Oil*", A Report by World Growth, September 2009
/20/ Indonesian Environment Ministry Decree No. KEP-51/MENLH/10/1995
/21/ Government Regulation of PP No. 11/2006 lays out requirements for EIAs
/22/ http://dna-cdm.menlh.go.id/en/approval
/23/ Global Network on Energy for Sustainable Development, 2007: Renewable energy technologies and poverty alleviation – Overcoming barriers and unlocking potentials
/24/ FCCC/SBSTA/2003/10/Add.2, page 25

/25/ Default values from chapter 6 of volume 5. Waste in 2006 IPCC Guidelines for National Greenhouse Gas Inventories

Category 2 Documents:
Background documents related to the design and/or methodologies employed in the design or other reference documents.

/26/ Validation and verification manual, version 01.2, E55, dated 30/07/2010
/27/ AMS III H Methane Recovery in Wastewater Treatment, version 16
/28/ Tool to determine project emissions from flaring gases containing methane version 01.
/29/ Tool to determine methane emissions avoided from disposal of waste at a solid waste disposal site version 06.01.
/30/ Tool to calculate project or leakage CO_2 emissions from fossil fuel consumption version 02.
/31/ Tool to calculate baseline, project and or leakage emissions from electricity consumption version 01.
/32/ Guidelines on the assessment of investment analysis, version 05
/33/ Simplified modalities and procedures for small scale CDM project activities version 08.
/34/ Non-binding best practice examples to demonstrate additionality for SSC project activities version 01.
/35/ Guidance on the demonstration and assessment of prior consideration of the CDM, version 03, dated 11/09/2009, EB49, Annex 22
/36/ Glossary of CDM terms, version 05 dated 19/08/2009.
/37/ 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 4.1.
/38/ Guidelines on assessment of debundling for SSC project activities, version 03

Persons interviewed:
List persons interviewed during the validation or persons that contributed with other information that are not included in the documents listed above.

/1/ Mr Asrulnizam Alias - GenPower Carbon Solutions Services (Malaysia) Sdn Bhd.
/2/ Mr. Medi Sahputra – Manager Negeri Lama I
/3/ Sulianta F Ginting – Manager Negeri Lama II
/4/ Mr. Irfan Haddy R – PT. GP Carbon Solutions Indonesia

1. o0o -

7 CURRICULA VITAE OF THE DOE'S VALIDATION TEAM MEMBERS

Include cv of Team Leader, Team Members, Experts, Internal technical Reviewer

2. o0o -

Team Leader: Mr. Ram Madhukar Desai

Environmental Engineer with over all 13 years of experience in various industries related to Water & Waste water engineering design, installation & Commissioning, Integrated Facility Management for Environmental Services operations in various industries i.e Automotive, Pharmaceutical , IT & Electronics (With Clean Room).

Management System Implementation and Maintenance, Green Building concept implementation, Lean Management Implementation, Water & Waste Water engineering Design & project Management, Project Environmental Compliance etc. for a construction company.

He is the lead auditor for Environment management system, Quality management system and Occupational health and safety management system and his auditing experience spans for 3 year with BVCI & BVCS. He has undergone intensive training on Clean Development Mechanism and was trained as Lead Verifier for CDM in the year 2005 and working as a lead Verifier for validation and verification of CDM/VCS projects

Team Member: Mr. Toh Ket Tiong

Climate change verifier. He holds a Master Degree in Environmental Technology and Management from Asian Institute of Technology, Bangkok, Thailand. He has more than 10 years experience as Environmental Consultant and more than 6 years as ISO 14001 Lead Auditor.

He obtained the certificate of CDM Lead Verifier and ISO 14001 Lead Auditor.

Financial Specialist 1- Mr. Matthew Tang Zhong-Zheng

Senior Audit in Deloitte KassimChan. He graduated from Curtin Universtiy, Australia with a B. Commerce degree majoring in Accounting and Finance. He is currently pursuing his studies in ICAEW (Institute of Chartered Accountants in England and Wales) at Professional stage. He has 4 years of working experience in audit specifically in both public listed and non-public listed companies in Trading, Manufacturing, Construction, and Property Development. His roles and responsibilities includes audit planning, reviewing on computation of tax, reporting for MNC companies and drafting financial reports.

Financial Specialist 2- Miss Lim Chai Eng

She is working as an account professional since last 18 years. She is bachelor in Tertiary Accountancy from NTU, Singapore. She is working with Bureau Veritas (Singapore) Pte. Ltd. since last 10 years and is currently heading Finance Department as Finance Manager. She has good knowledge of accountancy practices and has good understanding towards financial regulations in SEA region.

Second Financial Specialist - Mr. Sushil Budhia

He is an India based practicing Chartered accountant having over 30 years of experience in the field of audit and assurance , taxation both domestic and international , project analysis and project finance with special skills in project feasibility report preparations and analysis , project funding . He has completed financial analysis for CDM projects in respect of over 100 projects in various fields.

Legal Specialist - Mr. Kusheru Wibowo

He is a graduate in Chemical Engineering. He has worked in Bureau Verification Certification as Lead auditor for Quality Management system ISO 9001, Environmental Management System ISO 14001 for nine years. He has undergone intensive training on Clean Development Mechanism and has been involved in 8 CDM project validation/verification activities.

H B Muralidhar: (Internal Technical Reviewer)

Lead auditor in Bureau Veritas Certification for Environment Management System, Quality Management System and Occupational Health and Safety Management System.Graduate in Electrical Engineering with 25 years of experience power generation and distribution related fields as well as in management system auditing. He is the Lead auditor for Environmental Management System, Quality Management system and Occupational Health and Safety Management System. He has undergone intensive training on Clean Development Mechanism. He is the technical expert & conducted Validation / Verification for more than 50 CDM Projects.

APPENDIX A: PT. GP CARBON SOLUTIONS SERVICES INDONESIA POA VALIDATION PROTOCOL

Table 3 Validation requirements based on the Clean Development Mechanism Validation and Verification Manual (Version 01.2) and methodology AMS-III.H (version 16) - "Methane recovery in wastewater treatment"

CHECKLIST QUESTION	Ref.	§	COMMENTS		Draft Concl	Final Concl
1. Approval			*COUNTRY A (Indonesia)*	*COUNTRY B (United Kingdom of Great Britain and Northern Ireland)*		
a. Have all Parties involved approved the project activity?	VVM	44	**CAR 1 LoA from DNA of Indonesia was not provided.**	**CAR 1 LoA from DNA of United Kingdom of Great Britain and Northern Ireland was not provided.**	~~CAR 1~~	OK
b. Has the DNA of each Party indicated as being involved in the proposed CDM project activity in section A.3 of the PoA-DD provided a written letter of approval? (If yes, provide the reference of the letter of approval, any supporting documentation, and specify if the letter was received from the project participant or directly from the DNA)	VVM	45	**Pending CAR 1**	**Pending CAR 1**	~~CAR 1~~	OK

c. Does the letter of approval from DNA of each Party involved:	VVM	45	-	-	-	
i. confirm that the Party is a Party of the Kyoto Protocol?	VVM	45.a	**Pending CAR 1**	**Pending CAR 1**	~~**CAR 1**~~	OK
ii. confirm that participation is voluntary?	VVM	45.b	**Pending CAR 1**	**Pending CAR 1**	~~**CAR 1**~~	OK
iii. confirm that, in the case of the host Party, the proposed CDM project activity contributes to the sustainable development of the country?	VVM	45.c	**Pending CAR 1**	**Pending CAR 1**	~~**CAR 1**~~	OK
iv. Refers to the precise proposed CDM project activity title in the PoA-DD being submitted for registration?	VVM	45.d	**Pending CAR 1**	**Pending CAR 1**	~~**CAR 1**~~	OK
d. Is(are) the letter(s) of approval unconditional with respect to (i) to (iv) above?	VVM	46	**Pending CAR 1**	**Pending CAR 1**	~~**CAR 1**~~	OK
e. Has(ve) the letter(s) of approval been issued by the respective Party's designated national authority (DNA) and is valid for the CDM project activity under validation?	VVM	47	**Pending CAR 1**	**Pending CAR 1**	~~**CAR 1**~~	OK
f. Is there doubt with respect to the authenticity of the letter of approval?	VVM	48	**Pending CAR 1**	**Pending CAR 1**	~~**CAR 1**~~	OK
g. If yes, was verified with the DNA that the letter of approval is authentic?	VVM	48	**Pending CAR 1**	**Pending CAR 1**	~~**CAR 1**~~	OK
2. Participation			*PP1 (PT. GP Carbon Solutions Services Indonesia)*	*PP2 (GenPower Carbon Solutions, L.P.)*		
a. Have all project participants been listed in a consistent manner in the project documentation?	VVM	51	Yes	Yes	OK	OK
b. Has the participation of the project participants in the project activity been approved by a Party to the Kyoto Protocol?	VVM	51	Yes. Indonesia has ratified Kyoto Protocol on 28 July 2004.	Yes. United Kingdom of Great Britain and Northern Ireland is in Annex 1 party.	OK	OK
c. Are the project participants listed in tabular form in section A.3 of the PoA-DD?	VVM	52	Yes.	Yes.	OK	OK

d. Is the information in section A.3 consistent with the contact details provided in annex 1 of the PoA-DD?	VVM	52	Yes.	Yes.	OK	OK
e. Has the participation of each of the project participants been approved by at least one Party involved, either in a letter of approval or in a separate letter specifically to approve participation? (Provide reference of the approval document for each of the project participants)	VVM	52	**Pending CAR 1**	**Pending CAR 1**	~~**CAR 1**~~	OK
f. Are any entities other than those approved as project participants included in these sections of the PoA-DD?	VVM	52	No		OK	OK
g. Has the approval of participation issued from the relevant DNA?	VVM	53	**Pending CAR 1**	**Pending CAR 1**	~~**CAR 1**~~	OK
h. Is there doubt with respect to (g) above?	VVM	53	**Pending CAR 1**	**Pending CAR 1**	~~**CAR 1**~~	OK
i. If yes, was verified with the DNA that the approval of participation is valid for the proposed project participant?	VVM	53	**Pending CAR 1**	**Pending CAR 1**	~~**CAR 1**~~	OK
3a Project design document (PoA)						
a. Is the PoA-DD used as a basis for validation prepared in accordance with the latest template and guidance from the CDM Executive Board available on the UNFCCC CDM website?	VVM	55	Yes, PoA-DD is prepared in accordance with the latest template and guidance from the CDM EB available on the UNFCCC CDM website. .		OK	OK
b. Is the PoA-DD in accordance with the applicable CDM requirements for completing the PoA-DD?	VVM	56	-		-	-
i. Is the PoA-DD in accordance with the applicable CDM requirements for completing the PoA-DD?	EB 33	Ann 43	Yes. The PoA-DD is in accordance with the applicable CDM requirements for completing the PoA-DD.		OK	OK
ii. In CDM-SSC-PoA-DD section A.1 Title of project provided?	EB 33	Ann 43	Yes. Indonesia Biogas Projects.		OK	OK
iii. In CDM-SSC-PoA DD section A.2 are following provided?	EB 33	Ann 43	-		-	-

1.	Description of the general operating and implementing framework of PoA	EB 33	Ann 43	Yes. Description of the general operating and implementing framework of PoA is provided.	OK	OK
2.	Description of Policy / measure or stated goal of PoA	EB 33	Ann 43	Yes. The main objective of this PoA is to reduce a significant amount of GHG emissions from wastewater treatment systems of the agro-industry processing facilities.and promote biogas utilization and renewable energy production in Indonesia.	OK	OK
3.	Confirmation of that the proposed PoA is a voluntary action by the coordinating / managing entity	EB 33	Ann 43	Yes. The proposed PoA is a voluntary action by PT. GP Carbon Solutions Services Indonesia (PTGPCS).	OK	OK
iv.	In CDM-SSC-PoA DD section A.3 are following information provided?	EB 33	Ann 43	-	-	-
1.	Coordinating or managing entity of the PoA as the entity which communicates with the Board	EB 33	Ann 43	Yes. PTGPCS will act as a coordinating/managing entity for the PoA.	OK	OK
2.	Project participants being registered in relation to the PoA. Project participants may or may not be involved in one of the CPAs related to the PoA.	EB 33	Ann 43	Yes. PTGPCS is the project participant for this PoA and other project participants (if any) for individual CPAs will be identified in the respective CPA-DDs.	OK	OK
v.	In CDM-SSC-PoA DD section A.4 are technical descriptions of the small-scale programme of activities provided?	EB 33	Ann 43	-	-	-
1.	In CDM-SSC-PoA-DD section A.4.1. Location of the programme of activities provided?	EB 33	Ann 43	Yes. The PoA covers the geographical region of Indonesia.	OK	OK
2.	In CDM-SSC-PoA-DD section A.4.1.1 host party (ies) name provided?	EB 33	Ann 43	Yes. Republic of Indonesia.	OK	OK
3.	In CDM-SSC-PoA-DD section A.4.1.2 is Physical / geographical boundary provided? Definition of boundary for the POA in terms of a geographical area (e.g municipality, region within a country, country or several countries) within which all small-scale CDM	EB 33	Ann 43	Yes. The PoA will be developed within one country only, Indonesia. The location of which the CPAs will be implemented is between the latitude of 6°00'N to 11°00'S and the longitude of 97°00'E to 141°00'E. **CAR 2** **Project coordinate are not defined to the**	~~**CAR 2**~~	OK

programme activities (SSC-CPAs) included in the POA will be implemented, taking into consideration the requirement that all applicable national and / or sectoral policies and regulations of each host country within that chosen boundary.			**second**		
4. In CDM-SSC-PoA-DD section A.4.2 are description of a typical small scale CDM programme activity (CPA) provided	EB 33	Ann 43	Yes. Description of a typical small scale CDM programme activity is provided.	OK	OK
5. In CDM-SSC-PoA-DD section A.4.2.1 A description of technology or measures to be employed by the SSC-CPA provided?.	EB 33	Ann 43	Yes. A typical CPA will be an individual agro-industry processing facility that will implement the project activity by installing a new treatment system (digester) with biogas recovery or installing a biogas recovery system for the existing anaerobic treatment system that currently emits biogas directly to the atmosphere.	OK	OK
6. In CDM-SSC-PoA-DD section A.4.2.2 description of eligibility criteria for inclusion of a SSC-CPA in the PoA provided?. Only a description of criteria for enrolling the CPA shall be described; the criteria for demonstration additionality of CPA shall be described in Section E5.	EB 33	Ann 43	Yes. The eligibility criteria are as below: 1. The project must comprise measures that recover biogas from biogenic organic matter in wastewater by means of one or a combination of the 6 options mentioned in methodology AMS III H version 16; 2. At the time of inclusion of the CPA in the PoA, there is no enforced regulation in Indonesia that requires the recovery of methane from anaerobic ponds treating wastewater from agro-industry processing plants; 3. CPA must comply with all laws and regulations in Indonesia; 4. Each CPA must be approved by the managing entity prior to its incorporation into the PoA; 5. Each CPA must demonstrate that the project activity:	~~**CL 1**~~	OK

			i. For type I: installed capacity of the proposed project activity will not increase beyond 15 MW_e; ii. For type III: estimation of emission reductions by the project activity every year will not go beyond the limits of 60 $ktCO_{2e}$/y over the entire crediting period. **CL 1** **Please clarify what are specific methods to check CPA by the managing entity prior to its incorporation into the PoA.**		

7. In CDM-SSC-POA DD section A.4.3 is the description of how the anthropogenic emission of GHG by sources are reduced by a SSC-CPA below those that would have occurred in the absence of the registered PoA (assessment and demonstration of additionality)	EB 33	Ann 43	-	-	-
i. Is the proposed PoA a voluntary coordinated action?	EB 33	Ann 43	Yes. The proposed PoA is a voluntary coordinated action.	OK	OK
ii. Demonstrated if the PoA is implementing a voluntary coordinated action, it would not be implemented in that absence of the PoA.	EB 33	Ann 43	Yes. In the absence of the PoA, the agro-industry processing facilities included in the PoA would continue to emit biogas to the atmosphere.	OK	OK
iii. Demonstrated if the PoA is implementing a mandatory policy / regulation, this would / is not enforced.	EB 33	Ann 43	Not applicable.	OK	OK
iv. Demonstrated if mandatory a policy / regulation is enforced, the PoA will lead to a greater level of enforcement of the existing mandatory policy / regulation.	EB 33	Ann 43	Not applicable.	OK	OK
8. In CDM-SSC-PoA DD section A.4.4.1 is operation and management arrangement arrangements established by coordination / management entity for the implementation for the PoA, including following:	EB 33	Ann 43	-	-	-
i. a record keeping system for each CPA under the PoA	EB 33	Ann 43	Yes. Individual CPA will keep archive the monitoring data in a secure database and will be transmitted semi-annually to PTGPCS who is responsible for the record keeping relating to production of the monitoring reports. PTGPCS will conduct data audit at least 2 times per year for each CPA.	OK	OK

ii.	a system / procedure to avoid double accounting e.g to avoid the case of including a new CPA that has been already registered either as a CDM project activity or as a CPA of another PoA	EB 33	Ann 43	Yes. Each CPA will have a unique identification number as reference. To avoid double counting, each included CPA with its reference number will be linked with geographical coordinates for each facility's specific site location. PTGPCS will check in UNFCCC website to ensure that a similar CPA has not been submitted for validation or registered. The DNA of Indonesia also will be consulted prior to the inclusion of the CPA in this PoA. Individual CPA also has to issue an authorization letter to PTGPCS informing that they are aware of and have agreed that their activity is being subscribed to this proposed PoA and they are not registered either as a CDM project activity or as a CPA of another PoA.	OK	OK
iii.	The SSC-CPA included in the PoA is not a de-bundled component of another CDM programme activity (CPA) or CDM project activity	EB 33	Ann 43	Yes. PTGPCS will follow the "Guidance for determining the occurrence of de-bundling under a PoA" to ensure that the proposed CPA is not a de-bundled component of another CDM project activity.	OK	OK
iv.	The provision to ensure that those operating the CPA are aware of and have agreed that their activity being subscribed to the PoA.	EB 33	Ann 43	Yes. CER ownership will be signed between PTGPCS and each CPA project participant. Individual CPA will also issue an authorization letter to PTGPCS informing that they are aware of and have agreed that their activity is being subscribed to this proposed PoA and they are not registered either as a CDM project activity or as a CPA of another PoA.	OK	OK
9.	In CDM-SSC-PoA DD section A4.4.2 is monitoring plain provided the following information:	EB 33	Ann 43	-	-	-
i.	description of the proposed statistically sound sampling method /	EB 33	Ann 43	Not applicable.	OK	OK

	procedure to be used by DOEs for verification of the amount of reductions of anthropogenic emissions by source or removals by sinks of greenhouse gases achieved by CPAs under PoA					
ii.	In case the coordination / managing entity opts for verification method that does not use sampling but verifies each CPA (whether in groups or not, with different or identical verification periods) a transparent system is to be defined and described that ensures that no double accounting occurs and that the status of verification can be determined anytime for each CPA.	EB 33	Ann 43	Yes. Coordination / Managing Entity opt for verification method that does not use sampling but verifies each CPA. The monitoring plan for each CPA will be developed in accordance with the applied baseline and monitoring methodology at the CPA level. To avoid double counting, each CPA included in this PoA will have a unique identification number as a reference.	OK	OK
10.	In CDM-SSC-PoA-DD section A.4.5 is public funding of the programme of activities (PoA) is provided?	EB 33	Ann 43	The projects have not received and will not be seeking public funding.	OK	OK
c.	In CSM-SSC-PoA-DD section B.1 is the starting date of the programme of activities (PoA) provided?	EB 33	Ann 43	Yes. Starting date of the PoA will be the date on which the PoA is registered with the CDM executive board.	OK	OK
d.	In CSM-SSC-PoA-DD section B.2 is the length of the programme of activities (PoA) provided?	EB 33	Ann 43	Yes. The length of the PoA is 28 years.	OK	OK
e.	In CDM-SSC-PoA-DD section C.1. is level of which environmental analysis as per requirement of the CDM modalities and procedures is undertaken indicated in the section and justify of the choice provided?	EB 33	Ann 43	Yes. Environmental analysis is undertaken at CPA level due to the nature of the individual CPA which is unique and site specific.	OK	OK
f.	In CDM-SSC-PoA-DD section C.2 is documentation on the analysis of the environmental impacts, including transboundary impacts provided?	EB 33	Ann 43	Analysis of the environmental impacts including transboundary impacts will be conducted at CPA level.	OK	OK

g.	In CDM-SSC-PoA-DD section C.3 is a statement on whether in accordance with the host Party laws / regulations, an environmental impact assessment is required for a typical CPA, included in the programme of activities (PoA)	EB 33	Ann 43	As per Government Regulation of PP No. 11/2006 lays out requirements for EIAs, the CPA do not require Environmental Impact Assessment.	OK	OK
h.	In CDM-SSC-PoA-DD section D.1 is the level at which local stakeholder comments are invited indicated and justify the choice provided?	EB 33	Ann 43	Local stakeholder comments is done at CPA level in order to reach a wider group of stakeholder due to the CPAs geographical positions and different groups of stakeholders affected. **CAR 3** **In the PoA-DD it is mentioned that stakeholder consultation will adhere to CDM project approval mechanism by the Indonesia CDM National Committee Commission, however, it is not demonstrated during the validation visit.**	~~**CAR 3**~~	OK
i.	In CDM-SSC-PoA DD section D.2 is brief description how comments by local stakeholders have been invited and compiled provided?	EB 33	Ann 43	This will be addressed at the CPA level.	OK	OK
j.	In CDM-SSC-PoA DD section D.3 a summary of comments received provided?	EB 33	Ann 43	This will be addressed at the CPA level.	OK	OK
k.	In CDM-SSC-PoA DD section D.4 a report on how due account was taken of any comments received provided?	EB 33	Ann 43	This will be addressed at the CPA level.	OK	OK
l.	In CDM-SSC-PoA-DD section E.1 is the title and reference of the approved SSC baseline and monitoring methodology applied to a SSC-CPA included in the PoA provided?	EB 33	Ann 43	Yes. The approved SSC baseline and monitoring methodology applied to a SSC-CPA included in this PoA is AMS-III.H " Methane recovery in wastewater treatment" version 16 or future updates. SSC-CPA can opt to use the combination of methodologies with any type I methodologies i.e. AMS-I.A version 15.0, AMS-I.C version 19.0, AMS-I.D version 17.0, AMS-I.F version 2.0 or other methodologies covered by AMS-III.H version 16 i.e AMS-III.O version 1.0, AMS-III.AQ version 1.0.	OK	OK

m.	In CDM-SSC-PoA-DD section E.2 is justification of the choice of the methodology and why it is applicable to a SSC-CPA provided? Notes: in case of CPAs which individually do not exceed the SSC threshold, SSC methodologies may be used once they have first been reviewed and, as needed, revised to account for leakage in the context of a SSC-CPA.	EB 33	Ann 43	**CAR 4** **Justification of choice of type I methodology was not defined in PoA-DD, generic CPA-DD, specific CPA-DD.**	~~**CAR 4**~~	OK
n.	In CDM-SSC-PoA-DD section E.3 is description of the sources and gases included in the SSC-CPA boundary provided?	EB 33	Ann 43	Yes. Description of the sources and gases included in the SSC-CPA boundary provided.	OK	OK
o.	In CDM-SSC-PoA-DD section E.4 is description of how the baseline scenario is identified and description of the identified baseline scenario provided?	EB 33	Ann 43	Yes. The identified baseline must be in accordance with the procedures provided in the methodology AMS-III.H version 16	OK	OK
p.	In CDM-SSC-PoA-DD section E5.1 is the description of how the anthropogenic emissions of GHG by sources are reduced below those that would have occurred in the absence of the SSC-CPA being included as registered PoA (assessment and demonstration of additionality of SSC-CPA) provided as following:	EB 33	Ann 43	**CAR 5** **PoA-DD mention reference to the tool for demonstration and assessment of additionality, however, PP has domonstrated the additionality for first CPA using first investment analysis to prove the additionality which is not consistent with PoA.**	~~**CAR 5**~~	OK
i.	In CDM-SSC-PoA-DD section E5.1 has PPs demonstrated, using the procedure provided in the baseline and monitoring methodology applied, additionality of a typical CPA?	EB 33	Ann 43	**Pending CAR 5**	~~**CAR 5**~~	OK
ii.	In CDM-SSC-PoA-DD section E5.2 has the PPs provided the key criteria for assessing additionality of a CPA when proposed to be included in the registered PoA. The criteria shall be based on additionality assessment	EB 33	Ann 43	**Pending CAR 5**	~~**CAR 5**~~	OK

	undertaken in the E5.1 above?					
	iii. Has the PPs justify the choice of criteria based on analysis in above section. Notes: Information provided here shall be incorporated into the PoA specific CDM-SSC-CPA-DD that shall be included in documentation submitted by project participants at registration of PoA.	EB 33	Ann 43	**Pending CAR 5**	~~**CAR 5**~~	OK
q.	In CDM-SSC-PoA-DD section E.6 information of estimation of emission reductions of a CPA is provided as follows:	EB 33	Ann 43		-	-
	i. In CDM-SSC-PoA-DD section E.6.1 Explanation of methodological choices, provided in the approved baseline and monitoring methodology applied, selected for a typical SSC-CPA provided?	EB 33	Ann 43	Yes. The baseline and monitoring methodology of the AMS-III.H version 16 is applied to a typical CPA. There are 4 tools that can be used as a reference with the AMS-III.H methodology version 16: 1. Tool to calculate project or leakage CO_2 emissions from fossil fuel combustion version 02. 2. Tool to determine methane emissions avoided from disposal of waste at a solid waste disposal site version 06.01. 3. Tool to determine project emissions from flaring gases containing methane version 01. 4. Tool to calculate baseline, project and/or leakage emissions from electricity consumption version 01.	OK	OK
	ii. In CDM-SSC-PoA-DD section E6.2 Equation, including fixed parametric values, to be used for calculation of emission reductions of a SSC-CPA provided?	EB 33	Ann 43	Yes. Equation, including fixed parameter values, to be used for calculation of emission reductions of a SSC-CAP provided.	OK	OK

iii. In CDM-SSC-PoA-DD section E.6.3 data and parameters that are to be reported in CDM-SSC-CPA-DD form with the following data / parameter on data unit, description, source of data used, value applied, justification of the choice of data or description of measurement methods and procedures actually applied, any comments	EB 33	Ann 43	Yes. Yes. Data and parameters that are to be reported in CDM-SSC-CPA-DD form with the following data / parameter on data unit, description, source of data used, value applied, justification of the choice of data or description of measurement methods and procedures actually applied, any comments.	OK	OK
r. In CDM-SSC-PoA-DD section E.7 is application of the monitoring methodology and description of the monitoring plan provided as follows:	EB 33	Ann 43	-	-	-
i. In the CDM-SSC-PoA-DD section E7.1 data and parameters to be monitored by each SSC-CPA with the following data/ parameters on data unit, description, source of data to be used, value of data applied for the purpose of calculating expected emission reductions in Section E.6, Description of measurement methods and procedures to be applied, QA/QC procedures to be applied, any comment.	EB 33	Ann 43	Yes. Parameters to be monitored by each CPA are described with data unit, description, source of data to be used, value of data applied for the purpose of calculating expected emission reductions in Section E6 , Description of measurement methods and procedures to be applied, QA/QC procedures to be applied, any comment. Depending on each CPA, parameters to be monitored are identified as follows: (i) Volume of wastewater treated in baseline wastewater treatment system – $Q_{ww,i,y.}$ (ii) COD of untreated wastewater before the treatment system affected by the project activity, $COD_{ww,untreated,y}$ (iii) COD of treated wastewater after the treatment system affected by the project activity, $COD_{ww,treated,y.}$ (iv) COD of discharged wastewater after the treatment system affected by the project activity, $COD_{ww,discharge\ PJ,y.}$	OK	OK

			(v) Amount of dry matter in the sludge treated by the sludge treatment system in the project activity, $S_{I\ PJ\ y.}$ (vi) Amount of dry matter in the final sludge generated by the project activity, $S_{final\ PJ\ y.}$ (vii) Biogas flared/combusted in year y, $BG_{burnt,y.}$ (viii) Methane content of the biogas in the year y, Volume fraction, $W_{CH4,y.}$ (ix) Temperature of the biogas, T, ^{o}C. (x) Pressure of the biogas, P, $P_{a.}$ (xi) Flare efficiency, FE.		

ii. In the CDM-SSC-PoA-DD section E7.2 is description of the monitoring plan for a SSC-CPA provided?	EB 33	Ann 43	Yes. Description of the monitoring plan provided for a SSC-CPA.	OK	OK
s. In the CDM-SSC-PoA-DD section E.8 is date of completion of the application of the baseline study and monitoring methodology and the name of the responsible person(s)/entity(ies) provided?	EB 33	Ann 43	Yes, The baseline study and monitoring methodology was completed on 30 April 2011 by: Henricus Hutabarat PT.GP Carbon Solutions Services Indonesia Asrulnizam bin Alias GenPower Carbon Solutions Services (Malaysia) Sdn Bhd	OK	OK
t. In CDM-SSC-PoA-DD Annex 1 is Contact information on coordinating/managing entity and participants in the programme of activities provided?	EB 33	Ann 43	Yes. Contact information of PT.GP Carbon Solutions Services Indonesia and GenPower Carbon Solutions, L.P is provided in Annex 1.	OK	OK
3b. Programme of Activities	VVM	165a			
a. Operational and management arrangements for the PoA	VVM	165a	-	-	-
i. is the operational and management arrangements which have been established by the coordinating / managing entity are suitable for the PoA being validated?	VVM	165	Yes. The operational and management arrangements which have been established by the coordinating / managing entity are suitable for the PoA being validated.	OK	OK
ii. do the coordinating / managing entity have control of all records and information related to the implementation of individual CPAs?	VVM	165	Yes. A record keeping system for each CPA under the POA defined in section A.4.4.1 where PTGPCS will have control of all records and information related to the implementation of individual CPA.	OK	OK
iii. is the coordinating / managing entity in a position to ensure each CPA is being operated in accordance with the specific requirements of the programme?	VVM	165	Yes, based on the legal agreement sign between PTGPCS and CPA implementer.	OK	OK
b. Eligibility criteria for CPAs	VVM	165b	-	-	-
i. Are the specified eligibility criteria in	VVM	165	Yes. The specified eligibility criteria are sufficient to	OK	OK

	the POA-DD sufficient to ensure that all CPAs would comply with the CDM requirements applicable to the PoA? The requirements will include inter alia the means of demonstrating the addtionality of the CPA and the Applicability of the applied methodology.			ensure that all CPAs have complied with CDM requirements applicable to PoA.		
c.	Validation of CPAs	VVM	165c	-	-	-
i.	is the CPA complies with the eligibility criteria specified in the POA-DD?	VVM	168	Yes. The CPA complies with the eligibility criteria specified in the POA-DD.	OK	OK

Table 4 Specific PoA Validation Activities

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
1. Project design of small-scale clean development mechanism project activities *(delete this table if the project activity is not a small scale project activity)*					
a. Are the operational and management arrangements which have been established by the coordinating/managing suitable for the PoA being validated.	VVM	165	Yes	OK	OK
b. Are these arrangements 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?.	VVM	165	Yes	OK	OK

c. Are the specified eligibility criteria in the POA-DD sufficient to ensure that all CPAs would comply with the CDM requirements applicable to the PoA, including inter alia the means of demonstrating the additionality of the CPA and the applicability of the applied methodology?	VVM	166	Yes	OK	OK
d. Does any proposed CPA, which a coordinating/managing entity wishes to include in the PoA, complies with the eligibility criteria specified in the POA-DD?	VVM	167	Yes	OK	OK

Table 5 Specific validation activities

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
1. Project design of small-scale clean development mechanism project activities *(delete this table if the project activity is not a small scale project activity)*					
a. Does the proposed small-scale project activity meet the requirements of the simplified modalities and procedures for small-scale CDM project activities?	VVM	135	Yes. The proposed small-scale project activity meet the requirements of the simplified modalities and procedures for small-scale CDM project activities.	OK	OK
b. Does the project activity qualify within the thresholds of the three prossble types of small scale project activities? [Type (i) project activities: renewable energy project activities with a maximum output capacity equivalent to up to 15 megawatts; Type (ii) project activities: energy efficiency improvement project activities which reduce energy consumption, on the supply and/or demand side, by up to the equivalent of 15 gigawatt hours per year; Type (iii) project activities: other project activities that both reduce anthropogenic emissions by sources and directly emit less than 15 kilotonnesof carbon dixide equivalent annually.]	VVM	136	The project activity qualifies within the thresholds of type III and type I project activities.	OK	OK

c.	Does the project activity conform to one of the approved small-scale categories?	VVM	136	Yes. The project activity conforms to methodology AMS-III.H version 16.	OK	OK
d.	Does the project activity apply the relevant tool and methodology?	VVM	136	Yes. Refer to 5bh above.	OK	OK
e.	Are the small-scale methodologies applied in conjunction with the general guidelines to SSC CDM methodologies, which provides guidelines on equipment capactiy, equipment performance/lifetime, baseline identification for type-II/III Greenfield project activities, sampling and other monitoring-related issues?	VVM	136	Yes.	OK	OK
f.	Is the project activity a debundled component of a large-scale project, i.e., is there a registered small-scael CDM project activity or an application to register another CDM project actifity: (a) with the same project participants; (b) in the same project category and technology/measure; and (c) registered within the previous 2 years; and (d) whose project boundary is within 1 km of the proposed boudary of the proposed small-scale activity at the closest point?	VVM	136	No, The project activity is not a debundled component of large project.	OK	OK
g.	Is and assessment of the environmental impacts of the proposed CDM project activity required by the host Party?	VVM	136	No.	OK	OK
h.	Is the project additional?	VVM	137	Yes.	OK	OK

Table 6 Resolution of Corrective Action and Clarification Requests

Report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
CAR 1 LoA from DNA of Indonesia and DNA of United Kingdom of Great Britain and Northern Ireland was not provided.	1a	Application letter with submission of required documents was sent to Indonesia DNA on 29 November 2011. A meeting/presentation to Indonesia DNA is scheduled to be in January 2012 before Host Country LoA can be issued. LoA UK is pending on Indonesia LoA issuance and validation draft report.	Verified LoA from DNA Indonesia and United of Great Britain and Northern Ireland. Hence CAR 1 closed.
CAR 2 Project coordinate are not defined to the second (in the PoA)	3abv3	CPA-DD has been revised in section A.4.1.2 page 5. A more precise GPS coordinate has been included in the PoA-DD.	Verified project coordinate defined to the second. Hence CAR 2 closed.

CAR 3 In the PoA-DD it is mentioned that stakeholder consultation will adhere to CDM project approval mechanism by the Indonesia CDM National Committee Commission, however, it is not demonstrated during the validation visit	3ah	The stakeholder consultation minutes of meeting is one of the required documents that must be submitted to DNA Indonesia to adhere the procedures of "CDM Project Approval Mechanism" by the Indonesian CDM National Commission. PTGPCS has submitted the local stakeholder meeting minutes of meeting with other required document to DNA Indonesia on 29 November 2011 for host country LoA application. The PoA-DD has been revised in section D.1 page 11 to avoid misunderstanding on the sentence. The procedures described in page 11 are the procedures for Host Country LoA application.	Verified the changes made in the PoA-DD in section D.1 and hence CAR 3 is closed.

CAR 4 Justification of choice of type I methodology was not defined in PoA-DD, generic CPA-DD, specific CPA-DD.	3am	The PoA can use all the combination of AMS-III.S with any Type I methodologies that was covered by the AMS-III.H version 16. The combination can directly apply to the CPA depending on the biogas utilization for each CPA. The specific CPA-DD has defined the justification Type I methodology, AMS-I.F/Version 02 in Section B.2 page 12-13. The PoA-DD has defined the Type I methodology combination as in Section E.2 page 13-15. The generic CPA-DD has defined the Type I methodology combination as in Section E.2 page 7-9.	Verified the response from the project participants and found acceptable and hence CAR 4 is closed.

CAR 5 PoA-DD mention reference to the tool for demonstration and assessment of additionality, however, PP has demonstrated the additionality for first CPA using first investment analysis to prove the additionality which is not consistent with PoA.	3ap	The PoA-DD has been revised in section E.5.1 page 18-19. The CPA additionality will be demonstrated by applying either the "Attachment A to Appendix B" version 08 or "Non-binding best practise examples to demonstrate additionality for SSC project activities" version 01. Project participants shall provide an explanation to show that the project activity would not have occurred anyway due to at least one of the following barriers: 1. Investment barrier 2. Technological barrier 3. Barrier due to prevailing practice 4. Other barriers. The investment barrier is identified as the main barrier for the first CPA. Investment analysis was done to show the project activity would not be implemented in the absence of CDM revenue (carbon credit).	Verified the changes maded in section E51. of the PoA-DD and hence CAR 5 is closed.

CL 1 Please clarify what are specific methods to check CPA by the managing entity prior to its incorporation into the PoA.	3abv6	Prior incorporation of any CPA into the PoA, an assessment on eligibility criteria and additionality will be done to determine whether the project activity is eligible to be included into the PoA or not. A form/checklist must be completed to check the requirements set up by the PoA. The eligibility criteria assessment and additionality assessment was done by CME on 3 May 2011. CME has check all the information required during the assessment. The reference document is attached per below: Reference Document: 1. Indonesia Biogas Projects Inclusion Form.	Verified CPA inclusion checklist been done by CME. Hence CL 1 closed.