POA VALIDATION REPORT GENPOWER CARBON SOLUTIONS SERVICES (MALAYSIA) SDN BHD

VALIDATION OF THE MALAYSIA BIOGAS PROJECTS

REPORT NO. MALAYSIA-VAL/0003/2011

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BUREAU VERITAS CERTIFICATION

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VALIDATION REPORT

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GenPower Carbon Solutions Services (Malaysia) Sdn Bhd	Mr. Asrulnizam bin Alias, CDM Project Engineer

Summary:
Bureau Veritas Certification has made the validation of the PoA Malaysia Biogas Projects, project of GenPower Carbon Solutions Services (Malaysia) Sdn Bhd located in Kuala Lumpur and CPA Sri Senggora Biogas Project (SS 33610255-1) located at Pahang, Malaysia 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 15 and meets the relevant UNFCCC requirements for the CDM and the relevant host country criteria.

Report No.:	Subject Group:
MALAYSIA-val/0003/2011	CDM

Project title:
MALAYSIA BIOGAS PROJECTS

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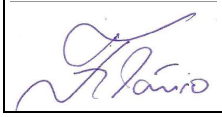

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1 INTRODUCTION

GenPower Carbon Solutions Services (Malaysia) Sdn Bhd has commissioned Bureau Veritas Certification to validate its CDM project PoA Malaysia Biogas Projects (hereafter called "the project") at Malaysia.

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 meets 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	Kusheru Wibowo	☒Yes ☐ No	☒DR ☒SV ☒RI
Verifier	Toh Ket Tiong	☒Yes ☐ No	☒DR ☒SV ☒RI
Technical Specialist	Wang Zhenning	☒Yes ☐ No	☒DR ☐SV ☒RI
Financial Specialist	Mathew Tang	☐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 GenPower Carbon Solutions Services (Malaysia) Sdn Bhd 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, GenPower Carbon Solutions Services (Malaysia) Sdn Bhd revise the PoA-DD, typical CPA-DD and a real case CPA-DD (CPA 01) and resubmitted it on 05/2011.

The validation findings presented in this report relate to the project as described in the PoA-DD version 4 dated 14 December 2011, typical CPA-DD and a real case CPA, i.e Sri Senggora Biogas Project (SS-33610255-01) CPA-DD version 05 dated 14 December 2011.

2.2 Follow-up Interviews

On 06/01/2011 Bureau Veritas Certification performed interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of Sri Senggora Palm Oil Mill – Mr Tham Sing Cong and GenPower Carbon Solutions Services (Malaysia) Sdn Bhd - Mr Asrulnizam Alias and Miss Foo Siew Theng were interviewed (see References). The main topics of the interviews are summarized in Table 1.

Table 1 Interview topics

Interviewed organization	**Interview topics**
Sri Senggora Palm Oil Mill	➢ 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
GenPower Carbon Solutions Services (Malaysia) Sdn Bhd	➢ 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 06 Corrective Action Requests (CARs) and 27 Clarification Requests (CLs).

The CARs and CLs 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 (Ref 38) and the following support documentation:

Letter of approval of PoA from DNA Malaysia has received directly from the project participant ref no: NRE(S) 62.120.010.001.002/012 Jld 13 (16) dated 28 April 2011 /38/ confirming Malaysia is party to Malaysia has ratified Kyoto Protocol on 4th September 2002 and participates voluntarily in this proposed CDM activity. Letter of approval also been obtained from UK DNA confirming that the UK ratified the Kyoto Protocol on 31st

May 2002, participates voluntary in the CDM and authorized GenPower Carbon Solutions, L.P. to participates in this CDM project.

Bureau Veritas Certification received both letters 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.

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.

Malaysia 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 6 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. The project developer is required to utilize at least 10 percent of biogas for energy utilization.

3. The project has to fulfill Malaysia's National CDM criteria.

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;

   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.

6. The Malaysia 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:

i. 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.

ii. Determine most relevant barrier in terms of investment analysis and barrier analysis to make sure the project activity is additional.

iii. Either simple cost analysis, investment comparison analysis or benchmark analysis will be carried out to demonstrate the additionality of the project.

iv. 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.

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 Sri Senggora Biogas Project (SS 33610255-1) CPA because the project activity is able to generate financial/economic benefit beside the revenue from the sale of CERs.

For the first real case CPA validated by DOE, investment analysis is the main and important additionality, which is discussed in detail in validation report Section 3.7.

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, GPCS is the coordinating or managing entity of the management and monitoring plan for the PoA. To ensure GPCS 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 GPCS, technology provide 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 GPCS as managing entity to archive the data in secure database. GPCS 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, GPCS 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 GPCS 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 Sri Senggora Biogas Project (SS 33610255-1). CER ownership agreement also been signed between GPCS 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 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 Sri Senggora Biogas Project (SS 33610255-1) 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 15;

(ii) The proposed project will utilize approximately 20% recovered biogas by installing gas engine to supply electricity to the worker's quarters and the mill's office;
(iii) The proposed project comply with Malaysia's CDM criteria;
(iv) The CPA is approved by GPCS as the managing entity;
(v) The CPA has emission reductions of 38,139 tCO_{2e} annually (less than the limit of 60,000 tCO_{2e} annually for type III small scale category);
(vi) The CPA meet all criteria to demonstrate additionality and eligible to include in this PoA.

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. The most significant changes is change of method of financial analysis from simple cost analysis to benchmark analysis in the first specific CPA-DD (CPA 01).

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 6 January 2011.

The PoA will cover all states of Malaysia.

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 Malaysia 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.

GenPower Carbon Solutions Services (Malaysia) Sdn Bhd will be the coordinating/managing entity of the PoA Malaysia 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 GenPower Carbon Solutions Services (Malaysia) Sdn Bhd.

GenPower Carbon Solutions Services (Malaysia) Sdn Bhd has targeted approximately 20% (out of about 410 mills) of the total palm oil mills in Malaysia to be included in the PoA.

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.

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 15 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 real case CPA, i.e Sri Senggora Biogas Project (SS-33610255-01) is located District of Maran, Pahang, Malaysia, which has geographical coordinates at north latitude 3^{o}36' and east longitude 102^{o}55'. The technology use for this CPA is a high efficiency wastewater fermentation system whereby it will deploys reinforced concrete enclosed digester tank for anaerobic treatment of the POME with biogas recovery. The main equipment use in the CPA are acidification pond mixers, effluent pumps and a screw pump, Biogas capture will be used to run a gas engine generator to generate electricity and the excess biogas will be burned in an enclosed flare. Electricity generated will be used for the project activity, worker's quarters and mill's office and displaced electricity supply from grid. During mill operation hours, the source of electricity is from the mills turbine using a biomass boiler and it will supply electricity to the biogas plant during gas engine downtime.

The proposed Sri Senggora Biogas Project (SS 33610255-1) CPA 01 will be able to reduce 38,139 tonnes of CO_2 annually over the crediting period of 10 years. The chosen crediting period for Sri Senggora COA is 10 years, fixed. The proposed project qualifies as a small scale project activity type III as the estimated emission reductions will not exceed 60 ktCO_2 in any year of the crediting period.

The DOE hereby confirms that the project description in PoA-DD and the first specific CPA, Sri Senggora Biogas Project (SS 33610255-1) CPA 01 (ref 1 and 2 – category 1 document) 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 and real case CPA-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 15. 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 steps taken to assess the relevant information contained in the first real case CPA-DD (CPA 01) against each applicability condition are described below.

Table 2 – Compliance of CPA with applicability condition of the methodology

Requirement for applicability of the methodology	**Compliance of CPA with the given requirement**	**Method of Validation**
This methodology comprises measures that recover biogas from biogenic organic matter in wastewater by means of one, or a combination, of the following options: (a) Substitution of aerobic wastewater or sludge treatment systems with anaerobic systems with biogas recovery and combustion; (b) Introduction of anaerobic sludge treatment system with biogas recovery and combustion to a wastewater treatment plant without sludge treatment; (c) Introduction of biogas recovery and combustion to a sludge treatment system; (d) 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; (e) Introduction of anaerobic wastewater treatment with biogas recovery and combustion, with or without anaerobic sludge treatment, to an untreated wastewater stream; (f) Introduction of a sequential stage of wastewater treatment with biogas recovery and combustion, with or without sludge treatment, to an anaerobic wastewater treatment system without biogas recovery (e.g. introduction of treatment in an anaerobic reactor with biogas	The CPA to be implemented under this PoA will involve biogas recovery from biogenic organic matter in POME by means of one or a combination of the six options as in the Methodology. The activity will contribute in the avoidance of methane emissions to the atmosphere.	On site visit, interview and document review. Sri Senggora Biogas Project (SS 33610255-1) CPA Number 1 comply to condition (f) of the methodology.

recovery as a sequential treatment step for the wastewater that is presently being treated in an anaerobic lagoon without methane recovery).		
In cases where baseline system is anaerobic lagoon the methodology is applicable if: a) The lagoons are ponds with a depth greater than two meters, without aeration. The value for depth is obtained from engineering design documents, or through direct measurement, or by dividing the total volume by the surface area. If the lagoon filling level varies seasonally, the average of the highest and lowest levels may be taken; b) Ambient temperature above 15℃, at least during part of the year, on a monthly average basis; c) The minimum interval between two consecutive sludge removal events shall be 30 days.	Anaerobic open lagoon system is the common practice adopted by palm oil mills to treat the water because it is the least costly solution. GPCS will ensure that each CPA under this PoA complies with the methodological requirement regarding the anaerobic pond criteria.	On site visit, interview and document review. Sri Senggora Biogas Project (SS 33610255-1) CPA Number 1 POME treatment plant open anaerobic depth is 10 ft (3m), > 2 m. Ambient temperature for tropical country like Malaysia is above 15℃ through the year. Based on the approval letter for POME effluent treatment plant from Department of Environment Pahang, sludge removal shall be obtained approval from them prior to the removal. Sludge removal is allowed only 2 times per year.
The recovered biogas from the above measures may also be utilized for the following applications instead of combustion/flaring: (a) Thermal or electrical energy generation directly; (b) Thermal or electrical energy generation after bottling of upgraded biogas; or (c) Thermal or electrical energy generation after upgrading and distribution: (i) Upgrading and injection of biogas into a natural gas distribution grid with no significant transmission constraints; (ii) Upgrading and transportation of biogas via a dedicated piped network to a group of end users; or (d) Hydrogen production.	The CPA involves facilities to burn by flaring the biogas generated or utilize for renewable energy. CPA will have an option to utilize the biogas recovered for energy instead of flaring depending on each site specification and requirement. The Malaysian National CDM criteria require a project developer to utilize at least 10 percent of biogas for energy utilization.	On site visit, interview and document review. To comply to Malaysia CDM criteria, 20% of the biogas will be utilised for electrical energy generation. Gas engine will be installed to generate electricity for worker's quarters and mill's office consumption.
If the recovered biogas is used for project activities covered under paragraph 3 (a), that component of the project activity can use a corresponding methodology under Type I.	One of the options in the CPA. GPCS will make sure that each CPA under this PoA complies with the methodological requirement.	20% of recover biogas will be used for electricity generation for worker's quarters

		and mill's office used.
If the recovered biogas is utilized for the production of hydrogen (project activities covered under paragraph 3 (d)), that component of the project activity shall use corresponding methodology AMS-III.O.	One of the options in the CPA. GPCS will make sure that each CPA under this PoA complies with the methodological requirement.	Not applicable to CPA Number 1.
For project activities covered under paragraph 3 (b), if bottles with upgraded biogas are sold outside the project boundary, the end-use of the biogas shall be ensured via a contract between the bottled biogas vendor and the end-user. No emission reductions may be claimed from the displacement of fuels from the end use of bottled biogas in such situations. If however the end use of the bottled biogas is included in the project boundary and is monitored during the crediting period CO_2 emissions avoided by the displacement of fossil fuel can be claimed under the corresponding Type I methodology, e.g. AMS-I.C.	One of the options in the CPA. GPCS will make sure that each CPA under this PoA complies with the methodological requirement.	Not applicable to CPA number 1.
For project activities covered under paragraph 3 (c) (i), emission reductions from the displacement of the use of natural gas are eligible under this methodology, provided the geographical extent of the natural gas distribution grid is within the host country boundaries.	One of the options in the CPA. GPCS will make sure that each CPA under this PoA complies with the methodological requirement.	Not applicable to CPA number 1.
For project activities covered under paragraph 3 (c) (ii), emission reductions for the displacement of the use of fuels can be claimed following the provision in the corresponding Type I methodology, e.g. AMS-I.C.	One of the options in the CPA. GPCS will make sure that each CPA under this PoA complies with the methodological requirement.	Not applicable to CPA number 1.
For project activities covered under paragraph 3 (b) and (c), this methodology is applicable if the upgrade is done using one of the following technologies[*] such that the methane content of the upgraded biogas is in accordance with relevant national regulations (where these exist) or, in the absence of national regulations, a minimum of 96% (by volume). These conditions are necessary to ensure that the recovered biogas is completely destroyed through combustion in an end use: • Pressure Swing Adsorption; • Absorption with/without water circulation; • Absorption with water, with or without water recirculation (with or without recovery of methane emissions from discharge).	One of the options in the CPA. GPCS will make sure that each CPA under this PoA complies with the methodological requirement.	Not applicable to CPA number 1.
New facilities (Greenfield projects) and project activities involving a change of equipment	GPCS will make sure that each CPA under this PoA complies	Not applicable to CPA number 1.

[*] Please refer to annex 1 of the approved methodology AM0053/Version 01.1 regarding the description of these technologies.

resulting in a capacity addition of the wastewater or sludge treatment system compared to the designed capacity of the baseline treatment system are only eligible to apply this methodology if they comply with the relevant requirements in the General guidelines to SSC CDM methodologies. In addition the requirements for demonstrating the remaining lifetime of the equipment replaced, as described in the general guidelines shall be followed.	with the methodological requirement and follow the guidelines.	
For project activities covered under paragraph 3 (b) and (c), additional guidance provided in Annex 1 shall be followed for the calculations, in addition to the procedures in the relevant sections below.	GPCS will make sure that each CPA under this PoA complies with the methodological requirement and follow the guidelines.	Not applicable to CPA number 1.
The location of the wastewater treatment plant as well as the source generating the wastewater shall be uniquely defined and described in the PDD.	The location of each CPA will be indentified by specific reference code, address, map and GPS coordinates. The wastewater generating source will be defined and described in the PDD and also shown in the baseline and project activity diagram.	Sri Senggora Biogas Project is situated at GPS coordinate N3^{o}36' and E102^{o}55'. The source of the wastewater is from the palm oil production process as such as sterilization process, clarification of crude palm oil and others (i.e. washing water)
Measures are limited to those that result in aggregate emissions reductions of less than or equal to 60 kt CO_2 equivalent annually from all Type III components of the project activity.	This PoA only includes individual CPAs which will result in less than or equal to 60 kt CO_2 equivalent annually from all Type III components of the project activity.	For Sri Senggora Biogas Project (SS 33610255-1), estimated emission reduction is 38,139 tCO_2 equivalent annually thus less than 60, 000 tCO_2 equivalent annually from type II components of the project activity.

The DOE hereby confirms that the selected baseline and monitoring methodology (Ref 2) and tool (Ref 3) (Category 2 document) 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

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

Table 3 – 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

3.6.2 Project boundary (80)

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

The DOE validated the project boundary by conducting site visit to the first real case CPA to be included in the PoA. Site visit to the Sri Senggora Biogas Project (SS 33610255-1) CPA-DD is done on 6 January 2011. The project boundary for Sri Senggora Biogas Project (SS 33610255-1) CPA-DD is the physical, geographical site where the wastewater treatment takes place, in the baseline and project situations, It covers all facilities affected by the project activity including sites where processing, transportation and application or disposal of waste products as well as biogas takes place.

The project boundary consist of

(i) New facilities of acid pond, 2 concrete enclosed digester tanks, second deposit pond, sludge pond, enclosed flare and a gas engine.
(ii) Soil application at plantation area;
(iii) Gas engine and existing workers quarters and office.

The project boundary not included existing lagoon system.

Currently, the source of electricity for worker's quarters and office is from the grid and mill's turbine. During the project activity, the gas engine will provide the electricity to the worker's quarters and office displacing the electricity from grid. Sri Senggora Biogas Project (SS 3361025501) will not be claimed emission reductions from displacement of electricity from grid to the worker's quarters and office by electricity from the gas engine.

Electricity generated from the new gas engine will supply to the biogas plant, worker's quarters, office and not the palm oil mill. The source of electricity for the palm oil mill is from mill's turbine.

During site visit, palm oil mill effluent location and layout plan has been assessed. The effluent treatment plant location and layout plan has been approved by Department of Environment Pahang. The effluent treatment plan consists of 1 acid pond, 2 anaerobic ponds, 3 facultative ponds, 3 aerobic ponds, 2 aeration ponds, 2 maturation ponds and sludge drying pond. For anaerobic ponds, no equipment is used except for aeration ponds where aeration equipment is used to supply oxygen to the pond. Sludge will be pumped to sludge drying pond not more than 2 times per year as per approval condition imposed by DOE Pahang, Every time sludge is pump to sludge drying pond, approval is required from Department of Environment Pahang.

As for the proposed CDM project, project layout of the biogas recovery system has been provided to DOE for validation.

PDD has described the GHG emission sources and sinks that will occur during the operation of the project activity as per AM0053 version 1.1 methodology. The emission included in or excluded from the project boundary is justified and explained.

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.

PDD 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.

For the first real case CPA-DD, the baseline scenarios have been identified and no reasonable alternative scenario has been excluded. The identified baseline scenario is plausible based on local and sectoral knowledge.

The alternative scenarios for POME treatment for this project include the following:

(i). The use of open anaerobic lagoons/ponds for POME treatment (business as usual);
(ii). Direct release of POME to nearby water bodies;
(iii). Aerobic wastewater treatment system;
(iv). Anaerobic digester with methane recovery and flaring;
(v). Anaerobic digester with methane recovery and utilization for electricity.

As alternative (ii) is not in compliance with applicable legal and regulatory requirements in Malaysia, thus is excluded from further considerations.

As for alternative (iii), it is only used as secondary treatment for POME after an anaerobic system due to high COD content and requiring more land capacity as compared to anaerobic process. Furthermore, it is not economical as electricity consumption will be higher as compare to anaerobic process. Literature review, i.e "Effect of new palm oil mill processes on the EFB and POME utilization) has been provided and crossed checked by the validation team and confirm appropriate. Therefore, this alternative is economically and technically not a realistic option.

As for alternative (iv), it faces investment barriers and additional operation cost. As such, the investment is not attractive without CDM revenue. However, to qualify as a CDM project, DNA Malaysia required the project to utilize at least 10% of the biogas for energy generation. Therefore, only one alternative remain, i,e alternative 5 – anaerobic digester with methane recovery and utilization for electricity generation. This alternative also faces investment, technical barriers and barrier due to prevailing practise and will not be undertaken unless it is registered as CDM project activity.

In conclusion, the baseline scenario is the continuation of the existing open lagoon POME treatment system without methane recovery and combustion.

The baseline scenario for the first real case CPA-DD, Sri Senggora Biogas Project (SS 33610255-1) CPA has been confirmed correct by site visit done on 6th January 2011.

Based on the above assessment, the DOE hereby confirms that:
(a) All the assumptions and data used by the project participants are listed in the PoA-DD and the first specific CPA-DD, including their references and sources;
(b) All documentation used is relevant for establishing the baseline scenario and correctly quoted and interpreted in the PoA-DD and the first specific CPA-DD;
(c) Assumptions and data used in the identification of the baseline scenario are justified appropriately, supported by evidence and can be deemed reasonable;
(d) Relevant national and/or sectoral policies and circumstances are considered and listed in the PoA-DD and the first specific CPA-DD;
(e) The approved baseline methodology has been correctly applied to identify the most reasonable baseline scenario and the identified baseline scenario reasonably represents what would occur in the absence of the proposed CDM project activity.

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" to determine emission reductions. There are 4 tools that can be used a reference with the AMS III H methodology:

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

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

To assess algorithms and/or formulae used to determine emission reductions, as outlined in the correspondent paragraph (89) of the protocol, detail and transparent spreadsheet calculation in excel file for first real case CPA-DD is provided by the consultant for DOE validation.

For baseline emission calculation, the following equation is used:

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

For first real case CPA, parameters determined ex-ante:

No	Parameters	Value	Means of validation
1	$BE_{power,y}$	0	Not applicable as it is not part of the baseline activity
2	$BE_{s,treatment,y}$	0	Not applicable as sludge treatment is not part of the baseline activity.
3	$BE_{ww,discharge,y}$	0	Not applicable as it is not part of the baseline activity
4.	$BE_{s,final,y}$	0	Not applicable as sludge in the basline activity used for soil application.
5.	$BE_{ww,treatment,y} = \sum_i (Q_{ww,i,y} * COD_{removed,i,y} * MCF_{ww,treatment,BL,i}) * B_{o,ww} * UF_{BL} * GWP_{CH4}$		
5 (a)	$Q_{ww,i,y}$	168.000	OK. Based on designer data
5 (b)	$COD_{removed,I,y}$	0.06214	Based on digester efficiency of 95.6%.
5 (c)	$MCF_{ww,treatment,BL,i}$	0.8	As per methodology. Based on design data, anaerobic lagoon depth > 2m.
5 (d)	B o,ww	0.25	IPCC value.
5 (e)	UF_{BL}	0.89	As per methodology, version 15.
5 (f)	GWP_{CH4}	21	As per methodology, version 15.

For project emission calculation for first real case CPA, the following equation is used:

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

No	Parameters	Value	Means of validation
1	$PE_{power,y}$	0	OK. Based on the reason that power supply for the project activity is from the gas engine.
2	$PE_{ww,treatment,y}$	0	Not applicable as this is not part of baseline activity.
3	$PE_{s,treatment,y}$	0	Not applicable as this is not part of baseline activity.
4.	$PE_{ww,discharge,y}$	0	Not applicable as this is not part of baseline activity.
5.	$PE_{s,final,y}$	0	Sludge in the baseline activity is used for soil application.
6.	$PE_{fugitive,y}$	491	Verified the calculation provided in excel spreadsheet and found correct.
7.	$PE_{biomass,y}$	0	Not applicable as no biomass displaced or stored under anaerobic condition.
8.	$PE_{flaring}$	393	Verified the calculation provided in excel spreadsheet and found correct.

$$PE_{fugitive,ww,y} = (1 - CFE_{ww}) * MEP_{ww,treatment,y} * GWP_{CH4}$$

No	Parameters	Value	Means of validation
1	CFE_{ww}	0.99	OK. Based on the designer data.
2	$MEP_{ww,treatment,y}$	2,338	Verified the calculation provided in excel spreadsheet and found correct.
3	GWP_{CH4}	21	As per methodology, version 15.

$$MEP_{ww,treatment,y} = Q_{ww,y} * B_{o,ww} * UF_{PJ} * \sum_{k} COD_{removed,PJ,k,y} * MCF_{ww,treatment,PJ,k}$$

No	Parameters	Value	Means of validation
1.	$Q_{ww,y}$	168,000	Verified the calculation provided in excel spreadsheet and found correct.
2.	$B_{o,ww}$	0.25	As per methodology, version 15.
3.	UF_{PJ}	1.12	As per methodology, version 15.
4.	$COD_{removed,PJ,k,y}$	0.062140	OK. Based on the designer data.
5.	$MCF_{ww,PJ,K}$	0.8	As per methodology, version 15. Anaerobic pond depth > 2m.

$$PE_{flaring,y} = \sum TM_{flare,h} * (1 - \eta_{flare,h}) * \frac{GWP_{CH4}}{1000}$$

No	Parameters	Value	Means of validation
1.	$TM_{RG\ h}$	1,870,762	Verified the calculation provided in excel spreadsheet and found correct.
2.	$n_{flare,\ h}$	0.99	OK. Based on the designer data.
3.	GWP_{CH4}	21	As per methodology, version 15.

$$TM_{RG,h} = FV_{RG,h} * fv_{CH4,RG,h} * \rho_{CH4,n}$$

No	Parameters	Value	Means of validation
1.	$FV_{RG,\ h}$	4,354,669	Verified the calculation provided in excel spreadsheet and found correct.
2.	$fv_{CH4,RG,h}$	60%	OK. Based on the designer data.
3.	p_{CH4}	0.716	As per methodology, version 15.

There are no leakage emissions because all equipment is new and no equipment is transferred from another activity.

As such, an emission reduction for first real case CPA is estimated to be 38,139 tCO_2 annually.

Based on the above assessment, the DOE hereby confirms that:
(a) All assumptions and data used by the project participants are listed in the PoA-DD and CPA-DD, including their references and sources;
(b) All documentation used by project participants as the basis for assumptions and source of data is correctly quoted and interpreted in the PoA-DD and CPA-DD;
(c) All values used in the PoA-DD and CPA-DD are considered reasonable in the context of the proposed CDM project activity;
(d) The baseline methodology has been applied correctly to calculate project emissions, baseline emissions, leakage and emission reductions;
(e) All estimates of the baseline emissions can be replicated using the data and parameter values provided in the PoA-DD and CPA-DD.

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 investment barrier, technology barrier and barrier due to prevailing practise are the three major barriers faced by palm oil mill owners in implementing the project activity and based on these barrier is sufficient to demonstrate the additionality of a typical CPA. Each CPA's additionality will be assessed individually.

"Non-binding best practise examples to demonstrate additionality for SSC project activities" was applied for demonstrating and assessing the additionality of the project.

Technology barrier, barrier due to prevailing practise and investment barrier has been presented by Sri Senggora Biogas Project (SS 33610255-1) CPA to shows the project activity is not the likely baseline scenario and that emissions reductions from the project are additional.

A financial expert has been employed to cross-check the information contained in the first real case CPA, Sri Senggora Biogas Project (SS 33610255-1) CPA 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 webvsite.

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, Sri Senggora Biogas Project (SS 33610255-1) CPA were web posted for GSP from 23-11-2010 to 22-12-2010. 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.

However, the notification of the commencement of the project activity and intention to seek CDM status was received by UNFCCC secretariat on 10 February 2009. This information is available on UNFCCC website. The Malaysia DNA also has been informed by notification letter from PP dated 11 August 2010.

The assessment of the Prior Consideration of the project activity “Malaysia 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 23 Nov 10 – 22 Dec 10 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)

Details explanation on the identification of alternatives has been described in section 3.6.3 of the report.

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

3.7.3 Investment analysis (114)

For the first real case CPA, the investment analysis has been assessed for compliance with the "Guidelines on the Assessment of Investment Analysis" version 04.

For this project, the ***benchmark analysis (Option III)*** is chosen to determine the economic feasibility of this project activity.

The project's depreciation life is 10 years. So the IRR is only considered for 10 years instead of 30 years. GenPower will solely invest in the project and run it, after 10 years PP will hand over the digester to the mill. An evaluation of the project's feasibility from a financial standpoint is more appropriate to use the accelerated depreciation schedule of ten years. The asset could have a small residual value at the end of 10 years, but millers would be unwilling to pay for the digester at the end of the crediting period. Evaluating the project for the full 30 years would greatly reduce the IRR and financial viability because we would be unprofitable for the last 20 years as PP would have operating costs and no revenue as the only revenue is from CERs. From a financial evaluation standpoint, the digester has a 10 year usable life. The equipment has no residual value after 10 years (the EQUIPMENT (anaerobic digester with biogas capture and combustion) and will hand over to the mill owner after TERM (10 years) for RM1.00 (basically give for free) based on the contract signed.

In order to assess the claim from the project participant that the project scenario is not economically feasible without benefits from CER sales, the validation team adopted the following approach:

a) Determining the suitability of the benchmark applied for the type of financial indicators presented. According to the Guidelines On The Assessment Of Investment Analysis, version 4.0 /07/ article 12, "Local commercial lending rates or weighted average costs of capital (WACC) are appropriate benchmarks for a project IRR". The project participant has applied benchmark analysis to demonstrate the additionality of the CPA. The benchmark value of 15% for the project activity has been confirmed to be conservative. The benchmark was determined from various published reports, Renewable Energy: The Failure of the Malaysian 5th Fuel Policy, Ingeniur Magazine by the Board of Engineer Malaysia /45/ and Study on Clean Development Mechanism Potential in the waste sectors in Malaysia: Eco-Ideal Consulting Sdn Bhd /46/. The reports were forwarded and reviewed by the DOE validation team. The selected benchmark value for the

project activity is confirmed to be conservative & appropriate for the project activity.

b) Conducting an assessment of parameters and assumptions used in calculating the financial indicator and determining the accuracy & suitability of parameters. The project is has not and will not be receiving any public funding. The validation team had reviewed the following input values used in the financial calculation through review of sources presented in the PDD Section B.3 & financial calculation spreadsheet

The input values are based on the date of investment decision was made – 12 May 2010 (LERPA date)/06/.
Sequence:

- LoI - sign with the mill owner (18 March 2010)/08/.
- Assessment - to gather and confirm data. The assessment on the technology/equipment was conducted on 15 March 2010 /53/
- Proposition to mill owner – discuss and finalize.
- Contract (LERPA) signed (12 May 2010) /6/– after both parties agreed

Communication with mill owner, suppliers, and system providers was initiated in March 2010. Evidence by email and documents was validated at site (8 March 2010 to 12 May 2010).

Table 4 – Means of validation of financial analysis input values

Parameter	Value	Source of value	Reference Documents / Evidence
Operating & maintenance cost	USD1,241,000	Biogas Environment Engineering Sdn Bhd (BEEs) proposal dated 21 April 2010 Airofluid proposals dated 29 April 2010 and 5 May 2010 /54/	The O&M costs of the equipment have been set to 4.2% of the project's Capital Expenditure (Capex). The percentage is derived from the annual operating and maintenance cost over the total Capex of the project.
CER related expenses Annual emission reduction CER Price	38,139 USD 15.68	CER Calculation Spreadsheet	Checked through the CER related expenses calculations and noted that the calculations are conservative and valid. Also checked through the contract signed on 12.05.2010 /6/ and noted that the CER price was at USD 15.68.

Other Costs Regulatory Costs Verification UNFCCC Fee Transaction Costs	USD 51,000 USD 10,000 2% 3%	Validation cost. Quotation from BV dated 17 August 2010. Estimation based on the Malaysian CDM Information Handbook published by Ministry of Natural Resources and the Environment, 2nd Edition (2009)./52/ UNFCCC Estimation on broker fee of selling CER.	Checked through the various input values based on respective supporting documents and noted that the values used are conservative and valid. No exceptions noted.
Inflation rate	3.0 %	http://indexmundi.com/malaysia/inflation_rate_(consumer_prices).html /49/	The validation team has cross checked the following website : http://indexmundi.com/malaysia/inflation_rate_(consumer_prices).html/49/ & confirmed the value applied in the financial calculation spreadsheet is valid & relevant at the time of investment decision was made in year 2010.
Average electricity tariff	RM 0.35	Tenaga National Berhad (TNB) electricity slip.	The validation team has cross checked with publicly available source of document i.e. Tenaga Nasional Berhad Electricity Tariffs Year 2010 /47/ & confirmed the value used is valid.
Exchange rate (MYR to USD)	RM3.30	Bank Negara Malaysia historical rates. http://www.bnm.gov.my/index.php?ch=12&pg=629 /49/	Cross checked the Monthly Statistical Bulletin on 18th March 2010, published by Bank Negara Malaysia /49/and confirmed the exchange rate value used is valid

Grid TNB savings	USD 2,915,000	Sri Senggora IRR Calculation (Electricity energy produced by 300kW gas engine install x 8,000 hrs (given by supplier) – electricity used by digester (technology provider proposal)) x electricity price RM0.35	The validation team was able to confirm that the calculation is correct based on: a) Confirmation of the average electricity tariff (see explanation "Average electricity tariff" above) b) Cross checked with the CER calculation spreadsheet and noted that the calculations are valid.
Depreciation rates	10 Years	http://www.masb.org.my/images/stories/ias25.pdf para 24, Pg 10./51/	The depreciation rates used are in line with the guideline given by Malaysian Accounting Standards Board (MASB).
Electricity used by bio digester	57,102kWh	Biogas Environment Engineering Sdn Bhd (BEEs) proposal dated 21 April 2010 /54/	The annual power consumption of 57,102kWh is given by the wastewater plant designer / technology supplier for pumps and mixer. The validation team confirmed this through the proposal given by the supplier.
Rent to Mill owner	12%	Agreement with Mill owner (ERPA) dated 12 May 2010/06/	As per the contract between GenPower and the mill owner, the CER revenue participation is based upon a sliding scale that ranges from 0% to 15%. For the base case, it is assumed that there will be a 12% participation from the mill owner to conservatively evaluate the additionality of the project without CERs. An increase in this participation would further decrease returns to GPCS as the investor proving further additionality of the project. Returns are still above 20% with CERs even under the highest level of participation under the base

			case proving an incentive to pursue this project as a CDM project.
CAPEX	RM 5,475,000	Biogas Environment Engineering Sdn Bhd (BEEs) proposal dated 21 April 2010 Airofluid proposals dated 29 April 2010 and 5 May 2010/54/	Checked through the quotation from designer and noted the quotations are conservative and appropriately applied. No exceptions noted.

The sensitivity analysis showed that the parameters selected are most likely to fluctuate over time due to external factors (i.e. Investment, technology, and economic). The sensitivity analysis covers a range of +10% and -10% as it is deemed appropriate as a plausible range for the project activity since CPA is only feasible with the revenue from CDM across the capital expenditure, operating expense and electricity price ranges. All expenditures will likely be affected by inflation as Malaysia has been experiencing a 3% inflation rate.

The revenues from the project activity without CDM implementation consists of the savings of electricity purchase from the national grid consumed for power generation. Hence with the project IRR of -3.7% (without CDM) over the crediting period (10 years), the project activity will not be attractive. However, with the financial assistance through CDM implementation, the project IRR will be attractive and thus will cause the project activity to be feasible (project IRR of 21.9%) which is deemed to be above the benchmark of 15%.

Based on the investment analysis above, it is in the opinion of BVC that without CDM revenue, the project CPA is not feasible as the IRR is below the benchmark set by relevant authorities i.e. 15% and the NPV value is negative. The project is not the business as usual scenario and it is additional. Hence, the proposed project activity cannot be considered economically and financially viable without revenues generated from the sale of CERs. The investment barrier and the technology barrier are the most significant barriers for this CPA. CDM benefits are required to make the project activity feasible and financially attractive.

The DOE, based on the assessment result by the financial expert engaged, hereby confirms that the underlying assumptions are appropriate and the financial calculations are correct.

3.7.4 Barrier analysis (118)

The following barriers have been presented to show that project activity is not the likely baseline scenario and that emissions reductions from the project are additional:

(ii) Technological barrier

The use of POME using a tank system with biogas recovery is a new process in Malaysia. Most of the palm oil mills opted for the open lagoon system because it is simple in operation and maintenance. The use enclosed anaerobic digester required skilled workers to operate and maintain the system. The skilled workers are not commonly available to the palm oil mill industry and thus require external support. This is substantiated by the literature review, namely A technical and economic analysis of heat and power generation from biomethanation of palm oil mill effluent. To cross checked the information provided by the project participants, the validation team has reviewed own independent research of information through internet in order to support the barrier presented in the PDD. Among the information review are as follows:

(a) Malaysia Generating Renewable Energy from Palm Oil Wastes, published by UNDP, Malaysia in August 2007 and
(b) Energy recovery from wastewater treatment: a case study in the biomethanation of palm oil mill effluent presented by Dr B.G Yeoh during Brunei Darussalam Cogeneration week 2004.

(iii) Barrier due to prevailing practice :

Currently, majorities of the palm oil mills are using anaerobic lagoon systems to treat POME. Using enclosed anaerobic digester system is not common among the palm oil mills and it is deemed difficult to change this practice. Barrier due to prevailing practice has been crossed check with information provided by the PP namely study on clean development mechanism potential in the waste sectors in Malaysia.

(iiii) National policies

The use open lagoon system to treat POME is in compliance with Environmental Quality (Prescribed Premises) (Crude Palm Oil) Regulations 1977, hence there is no need to change the practice.

3.7.5 Common practice analysis (121)

This section is not applicable.

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 3.6.4 and found acceptable and in accordance to methodology AMS III H version15.

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 15.

The parameters identified to be monitored ex-post for first real case CPA are as follows:

(i) Volume of wastewater treated;
(ii) COD of raw wastewater entering the anaerobic treatment system;
(iii) COD of treated wastewater leaving the anaerobic treatment system;
(iv) Mass flow rate of biogas produced by the digestor;
(v) Mass flow rate of biogas destroyed in gas engine for power generation;
(vi) Average volumetric fraction of methane in the biogas (residual gas);
(vii) Average volumetric fraction of oxygen in the biogas from digestor;
(viii) Electricity consumption of the project activity;
(ix) Electricity consumption of the worker quarters and office;
(x) End use of the final sludge;
(xi) Mass flow rate of biogas (residual gas);
(xii) Concentration of methane in the exhaust gas of the flare;
(xiii) Volumetric fradtion of oxygen in the exhaust gas of the flare;
(xiv) Temperature in the exhaust of the enclosed flare;
(xv) The flare efficiency

The validation team conclude that selected parameters, monitoring methods, frequencies and the measurement equipment were in line with the methodology.
Leakage is not considered in this project activity as no equipment is transferred from other activities.

GenPower Carbon Solutions Services (Malaysia) Sdn Bhd 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.

GenPower Carbon Solutions Services (Malaysia) Sdn Bhd 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.

For first real case CPA, Sri Senggora Biogas Project (SS 33610255-1) CPA, stakeholder meeting was held on 27 July 2010 at the canteen of Sri Senggora Palm Oil Mill. A list of attendees and their signature has been provided for validation. 7 comments were received during the meeting and all has been closed during the meeting. There were no adverse comments received during the stakeholder consultation meeting.

During site visit, Mr. Sukry bin Mohd Mustapa, admin staff of Sri Senggora Palm Oil Mill has been interview to confirm the stakeholder process is taking place.

The DOE hereby confirms that the process of local stakeholder consultation is observed to be adequate.

3.11 Environmental impacts (133)

The project participants have undertaken an analysis of environmental impacts and no negative environmental impacts are expected as a result of the project activity. Under Environmental Quality Act, Environmental Impact Assessment is not required and the Department of Environment Malaysia has given the exemption letter to the project participant.

4 COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS

The PDD using methodology AMS III H Version 15 was webhosted on the UNFCCC for global stakeholders comments as per CDM requirements. The project was webhosted from 23-11-2010 to 23-12-2010.

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, Sri Senggora Biogas Project (SS 33610255-1) CPA Project in Malaysia. 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, Sri Senggora Biogas Project (SS 33610255-1) 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 and CPA-DD version 05) 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 relate directly to the GHG components of the project.

/1/ CDM-SSC-PoA-DD dated 13 August 2010 version 1.
/2/ CDM-SSC-CPA-DD dated 8 November 2010 version 1
/3/ CDM-SSC-PoA-DD dated 14 December 2011 version 4.
/4/ CDM-SSC-CPA-DD dated 14 December 2011 version 5
/5/ Generic CDM-SSC-CPA-DD
/6/ Emission reduction spreadsheet calculation
/7/ Agreement between GPCS and Sri Senggora Palm Oil Mill dated 12 May 2010.
/8/ Land tenancy agreement between GPCS and Sri Senggora Palm Oil Mill dated 16 November 2010.
/9/ LOI between GPCS and Sri Senggora Palm Oil Mill dated 18 March 2010.
/10/ Power of attorney between GPCS and Sri Senggora Palm Oil Mill dated 16 November 2010.
/11/ Agreement between GPCS and Technology Provider dated 10 November 2010.
/12/ Biogas Utilization in palm oil mill.
/13/ Eco Danida – study on CDM potential in waste sector.
/14/ Effect of new palm oil mill processes on the EFB and POME utilization.
/15/ Palm Oil – The sustainable oil.
/16/ Review of the Malaysian Oil Palm Industry 2008.
/17/ A Technical and Economic Analysis of Heat and Power Generation from Biomethanation of Palm Oil Mill Effluent, by B.G Yeoh, 14-16 January 2004.
/18/ Malaysia CDM criteria.
/19/ Authorization letter from Palm Oil Mill to GPCS dated 14 September 2010.
/20/ Agreement of CER ownership between Palm Oil Mill and GPCS dated 12 May 2010.
/21/ Declaration of no public funding.
/22/ EIA exemption letter from Department of Environment dated 12 August 2010.
/23/ Report on Palm Oil Mill Wastewater Methane Fermentation System Performance, MPOB and BEE.
/24/ Proposal from Technology Provider.dated 27 August 2010.
/25/ Tabulation of system efficiency
/26/ Technology Provider Profile.
/27/ Proposal Project Layout Plan.
/28/ Existing pond design layout.
/29/ Stakeholder invitation letter.
/30/ Stakeholder attendance list.
/31/ Stakeholder newspaper advertisement.
/32/ Quotation from Flare Supplier.
/33/ 2006 IPCC Guidelines for National Greenhouse Gases Inventories.
/34/ Prior Consideration of CDM.
/35/ Sri Senggora Construction Schedule.

/36/ Malaysia Generating Renewable Energy from Palm Oil Wastes, published by UNDP, Malaysia in August 2007.
/37/ Energy recovery from wastewater treatment: a case study in the biomethanation of palm oil mill effluent presented by Dr B.G Yeoh during Brunei Darussalam Cogeneration week 2004.
/38/ LoA DNA Malaysia - NRE(S) 62.120.010.001.002/012 Jld 13 (16) dated 28 April 2011
/39/ Renewable Energy from Palm Oil Industry
/40/ MOC
/41/ POME Treatment Plant Approval Letter from Department of Environment Pahang.
/42/ Gas engine sizing
/43/ SS desludging approval from JAS Pahang.
/44/ SS final discharge analysis
/45/ Renewable Energy: The Failure of the Malaysian 5th Fuel Policy, Ingeniur Magazine by the Board of Engineer Malaysia.
/46/ Study on Clean Development Mechanism Potential in the waste sectors in Malaysia, EC-ASEAN Workshop: Eco-Ideal Consulting Sdn Bhd
/47/ Tenaga Nasional Berhad Electricity Tariffs Year 2010
/48/ Monthly Statistical Bulletin on 18th March 2010, guideline given by Malaysian Accounting Standards Board
/49/ http://indexmundi.com/malaysia/inflation_rate_(consumer_prices).html (inflation rates)
/50/ Bank Negara Malaysia historical rates.(Exchange rate) http://www.bnm.gov.my/index.php?ch=12&pg=629
/51/ Malaysian Accounting Standards Board (MASB).(Depreciation rates)
/52/ Malaysian CDM Information Handbook published by Ministry of Natural Resources and the Environment, 2nd Edition (2009).(verification cost)
/53/ UK LoA – DNA Ref: GenPower/01/2011 dated 9 June 2011
/54/ Assessment form 15 March 2010
/55/ Biogas Environment Engineering Sdn Bhd (BEEs) proposal dated 21 April 2010 Airofluid proposals dated 29 April 2010 and 5 May 2010

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

/1/ Validation and verification manual, version 01.2, E55, dated 30/07/2010
/2/ AMS III H Methane Recovery in Wastewater Treatment, version 15.
/3/ Tool to determine project emissions from flaring gases containing methane.
/4/ Tool to determine methane emissions avoided from disposal of waste at a solid waste disposal site.
/5/ Tool to calculate project or leakage CO_2 emissions from fossil fuel consumption.
/6/ Tool to calculate baseline, project and or leakage emissions from electricity consumption.
/7/ Guidelines on the assessment of investment analysis, version 04, dated 03/06/2011, EB61, Annex 13
/8/ Tool for demonstration and assessment of additionality, version 05.2, dated 26/08/2008, EB39, Annex 10.
/9/ Non-binding best practice examples to demonstrate additionality for SSC project activities.
/10/ Guidance on the demonstration and assessment of prior consideration of the CDM, version 03, dated 11/09/2009, EB49, Annex 22
/11/ Glossary of CDM terms, version 05 dated 19/08/2009.
/12/ AM 0053 version 2 dated 30 July 2010.
/13/ 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.
/14/ Guidelines on assessment of debundling for SSC project activities, version 03
/15/ Guidelines for objective demonstration and assessment of barriers, version 01.

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/ Miss Foo Siew Theng - GenPower Carbon Solutions Services (Malaysia) Sdn Bhd
/3/ Tham Sing Chong - Sri Senggora Palm Oil Mill
/4/ Mr. Sukry bin Mohd Mustapa – Sri Senggora Palm Oil Mill

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. Kusheru Wibowo

A Chemical Engineer with over all 18 years of experience. He has worked with Standards 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

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 - 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.

Technical Specialsit - Mr Wang Zhenning (BVC China)

He holds an MSc Degree in Environmental Technology and Bachelor Degree in Environmental Engineering. Before joining BV in 2010, he gained 4 years of technical experiences in the CDM industry in P.R China. He obtained the certificate of CDM Verifier in Nov 2010.

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: GENPOWER CARBON SOLUTIONS SERVICES (MALAYSIA) SDN BHD POA VALIDATION PROTOCOL

CHECKLIST QUESTION	Ref.	§	COMMENTS		Draft Concl	Final Concl
1. Approval			*COUNTRY A (insert the country name)*	*COUNTRY B (insert the country name)*		
a. Have all Parties involved approved the project activity?	VVM	44	Please provide LoA of Malaysia	Please provide LoA of UK	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 PDD 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 participatn or directly from the DNA)	VVM	45	~~CAR 1~~ LoA from DNA Malaysia was not provided. Close of CAR 1 LoA from DNA Malaysia was provided.	~~CAR 1~~ LoA from DNA UK was not provided.	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	Malaysia has ratified Kyoto Protocol on 4th September 2002	UK is in Annex 1 party	OK	OK

ii. confirm that participation is voluntary?	VVM	45.b	~~Pending CAR 1~~ Closed of CAR 1 Confirm that participation is voluntary	~~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~~ Closed of CAR 1 the proposed CDM project activity contributes to the sustainable development of the country	~~Pending CAR 1~~	CAR 1	OK
iv. Refers to the precise proposed CDM project activity title in the PDD being submitted for registration?	VVM	45.d	~~Pending CAR 1~~ Closed of CAR 1 Refers to the precise proposed CDM project activity in the PDD being submitted for registration	~~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~~ Closed of CAR 1 the letter of approval unconditional	~~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~~ Closed of CAR 1 LoA been issued by DNA Malaysia and is valid for the CDM project activity under validation.	~~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~~ Closed of CAR 1 No doubt with respect to the authenticity of the letter of approval.	~~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~~ Closed of CAR 1 NA	~~Pending CAR 1~~	~~CAR 1~~	OK
2. Participation			*PP1 (insert PP1 name)*	*PP2 (insert PP2 name)*		
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 c. the Kyoto Protocol?	VVM	51	Yes. Malaysia has ratified Kyoto Protocol on 4th September 2002	Yes. UK is in Annex 1 party	OK	OK
d. Are the project participants listed in tabular form in section A.3 of the PDD?	VVM	52	Yes.	Yes.	OK	OK
e. Is the information in section A.3 consistent with the contact details provided in annex 1 of the PDD?	VVM	52	Yes.	Yes.	OK	OK

f.	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	Refer to CAR 1	Refer to CAR 1	~~CAR 1~~	OK
g.	Are any entities other than those approved as project participants included in these sections of the PDD?	VVM	52	No.			
h.	Has the approval of participation issued from the relevant DNA?	VVM	53	Refer to CAR 1	Refer to CAR 1	~~CAR 1~~	OK
i.	Is there doubt with respect to (g) above? L	VVM	53	Refer to CAR 1	Refer to CAR 1	~~CAR 1~~	OK
j.	If yes, was verified with the DNA that the approval of participation is valid for the proposed project participant?	VVM	53	Refer to CAR 1	Refer to CAR 1	~~CAR 1~~	
3a. Project design document PoA							
a.	Is the PDD 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, Version is correct as stated in the UNFCCC CDM website for SSC-PoA-DD and SSC-CPA-DD.		OK	OK
b.	Is the PDD in accordance with the applicable CDM requirements for completing the PDD?	VVM	56	Yes		OK	OK
i.	Is the PDD in accordance with the applicable CDM requirements for completing the PDD?	EB 33	Ann 43	Yes		OK	OK
ii.	In CDM-SSC-PoA-DD section A.1 Title of Project provided?	EB 33	Ann 43	Yes Title: Malaysia Biogas Project. Version 04 dated 14 December 2011.		OK	OK
iii.	In CDM-SSC-PoA DD section A.2 are following provided ?	EB 33	Ann 43	Yes		OK	OK
1.	Description of the general operating and implementing framework of PoA	EB 33	Ann 43	Yes The proposed project activity will capture the biogas produced from POME instead of allowing it to escape into the atmosphere.		OK	OK

2. Description of Policy / measure or stated goal of PoA	EB 33	Ann 43	Yes	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 GPCS.	OK	OK
iv. In CDM-SSC-PoA DD section A.3 are following information provided?	EB 33	Ann 43	Yes.	OK	OK
1. Coordinating or managing entity of the PoA as the entity which communicates with the Board	EB 33	Ann 43	Yes. GPCS.	OK	OK
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	Parties involved: Malaysia (Host) and United Kingdom of Great Britain and Northern Ireland. Private entities: GenPower Carbon Solutions Services (Malaysia) Sdn Bhd and GenPower Carbon Soultions, L.P	OK	OK
v. In CDM-SSC-PoA DD section A.4 are technical description of the small-scale programme of activities provided?	EB 33	Ann 43	Yes	OK	OK
1. In CDM-SSC-PoA-DD section A.4.1. location of the programme of activities provided?	EB 33	Ann 43	Yes. The PoA will cover all states of Malaysia.	OK	OK
2. In CDM-SSC-PoA-DD section A.4.1.1 host party (ies) name provided?	EB 33	Ann 43	Yes. Malaysia (Host Party)	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 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.	EB 33	Ann 43	Yes. All states of Malaysia.	OK	OK

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. The proposed project will capture the bogass and completely combust the biogas in an enclosed/open flare with the option to instead utilize the biogas captured for power or heat based on the necessities at each specific site.	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. It is expected that several technologies will be available to be considered for each CPA and each technology must comprise measures that recover biogas organic matter in wastewater by means of one or combination of method based on AMS III H methodology (version 15 and later).	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?. This section of A.4.2.2 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. Total 6 criteria's mentioned as follows: (i) The new project fulfil one of the option in AMS III H methodology; (ii) The proposed project will utilize least 10% of biogas for energy utilization. (iii) The proposed project comply with Malaysia's CDM criteria. (iv) The CPA is approved by GPCS as the managing entity. (v) The CPA has emission reductions of less than the limit of 60,000 tCO_{2e} annually for type III project small scale category and less than 15MW for type I project small scale category. (vi) The CPA meet all criteria for demonstration additionality.	OK	OK

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	Yes. The proposed PoA is a voluntary coordinated action from GPCS to promote the implementation of biogas technology with an option to utilize the captured methane as renewable energy. In the absence of the PoA, the palm oil mills included in the PoA would continue to use anaerobic open lagoons or ponds to treat the POME and would continue to emit methane to the atmosphere. In addition to that, there is no mandatory law to enforce owners of palm oil mills to implement the biogas recovery projects.	OK	OK
i.	Is the proposed PoA a voluntary coordinated action?	EB 33	Ann 43	Yes. The proposed PoA is a voluntary coordinated action by GPCS.	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	PoA is implementing a voluntary coordinate action, it would not be implemented in that absence of the PoA. Currently, the Department of Environment Malaysia only imposed the discharge limit of POME to the watercourse or land and did not require the palm oil mill owners to capture gas methane from the treatment system and thus gas methane would continue to emit the atmosphere from the anaerobic pond system, commonly use by the palm oil mill owners to treat POME.	OK	OK
iii.	Demonstrated if the PoA is implementing a mandatory policy / regulation, this would / is not enforced.	EB 33	Ann 43	N/A	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	N/A	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	Yes	OK	OK
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 GPCS who is responsible for the record keeping relating to production of the monitoring reports. GPCS 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 marked by GPS for each specific fixed site location. For Sri Senggora Biogas Project, the reference number is SS 33610255-1; with latitude 3°36' N and longitude 102°55' E. GPCS will check in UNFCCC website to ensure that a similar CPA has not been submitted for validation or registered.	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.	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. CPA implementer will sign relevant legal agreements with the coordinating entity (GenPower Carbon Solutions Services (Malaysia) Sdn Bhd) consenting to their palm oil mill being included in the POA.	OK	OK
9.	In CDM-SSC-PoA DD section A4.4.2 is monitoring plain provided the following information:	EB 33	Ann 43	Yes.	OK	OK
i.	description of the proposed statistically sound sampling method / 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	EB 33	Ann 43	N/A	OK	OK
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 no sampling method used. And each and every CPA included in the POA will use a verification process as outlined in the monitoring plan.	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	Yes There is no public funding for this program.	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. Start date of the PoA will be the date on which the PoA is registered with CDM executive board. The definition of "starting date" is set out in the *CDM Glossary of Terms* as follows: The starting date of a CDM project activity is the earliest date at which either the implementation or construction or real action of a project activity begins (*CDM Glossary of Terms*, Version 03).,	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. 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	Selected no.1 Environmental Analysis is done at CPA level. ~~CAR 2~~ PDD has not clearly indicate any choice of level of which the environmental analysis is undertaken and justify the choices Close of CAR Verified justification is included in the PoA-DD and hence CAR 2 closed.	~~CAR 2~~	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	Rather than causing negative impacts to the environment, the project activity will provide the positive environmental benefits as follows: (i) Reduction of gas methane emit to atmosphere; (ii) Improve POME treatment system; (iii) Reduce risk of water contamination; (iv) Generate green energy; (v) Reduce fossil fuel usage; (vi) Significantly reduce odor.	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	The proposed project is not a prescribe activity under Environmental Quality (Prescribed Activities) (EIA) Regulations 1987 and thus EIA is not require for the proposed project activity.	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	~~CAR 3~~ Level of local stakeholder consultation is done at CPA level but there is no justification provided. Closed of CAR 3 Verified justification of stakeholder consultation at CPA level is included in the PoA-DD.	~~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	Local stakeholder consultation is done at SSC-CPA level.	OK	OK
j.	In CDM-SSC-PoA DD section D.3 a summary of comments received provided?	EB 33	Ann 43	This was addressed at 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 was addressed at 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. Title of approved SSC baseline and monitoring methodology is AMS III H " Methane recovery in wastewater treatment" version 15.	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	Yes. Justification of the choice of the methodology and why it is applicable to a SSC-CAP is provided.	OK	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. Emission for baseline scenario are as follows: (i) Gas methane from wastewater treatment processes; (ii) Gas carbon dioxide from electrical energy generation; (iii) Gas carbon dioxide from thermal energy generation. Emission for project scenario are as follows: (i) Gas methane from biogas recovery system; (ii) Gas methane from wastewater treatment processes without biogas recovery; (iii) Gas carbon dioxide from electrical energy generation; (iv) Gas carbon dioxide from thermal energy generation. Justification for inclusion and exclusion are provided. Exclusion is for simplification and inclusion is due to main emission source.	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	~~CL 1~~ Please clarify why the combined tool to identify the baseline scenario and demonstrate additionality is chosen (Section E 4 of PoA) Closed of CL 1 Verified the identified baseline must be in accordance with procedures provided in the approved small scale baseline and monitoring methodology, AM III H.	~~CL 1~~	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	Yes. ~~CL 2~~ Section E 5 of PoA stated The possible return by generating energy for either electricity or heat, if applicable, is rather small – please provide evidence to support the statement. Closed of CL 2 Verified CL 2 and found the explanations is appropriate and hence CL 2 is closed.	~~CL 2~~	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	The additionality will be assessed and demonstrated at CPA level by applying the "Non-binding best practice examples to demonstrate additionality for SSC project activities" ~~CL 3~~ Section E5.1 of PoA stated potential revenue from generating electricity or savings due to displacing fossil fuels in heat generation, if applicable, is rather limited based on specific site requirements – please give more reasons. Closed of CL 3 Verified explanation in section E5.1 and found appropriate and hence CL 3 is closed.	~~CL 3~~	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 undertaken in the E5.1 above?	EB 33	Ann 43	Yes. Criteria for CPA included in the registered POA as follow: a) Define credible possible alternative scenarios to the project activity. b) Determine most relevant barrier. c) Financial analysis to demonstrate additionality of the project. d) Voluntary participation.	OK	OK
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	Yes. The project's additionality will be demonstrated by applying the "Non-binding best practice examples to demonstrate additionality for SSC project activities".	OK	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. There are 4 tools that can be used as a reference with the AMS III H methodology as follows: 1. Tool to calculate project or leakage CO_2 emissions from fossil fuel combustion - It can be used in cases where CO_2 emissions from fossil fuel combustion are calculated based on the quantity of fuel combusted and its properties. 2. Tool to determine methane emissions avoided from disposal of waste at a solid waste disposal site - To calculate methane emissions from biomass stored under anaerobic condition, takes place in the project and does not occur in the baseline situation. 3. Tool to determine project emissions from flaring gases containing methane -To calculate project emissions from flaring of a residual gas stream (RG) containing methane. 4. Tool to calculate baseline, project and/or leakage emissions from electricity consumption -This tool provides procedures to estimate the baseline, project and/or leakage emissions associated with the consumption of electricity.	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 to be used for calculation of baseline emission, project emission and emission reduction are provided. As the project activity is under a PoA, in case the project activity involves the replacement of equipment and the replaced equipment is scrapped, an independent monitoring of scrapping of replaced equipment needs to be implemented. If the equipment is transferred from another activity, leakage effects at the site to be estimated.	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. 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. ~~CAR 4~~ To correct typo error on: (i) Page 40 of PoA – QA/QC procedure for $S_{l\,PJ\,Y}$ and $S_{final\,PJ\,y}$ were wrongly describe. (ii) Page 27 of CPA – formula for efficiency for $n_{flare,h}$ was incorrect. (iii) Page 29 of CPA was left blank. Closed of CAR 4 The error verified corrected and hence CAR 4 is closed. ~~CL 4~~ Please clarify D_{CH4} in section E 6.3 of PoA is measured or constant/default value. Closed of CL 4 D_{CH4} in section E 6.3 of PoA is measured.	~~CAR 4~~ ~~CL 4~~	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	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.	OK	OK

	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 – $Q_{ww,l,y.}$ (ii) COD removed from the wastewater before the treatment system affected by the project activity, COD $_{ww, untreated, y}$ (iii) COD removed from the wastewater after the treatment system affected by the project activity, COD $_{ww, treated, y.}$ (iv) COD removed from the discharged wastewater after the treatment system affected by the project activity, COD $_{ww, discharge PJ Y.}$ (v) Amount of dry matter in the sludge treated by the sludge treatment system in the project activity, S $_{l PJ y.}$ (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 $_{burnt.}$ (viii) Methane content of the biogas in the year y, Volume fraction, W $_{CH4, y.}$ (ix) Temperature of the biogas, T. (x) Pressure of the biogas, $P_{a.}$ (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 a monitoring plan provided. The monitoring plan will cover topics such as monitoring obligations and management and operational systems includes data handling, quality assurance and training.	OK	OK
s.	In the CDM-SSC-PoA-DD section E.8 id date of completion of the application of the baseline study	EB 33	Ann 43	Date of completion of application of the application of the baseline study and	OK	

and monitoring methodology and the name of the responsible person(s) / entity(ies) provided?			monitoring methodology and the name of the responsible person(s) or entity(ies) have been provided: Verified completion dated sated the baseline study and monitoring methodology is 8 Aug 2010 by Mr. Asrulnizam bin Alias, CDM Project Enginneer.		
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. The managing entity of the PoA is GenPower Carbon Solutions Services (Malaysia) Sdn Bhd located at No 5, Jalan Bangsar Utama 1, Level 22, Unit A-22-13, Menara UOA Bangsar, Kuala Lumpur.	OK	OK
3b. Project Design Document – CPA	EB 33				
a. In CDM-SSC-CPA-DD section A. are following provided?	EB 33	Ann 34	Yes.	OK	OK
i. In CDM-SSC-CPA-DD section A.1 Title of project provide?	EB 33	Ann 34	Yes. Sri Senggora Biogas Project (SS 33610255-1)	OK	OK
ii. In CDM-SSC-CPA-DD section A.2 Description of the small scale CPA provided?	EB 33	Ann 34	Yes. Description of the small scale CPA provided. The project activity will involve installation of new tank system with biogas recovery to treat the POME and capture the biogas for electricity generation.	OK	OK

iii.	In CDM-SSC-CPA-DD section A.3 information on the entity / individual responsible of the CPA included? CPA implementers can be project participants of the PoA, under which the CPA is submitted, provided their name is included in the registered PoA.	EB 33	Ann 34	Yes CPA implementer are: (i) GenPower Carbon Solutions Services (Malaysia) Sdn Bhd; (ii) GenPower Carbon Solutions, L.P ~~CL 5~~ Section A3 of CPA stated Sri Senggora Kilang Kelapa Sawit Sdn Bhd is project participants but not project implementer. Please clarify. Closed of CL 5 Sri Senggora Kilang Kelapa Sawit did not responsible for the installation of the project activity.	~~CL 5~~	OK
iv.	In CDM-SSC-CPA-DD section A.4 Technical description of the small-scale CPA provided as follows:	EB 33	Ann 34	Yes. ~~CL 6~~ MPOB study report on the system performance and tabulation of system efficiency. Closed of CL 6 MPOB study report provided. ~~CL 7~~ Please clarify the source of power supply for worker quarters and office and why it is not in project boundary. Please also clarify whether electricity generated will be used by the palm oil mill or biogas plant only. (Section A4 of CPA) Closed of CL 7 Section A4 of the CPA-DD revised and hence CL 7 is closed.	~~CL 6~~ ~~CL 7~~	OK

a. In CDM-SSC-CPA-DD section A.4.1 Identification of the small scale CPA provided?	EB 33	Ann 34	Yes ~~CAR 5~~ In CDM-SSC-CPA-DD Main equipment to be installed has not been clearly discussed in section A4 Closed of CAR 5 The description of main equipments to be installed has been included in the CPA-DD section A4.	~~CAR 5~~	OK
b. In CDM-SSC-CPA-DD section A4.1.1 host Party information provided?	EB 33	Ann 34	Yes. Host Party is Malaysia.	OK	OK
c. In CDM-SSC-CPA-DD section A.4.1.2 information of geographic reference or other means of identification allowing the unique identification of the small scale-CPA (maxim one page) provided? Geographic reference or other means of identification, name / contact details of the entity/individual responsible for the CPA, e.g in case of stationary CPA geographic reference, in case of mobile CPAs means such as registration number, GPS devices.	EB 33	Ann 34	Yes. ~~CAR 6~~ Coordinate stated in page 6 of CPA is in degree shall be corrected to degree and minute Closed of CAR 6 Coordinate is in degree and minute and hence CAR 6 is closed.	~~CAR 6~~	OK

v. In CDM-SSC-CPA-DD section A.4.2 Duration of the small scale CPA provided as follows:	EB 33	Ann 34	Yes	OK	OK
a. In CDM-SSC-CPA-DD section A. 4.2.1 Starting date of the small scale CPA provided?	EB 33	Ann 34	Yes. Starting date of the small scale CPA is 1st Oct 2011 (expected construction date) or 2 months after CPA registered, whichever is later. The starting date of a CDM programme of activity is the earliest date at which either the implementation or construction or real action of a programme activity begins (CDM Glossary of Terms Version 03) ~~CL 8~~ To provide project implementation schedule Closed of CL9 Project implementation scheduled provided.	~~CL 8~~	OK
b. In CDM-SSC-CPA-DD section A4.2.2 Expected operational lifetime of the small scale CPA provided?	EB 33	Ann 34	Yes. 30 years. ~~CL 9~~ To provide evidence operational lifetime the digester tank – 30 years. (page 7 of CPA). Closed of CL 9 The reference document is provided.	~~CL 9~~	OK

vi.	In CDM-SSC-CPA-DD section A.4.3 Choice of the crediting period and related information provided? Choice either renewable crediting period or fixed crediting period.	EB 33	Ann 34	Yes Fixed crediting period for 10 years	OK	OK
	a. In CDM-SSC-CPA-DD section A.4.3.1 Starting date of the crediting period provided?	EB 33	Ann 34	1st May 2012. This date is after the completion of construction of the biogas digester tank. Expected construction duration is about 8 months. The start date of the crediting period is after the registration of the project.	OK	OK
	b. In CDM-SSC-CPA-DD section A.4.3.2 Length of crediting period, first crediting period if the choice is renewable CP provided? Note: The duration of crediting period of any CPA shall be limited to the end date of the PoA regardless of when the CPA was added.	EB 33	Ann 34	Yes Fixed crediting period for 10 years Length of the programme of activities (POA) is 28 years stated in the section B.2 of CDM-SSC-POA-DD.	OK	OK
vii.	In CDM-SSC-CPA-DD section A.4.4 Estimated amount of emission reductions over the chosen crediting period provided?	EB 33	Ann 34	Estimated amount calculated for 10 years as: 38,402 tCO_2 x10 years = 384,020 tCO_2	OK	OK
viii.	In CDM-SSC-CPA-DD section A.4.5 information of public funding of the CPA provided?	EB 33	Ann 34	There is no public funding for this CPA. GPCS has funded the CPA with its internal accruals.	OK	OK

ix.	In CDM-SSC-CPA-DD section A.4.6 information to confirm that the proposed small scale CPA is not a de-bundled component provided?	EB 33	Ann 34	Yes The proposed small scale CPA is not a de-bundled component. ~~CL 10~~ To provide date and name of person meet during discussion with DNA Malaysia (page 8 of CPA) Closed of CL 10 Date and name of person meet during discussion with DNA Malaysia provide.	~~CL 10~~	OK
x.	In CDM-SSC-CPA-DD section A4.7 Confirmation that small scale CPA is neither registered as an individual CDM project activity or is part of another Registered PoA provided?	EB 33	Ann 34	Yes, confirmation made that CPA is neither registered nor seeking registration as a standalone (individual CDM). Mandate and Request for Inclusion into PoA Malaysia Biogas Project letter was signed between GPCS and Sri Senggora Biogas Project.	OK	OK
b.	In CDM-SSC-CPA-DD section B information of eligibility of small scale CPA and estimation of emissions reduction provided as follows:	EB 33	Ann 34	Yes	OK	OK
i.	In CDM-SSC-CPA-DD section B.1 Title and reference of the Registered PoA to which small scale CPA is added provided?	EB 33	Ann 34	Yes. Malaysia Biogas Projects.	OK	OK

ii.	In CDM-SSC-CPA-DD section B.2 Justification of the why the small scale CPA is eligible to be included in the Registered PoA provided?	EB 33	Ann 34	Yes. Justification provided as follows: (i) It fulfill condition (f) of the methodology AMS III H, version 15; (ii) 20% of the biogas for energy utilization; (iii) Fulfill Malaysia's National CDM criteria; (iv) The CPA is approved by the GPCS as managing entity; (v) The CPA has annual emission reduction of 38,402 tCO_2 and electricity generation capacity up to 1 MW. (vi) The CPA meet all criteria to demonstrate additionality.	OK	OK
iii.	In CDM-SSC-CPA-DD section B.3 Assessment and demonstration of additionality of the small scale CPA, as per eligibility criteria listed in the Registered PoA provided?	EB 33	Ann 34	PP has chosen the following to demonstrate additionality: : i. No mandatory regulation and requirements to recover and burn the methane produce by the anaerobic activity of POME. ii. Technological barriers. iii. Barrier due to prevailing practice. iv. Investment barrier. ~~CL 11~~ Section B3 of CPA under the topic of technological barrier, it stated the monitoring is very crucial as all monitoring equipment needs to be maintained and calibrated on a regular basis. Please clarify. Please explain also how CDM can help to overcome barrier due to prevailing practise. Closed of CL 11	~~CL 11~~ ~~CL 12~~	OK

			Verified explanation provided and hence CL 11 closed. ~~CL 12~~ Please explain in detail why simple cost analysis is applicable to the project and why IRR is calculated? Why there is a need to install gas engine and not only biogas recovery and flaring system? Closed CL 12 The 3 reasons are found to be reasonable as the new gas engines will generate savings on electricity which will enhance the IRR calculated, Also, benchmark analysis is the applicable analysis for this project as it considers revenue other than CERs. Section B3 of CPA – investment analysis		

iv.	In CDM-SSC-CPA-DD section B.4 Description of the sources and gases included in the project boundary and proof that the small scale CPA is located within the geographical boundary of the registered PoA provided?	EB 33	Ann 34	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. PDD explained methane gas is included as this is main emission source and carbon dioxide and nitrogen oxide are excluded for simplification purpose. The CPA is located at: Sri Senggora Palm Oil Mill'PT6108 Jalan Kampung Belimbing,'26500 Maran, Pahang. The mill is located on the east coast of Malaysia with GPS coordinates N 3°36′ E 102° 55′ and thus confirm is in the geographical boundary of the PoA.	OK	OK

v. In CDM-SSC-CPA-DD section B.5 Emission reductions provided as follows:	EB 33	Ann 34		OK	OK
a. In CDM-SSC-CPA-DD section B.5.1 Data and parameters that are available at validation provided?	EB 33	Ann 34	Yes Data and parameters provided in the table format. ~~CL 13~~ To justify selection of capture efficiency of the biogas recovery equipment in the wastewater treatment system CFE_{ww} (Methodology specify to use default value of 0.9 instead of 0.99 (page 15 of CPA) Closed of CL 13 The explanation accepted and hence CL 13 clsoed.	~~CL 13~~	OK
b. In CDM-SSC-CPA-DD section B.5.2 Ex-ante calculation emission reductions provided?	EB 33	Ann 34	Yes. Ex-ante calculation emission reductions spreadsheet provided and verified correct. ~~CL 14~~ Section B 5.2 of CPA stated there are no baseline emissions from the electricity or fuel consumption in the baseline activity. Please clarify. Closed of CL 14 The power from mill's turbine is used as a backup during the gas engine downtime and also for start up. As the mill's power is from biomass boiler, there is no project emission as it is considered carbon neutral. As for project emission, no electricity or diesel used in project activity. Please clarify if gas engine under maintenance or breakdown, how to start up biogas plant.	~~CL 14~~	OK

c. In CDM-SSC-CPA-DD section B.5.3 Summary of the ex-ante estimation of emission reductions provided in the tabular form stated in the section B.5.3?	EB 33	Ann 34	Yes. Summary of the ex-ante estimation of emission reductions was presented in the table and verified correct.	OK	OK
vi. In CDM-SSC-CPA-DD section B.6 Application of the monitoring methodology and description of the monitoring plan provided as follows?	EB 33	Ann 34	Yes.	OK	OK
a. In CDM-SSC-CPA-DD section B.1 Description of the monitoring plan provided?.	EB 33	Ann 34	Yes. Monitoring plan provided. ~~CL 15~~ End-use of the final sludge QA/QC procedure (page 24 of CPA) was not filled in. Closed of CL 15 QA/QC procdure has been included. ~~CL 16~~ Calculation of $PE_{flare, y}$ was not in line with the tool to determine project emissions from flaring gases containing methane. Closed of CL 16 Verified calculation of $PE_{flare, y}$ was not in line with the tool to determine project emissions from flaring gases containing methane. ~~CL 17~~ Please review ID4, ID5, ID6, ID7, ID8 and ID9 to ensure it is in line with the methodology. Closed of CL 17 Verified the revision in CPA-DD and hence CL 17 is closed.	~~CL 15~~ ~~CL 16~~ ~~CL 17~~	OK OK

c. In CDM-SSC-CPA-DD section C.1 Level at which environmental analysis as per requirements of the CDM modalities and procedures is undertaken indicated? Justify the choice of level at which the environmental analysis is undertaken provided?	EB 33	Ann 34	Environmental analysis is undertaken at CPA level. The choice of justification is provided at PoA design document.		
d. In CDM-SSC-CPA-DD section C.2 Documentation on the analysis of the environmental impacts, including transboundary impacts provided?	EB 33	Ann 34	Yes. There is documentation on the analysis of the environmental impacts analysis for the CPA. Verified the environmental analysis given in the CPA-DD section C.2 identified no negative environmental impacts but positive environmental benefits such as: reduce methane emissions, improve POME treatment system, reduce risk of water contamination, generate green energy, reduce fossil fuel usage and significantly reduce odor. ~~CL 18~~ Section C2-CPA stated the CPA will not have any adverse environmental impacts, even though no noise pollution? Please clarify Closed of CL 18 The explanation acceptable.	~~CL 18~~	OK
e. In CDM-SSC-CPA-DD section C.3 Statement on whether an environmental impact assessment is required for a typical CPA, included in the programme of activities (PoA), in accordance with the host Party laws / regulations provided?	EB 33	Ann 34	Yes. Project participant has obtained a letter of exemption for the EIA assessment from the Malaysian Department of Environment on 12 August 2010.	OK	OK

f.	In CDM-SSC-CPA-DD section D Stakeholders' comments provided as follows:	EB 33	Ann 34	Yes.	OK	OK
i.	In CDM-SSC-CPA-DD section D.1 the level at which local stakeholder comments are invited indicated? Justify the choice provided?	EB 33	Ann 34	Yes It is indicated as the information is provided at the CPA level, where section of D.2, D.3 and D.4 has been completed in this form.	OK	OK
ii.	In CDM-SSC-CPA-DD section D.2 Brief description how comments by local stakeholders have been invited and compiled provided?	EB 33	Ann 34	A local stakeholder's consultation was conducted on 27 July 2010 at the canteen of Sri Senggora Palm Oil Mill. There were 18 stakeholders attending the meeting and this has been confirmed via interview with Mr. Sukry bin Mohd Mustapa during site visit on 6 January 2011. Prior to the meeting, PP of this CPA had issued a public announcement and invitation in 2 local newspapers, New Straits Times and Berita Harian dated 16 July 2010. Invitation letters were also sent out by hand, mail and fax to government agencies, local authorities, NGO etc.	OK	OK
iii.	In CDM-SSC-CPA-DD section D.3 Summary of the comments received provided?	EB 33	Ann 34	Yes.	OK	OK
iv.	In CDM-SSC-CPA-DD section D.4 Report on how due account was taken of any comments received provided?	EB 33	Ann 34	7 comments were received during the meeting and have been explained to the satisfaction of the participants. No adverse comments were received.	OK	OK
g.	In CDM-SSC-CPA-DD Annex 1 Contact information on Entity / Individual Responsible for the Small Scale CPA provided as in the Annex 1 tubular form?	EB 33	Ann 34	Yes.	OK	OK

3c. Programme of Activities	VVM	165			
a. Operational and management arrangements for the PoA	VVM	166			
i. is the operational and management arrangements which have been established by the coordinating / managing entity are suitable for the PoA being validated?	VVM	166	Yes Indicated in the section A.4.4.1 of POA-SSC-DD	OK	OK
ii. do the coordinating / managing entity have control of all records and information related to the implementation of individual CPAs?	VVM	166	Yes A record keeping system for each CPA under the POA defined in section A.4.4.1 where GPCS 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	166	Yes Legal agreement sign between GPCS and CPA implementer already made.	OK	OK
b. Eligibility criteria for CPAs	VVM	167			
i. 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? The requirements will include inter alia the means of demonstrating the addtionality of the CPA and the Applicability of the applied methodology.	VVM	167	Yes, eligibility criteria have complied with CDM requirements applicable to PoA.	OK	OK
c. Validation of CPAs	VVM	168			
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

4. Project description					
a. Does the PDD contain a clear description of the project activity that provides the reader with a clear understanding of the precise nature of the project activity and the technical aspects of its implementation?	VVM	58	Yes, the project activity is introducing of sequential stage wastewater treatment with biogas recovery and combustion to an anaerobic wastewater treatment system.	OK	OK
b. Is the description of the proposed CDM project activity as contained in the PDD:	VVM	59			
i. sufficiently covering all relevant elements?	VVM	59	Yes.	OK	OK
ii. acurate?	VVM	59	Yes.	OK	OK
iii. providing the reader with a clear understanding of the nature of the proposed CDM project activity?	VVM	59	Yes.	OK	OK
iv. Are there any changes/modifications compared to the webhosted PDD?	VVM	59	No changes/modifications compared to the webhosted PDD. The changes to the PDD are to correct issues raised by DOE.	OK	OK
c. Is the proposed CDM project activity in existing facilities or or utilizing existing equipments?	VVM	60	The proposed CDM project activity is in existing POME treatment plant. It will be located on land allocated for acidification process.	OK	OK
d. Is the CDM project activity one of the following types:	VVM	60			
i. Large scale?	VVM	60	No.	OK	OK
ii. Non-bundled small scale projects with emission reductions exceeding 15,000 tonnes per year?	VVM	60	This CPA is not a debundled component of a large project activity with emission reductions of 38,139 tonnes of CO_{2e}	OK	OK
iii. Bundled small scale projects, each with emission reductions not exceeding 15,000 tonnes?	VVM	60	No.	OK	OK
e. If yes to (c) and (d) above, was a physical site inspection conducted to confirm that the description in the PDD reflects the proposed CDM project activity, unless other means are specified in the methodology?	VVM	60	A physical site inspection has been conducted on 6 January 2011.	OK	OK

f. If yes to (d.iii) above, was the number of physical site visits base on samping?	VVM	60	N/A	OK	OK
g. If yes is the sampling size appropriately justified through statistical analysis?	VVM	60	N/A	OK	OK
h. For other individual proposed small scale CDM project activities with emission reductions not exceeding 15,000 tonnes per year, was a physical site inspection conducted?	VVM	61	N/A	OK	OK
i. For all other proposed CDM project activities not referred to in paragraphs 59 – 61, was a physical site inspection conducted?	VVM	62	N/A	OK	OK
k. If no, was it appropriately justified?	VVM	62	N/A	OK	OK
l. Does the proposed CDM project activity involve the alteration of an existing installation or process?	VVM	63	~~CL 19~~ Please provide explanation does the project CDM project activity involve the alteration of an existing installation or process in section A4. Closed of CL 19 The CDM project activity is a greenfiled project and does not involves alteration of an existing installation or process.	~~CL 19~~	OK
m. If yes, does the project description clearly state the differences resulting from the project activity compared to the pre-project situation?	VVM	63	NA	OK	OK
5. Baseline and monitoring methodology					
a. General requirement					
a. Do the the baseline and monitoring methodologies selected by the project participants comply with the methodologies previously approved by the CDM Executive Board?	VVM	65	Yes. Baseline and monitoring methodologies selected comply with methodology AMS III H version 15.	OK	OK
b. Is the selected methodology applicable to the project activity?	VVM	66	Refer to (5.b.a) below	-	-

c. Had the PP correctly applied the selected methodology?	VVM	66	Refer to (5.b.d) below	-	-
d. Had the selected methodology been correctly applied with respect to project boundary?	VVM	67	Refer to (5.c) below	-	-
e. Had the selected methodology been correctly applied with respect to baseline identification?	VVM	67	Refer to (5.d) below	-	-
f. Had the selected methodology been correctly applied with respect to Algorithms and/or formulae used to determine emission reductions?	VVM	67	Refer to (5.e) below	-	-
g. Had the selected methodology been correctly applied with respect to additionality?	VVM	67	Yes.	OK	OK
Specific questions per methodology regarding application of the methodology with respect to additionality.					
i. What are the guideline use by PP to demonstrate additionality?			PP applying the "Non-binding best practise examples to demonstrate additionality".	OK	OK
ii. Did PP provide an explanation to show that the project activity would not have occurred anyway due to at least one of the barriers: investment barriers, access to finance barrier, technological barrier, barrier due to prevailing practise, other barriers?			The investment barrier, technology barrier and barrier due to prevailing practise are the three major barriers faced by palm oil mill owners in implementing the project activity and based on these barriers is sufficient to demonstrate the additionality of a typical CPA. Additionality for Sri Senggora Biogas Project has been assesed individually.	OK	OK

iii. Did PP identify the most relevant barrier and provide transparent and documented thrid party evidence such as national/internaltional statistics, national/provincial policy and legislation, studies/surveys by idenpendent agencies etc?			Yes. Documented third party evidence was refered to during assessment of additionality.	OK	OK
h. Had the selected methodology been correctly applied with respect to monitoring methodology?	VVM	67	Yes.	OK	OK
Specific questions per methodology regarding application of the methdology with respect to monitoring methodology.					
i. What are the monitoring methodology applied, selected for a typical SSC-CPA?			A typical SSC-CPA is eligible as a small scale project category under the AMS III H "Methane recovery in wastewater treatment".	OK	OK
ii. What are the tools that can be used as a reference with the selected methodology?			There are 4 tools that can be used a reference with the AMS III H methodology: a. Tool to calculate project or leakage CO_2 emissions from fossil fuel combustion. b. Tool to determine methane emissions avoided from disposal of waste at a solid waste disposal site. c. Tool to determine project emissions from flaring gases containing methane. d. Tool to calculate baseline, project and/or leakage emissions from electricity consumption.	OK	OK
b. Applicability of the selected methodology to the project activity					
a. Is the selected baseline and monitoring methodology, previously approved by the CDM Executive Board, applicable to the project activity including that the used version is valid?	VVM	68	Yes. AMS III H version 15 is approved by the CDM executive board dated 30 July 2010.	OK	OK
Specific questions per methodology regarding applicability.					

i. Is the proposed project activity complying with the options as per paragraph 1 of the methodology?			Yes. The CPA to be implemented under this PoA will involve biogas recovery from biogenic organic matter in POME by means of one or a combination of the 6 options as in the Methodology.	OK	OK
ii. In cases where baseline system is anaerobic lagoon, the methodology is applicable if: a. The lagoons are ponds with a depth greater than 2 meters, without aeration. b. Ambient temperature above 15^{o}C at least during part of the year, on a monthly average basis. c. The minimum interval between 2 consecutive sludge removal events shall be 30 days.			Yes. Sri Senggora Biogas Project SS 33610255-1 CPA comply to the following conditions: (a) Based on the design calculation by professional engineer and approval from Department of Environment, the anaerobic pond depth is 3 meters. (b) Malaysia is tropical country and as such ambient temperature is above 15^{o}C for the whole year. (c) Sludge removal from the pond required approval from Department of Environment. Based on the approval given by Department of Environment, the interval between 2 consecutive sludge removal events is more than 30 days.	OK	OK
iii. The recovered biogas was utilized for what applications instead of combustion/flaring?			20% of recover biogas will be utilized by installing a gas engine to supply electricity to the workers quarters and mill office.	OK	OK

iv.	New facilities (Greenfield projects) and project activities involving a change of equipment resulting in a capacity addition of the wastewater or sludge treatment system compared to the designed capacity of the baseline treatment system are only eligible to apply this methodology if they comply with the relevant requirements in the general guidelines to SSC CDM methodologies. In addition the requirements for demonstrating the remaining lifetime of the equipment replaced, as described in the general guidelines shall be followed.			~~CL 20~~ Please provide explanation on the proposed location of proposed biogas digester tank including whether it will resulting in a capacity addition of the wastewater treatment system compared to the designed capacity of the baseline treatment system and comply with he relevant requirements in the general guidelines to SSC CDM methodologies. In addition the requirements for demonstrating the remaining lifetime of the equipment replaced, as described in the general guidelines shall be followed. Closed of CL 20 Verified explanation provided and hence CL 20 closed.	~~CL 20~~	OK
v.	Did the location of the wastewater treatment plant as well as the source generating wastewater was defined and described in the SSC-CPA?			CL 21 Please provide description on the location of the wastewater treatment plant as well as the source generating wastewater. Closed of CL 21 Location of the wastewater treatment plant and source of the wastewater is explained and hence CL 21 closed.	~~CL 21~~	OK

vi. Measures are limited to those that result in aggregate emissions reductions of less than or equal to 60 kt CO_2 equivalent annually from all Type III components of the project activity.			The proposed CDM project is from type II and the emission reductions every year will not go beyond the limits of 60ktCO_{2e}/year over the entire crediting period.		
b. Has the DOE applied specific guidance provided by the CDM Executive Board in respect to the applicable approved methodology?	VVM	69	N/A	OK	OK
c. Is the methodology correctly quoted?	VVM	70	Yes.	OK	OK
d. Are the applicability conditions of the methodology met?	VVM	71	Yes.	OK	OK
i. Specific questions per methodology regarding applicability conditions.			Refer to 5b a	OK	OK
e. Is the proeject activity expected to result in emissions other than those allowed by the methodology?	VVM	71	No.	OK	OK
f. Is the choice of the methodology justified?	VVM	71	Yes.	OK	OK
g. Have the project participants shown that the project activity meets each of the applicability conditions or the approved methodology?	VVM	71	Refer to (5.b.d) above	-	-
h. Have the project participants shown that the project activity meets each of the applicability conditions of any tool or other methodology component referred to the methodology?	VVM	71	Yes. Sri Senggora Biogas Project fulfil option f of the methodology with emission reduction of 38,139 tCO_2 per year and will not go beyond 60ktCO_2 pper year over the entire crediting period. and electricity generation capacity up to 1 MW and will not increase beyond 15 MW over the entire crediting period.	OK	OK

	Specific questions per methodology regarding applicability conditions of any tool or other methodology component referred to the methodology.					
i.	What iare the tools that is used as a reference with the AMS III H Methdology?			Tool to determine project emissions from flaring gases containing methane.	OK	OK
ii.	Did the applicable conditions of the tool met? • The residual gas stream to be flared contains no other combustible gases than methane, carbon monoxide and hydrogen. • The residual gas stream to be flared shall be obtained from decomposition of organic material (through landfills, bio-digesters or anaerobic lagoons, among others) or from gases vented in coal mines (coal mine methane and coal bed methane)			Yes. Residual gas steam to be flared contains no other combustible gases than methane, carbon monoxide and hydrogen and was obtained from decomposition of organic matter through bio digesters.	OK	OK
i.	Is the DOE, based on local and sectoral knowledge, aware that comparable information is available from sources other than that used in the PDD?	VVM	71	N/A	OK	OK
j.	If yes, was the PDD cross checked agains the other sources to confirm that the project activity meets the applicability conditions of the methodology? (provide the reference to these choices)	VVM	71	N/A	OK	OK
k.	Can a determination regarding the applicability of the selected methodology to the proposed CDM project activity be made?	VVM	72	Yes.	OK	OK
l.	If no, clarification of the methodoloy was requested, in accordance with the guidance provided by the CDM Executive Board?	VVM	72	N/A	OK	OK

m. If answer to (5.b.d) above is "no", revision or deviation from the methodology was requested, in accordance with the guidance provided by the CDM Executive Board?	VVM	73	N/A	OK	OK
n. If yes to (5.b.l) and (5.b.m) above, a request for registration was submited before the CDM Executive Board has approved the proposed deviation or revision?	VVM	74	N/A	OK	OK
c. Project boundary					
a. Does the PDD correctly describe the project boundary, including the physical delineation of the proposed CDM project activity included within the project boundary for the purpose of calculating project and baseline emissions for the proposed CDM project activity?	VVM	78	Yes. ~~CL 22~~ Please describer project boundary in essay form rather than flow chart only with cross reference to paragraph 14 of methodology AMS III H. Closed of CL 22 Project boundary has been explained clearly and hence CL 22 is closed.	~~CL 22~~	OK
Specific questions per methodology regarding application of the methodology with respect to project boundary.					
i. What are the sections of the treatment systes that will be affected and not affected by the implementation of the project activity?			~~CL 23~~ Please explain sections of the wastewater treatment system that will be affected and not affected by the implementation of the project activity. Closed of CL 23 The explanation verified and found appropriate.	~~CL 23~~	OK

	ii. The assessment and identification of the systems affected by the project activity will be undertaken ex ante, and the SSC-CPA-DD shall justify the exclusion of sections or components of the system.			~~CL 24~~ The assessment and identification of the systems affected by the project activity will be undertaken ex ante, and the SSC-CPA-DD shall justify the exclusion of sections or components of the system. Please explain in SSC-CPA-DD. Closed of CL 24 Explanation is provided in CPA_DD section A4 and found appropriate and hence CL 24 closed.	~~CL 24~~	OK
b.	Is the delineation in the PDD of the project boundary correct and include identification of all locations, processes and equipment including secondary equipment and associated processes such as logistics etc.?	VVM	79	Yes. PoA project boundary within the states of Malaysia.	OK	OK
c.	Does the delineation in the PDD of the project boundary meet the requirements of the selected baseline?	VVM	79	Yes.	OK	OK
d.	Have changes been made to the project boundary in comparison to the webhosted PDD. If yes please comment on the reason for the changes.	VVM	79	No.	OK	OK
e.	Have all sources and GHGs required by the methodology been included within the project boundary?	VVM	79	Yes.	OK	OK
f.	Does the methodology allow project participant to choose whether a source or gas is to be included within the project boundary?	VVM	79	No.	OK	OK
g.	If yes, have the project participants justified that choice?	VVM	79	N/A	OK	OK
h.	If yes, is the justification provided reasonable? (provide reference to the supporting documented evidence provided by the project participants)	VVM	79	N/A	OK	OK

	d. Baseline identification					
a.	Does the PDD identify the baseline for the proposed CDM project activity, defined as the scenario that reasonably represents the anthropogenic emissions by sources of GHGs that would occur in the absence of the proposed CDM project activity?	VVM	81	Yes. The baseline scenario is the continuation of the existing open lagoon POME treatment system without methane recovery and combustion.	OK	OK
b.	Has any procedure contained in the methodology to identify the most reasonable baseline scenario, been correctly applied?	VVM	82	N/A	OK	OK
	Specific questions per methodology regarding application of any procedure contained in the methodology to identify the most reasonable baseline scenario.			N/A	OK	OK
c.	Does the selected methodology require use of tools (such as the "Tool for the demonstration and assessment of additionality" and the "Combined tool to identify the baseline scenario and demonstrate additionality") to establish the baseline scenario?	VVM	82	N/A	OK	OK
d.	If yes, was the methodology consulted on the application of thes tools? (In such cases, the guidance in the methodology shall supersede the tool.)	VVM	82	N/A	OK	OK
i.	Specific questions per methodology regarding application of tools to establish the most reasonable baseline scenario.			N/A	OK	OK
e.	Does the methodology require several alternative scenarios to be considered in the identification of the most reasonable baseline scenario?	VVM	83	N/A	OK	OK
f.	If yes, are all scenarios that are considered by the project participants and are supplementary to those required by the methodology reasonable in the context of the proposed CDM project activity?	VVM	83	N/A	OK	OK

g. Has any reasonable alternative scenario been excluded?	VVM	83	N/A	OK	OK
h. Is the baseline scenario identified reasonably supported by:	VVM	84			
i. Assumptions?	VVM	84	N/A	OK	OK
ii. Calculations?	VVM	84	N/A	OK	OK
iii. Rationales?	VVM	84	N/A	OK	OK
i. Are the documents and sources referred to in the PDD correctly quoted and interpreted?	VVM	84	Yes.	OK	OK
j. Was the information provided in the PDD cross checked with other verifiable and credible sources, such as local expert opinion, if available? (idendify the sources)	VVM	84	N/A	OK	OK
k. Have all applicable CDM requirements been taken into account in the identification of the baseline scenario for the proposed CDM project activity?	VVM	85	N/A.	OK	OK
l. Have all relevatn policies and circumstances been identified and correctly considered in the PDD, in accordance with the guidance by the CDM Executive Board?	VVM	85	Yes.	OK	OK
m. Does the PDD provide a verifiable description of the identified baseline scenario, including a description of the technology that would be employed and/or the activities that would take place in the absence of the proposed CDM project activity?	VVM	86	N/A	OK	OK
e. Algorithms and/or formulae used to determine emission reductions					
a. Do the steps taken and equations applied to calculate project emissions, baseline emissions, leakage and emission reductions comply with the requirements of the selected baseline and	VVM	89	Yes.	OK	OK

monitoring?					
b. Have the equations and parameters in the PDD been correctly applied with respect those in the select approved methodology?	VVM	90	Yes.	OK	OK
Specific questions per methodology regarding steps taken and equations and parameters applied to calculate project emissions, baseline emissions, leakage and emission reductions.					
i. Is the proposed project activity a new facilities (greenfield projects)?			Yes.	OK	OK
ii. If yes, what are the procedure follows for the baseline emission reduction calculations?			The following procedures follows during baseline emissions calculations: a. Value provided by designer of Greenfield wastewater treatment plant using the same technology located in the same host country/region, treating the same type and flow of wastewater as in the project activity and demonstrated to be conservative. b. No electricity or diesel used in the baseline. c. Baseline is corresponds to scenario f of the methodology i.e wastewater treatment without sludge treatment. d. Methane emissions from anaerobic decay of the final sludge are to be neglected because sludge is sun dried and used for soil application. e. Methane emissions from degradable organic carbon in treated wastewater discharged in e.g river, sea or lake in the baseline situation = zero as it is not part of the baseline activity.	OK	OK

c. Does the methodology provide for selection between different options for equations or parameters?	VVM	90	No.	OK	OK
d. If yes, has adequate justification been provided (based on the choice of the baseline scenario, context of the proposed CDM project activity and other evidence provided)?	VVM	90	N/A	OK	OK
e. If yes, have correct equations and parameters been used, in accordance with the methodology selected?	VVM	90	Refer to (5.e.b) above	-	-
f. Will data and parameters be monitored throughout the crediting period of the proposed CDM project activity?	VVM	91	Yes.	OK	OK
g. If no, and these data and parameters will remain fixed throughout the crediting period, are all data sources and assumptions:	VVM	91	N/A	OK	OK
i. Appropriate and correct?	VVM	91	N/A	OK	OK
ii. Applicable to the proposed CDM project activity?	VVM	91	N/A	OK	OK
iii. Resulting in a conservative estimate of the emission reductions?	VVM	91	N/A	OK	OK
h. Will data and parameters be monitored on implementation and hence become available only after validation of the project activity?	VVM	91	Yes.	OK	OK
i. If yes, are the estimates provided in the PDD for these data and parameters reasonable?	VVM	91	Yes.	OK	OK
6. Additionality of a project activity					
a. Does the PDD describe how a proposed CDM projet activity is additional?	VVM	94	Yes. SSC-CAP describes how a proposed CDM project activity is additional.	OK	OK
b. Were the following steps of the tool to assess additionality used:	EB 39	Ann 10			
i. Identification of alternatives to the project activity?	EB 39	Ann 10	N/A	OK	OK

ii. Investment analysis to determine that the proposed project activity is either: 1) not the most economically or financially attractive, or 2) not economically or financially feasible?	EB 39	Ann 10	Yes. Investment analysis is sued to determine whether the project activity is not financially feasible without revenue from the sale of certified emission reductions.	OK	OK
iii. Barriers analysis?	EB 39	Ann 10	Yes.	OK	OK
iv. Common practice analysis?	EB 39	Ann 10	Not mandatory for small scale project.	OK	OK
c. In step 1 (i) have all the sub-steps as below been followed?	EB 39	Ann 10	Not mandatory for small scale project.	OK	OK
i. Sub-step 1a: Define alternatives to the project activity	EB 39	Ann 10	Not mandatory for small scale project.	OK	OK
ii. Sub-step 1b: Consistency with mandatory laws and regulations	EB 39	Ann 10	Not mandatory for small scale project.	OK	OK
d. Have the following alternatives been included while defining alternatives as per sub-step 1a?	EB 39	Ann 10	Not mandatory for small scale project.	OK	OK
i. (a) The proposed project activity undertaken without being registered as a CDM project activity;	EB 39	Ann 10	Not mandatory for small scale project.	OK	OK
ii. (b) Other realistic and credible alternative scenario(s) to the proposed CDM project activity scenario that deliver outputs services or services with comparable quality, properties and application areas, taking into account, where relevant, examples of scenarios identified in the underlying methodology;	EB 39	Ann 10	Not mandatory for small scale project.	OK	OK
iii. (c) If applicable, continuation of the current situation (no project activity or other alternatives undertaken).	EB 39	Ann 10	Not mandatory for small scale project.	OK	OK

e.	Has the project participant included the technologies or practices that provide outputs or services with comparable quality, properties and application areas as the proposed CDM project activity and that have been implemented previously or are currently being introduced in the relevant country/region?	EB 39	Ann 10	Not mandatory for small scale project.	OK	OK
f.	Has the outcome of Step 1a: Identified realistic and credible alternative scenario(s) to the project activity done correctly? Please briefly mention the outcome.	EB 39	Ann 10	Not mandatory for small scale project.	OK	OK
g.	Is the alternative(s) in compliance with all mandatory applicable legal and regulatory requirements, even if these laws and regulations have objectives other than GHG reductions, e.g. to mitigate local air pollution.?	EB 39	Ann 10	Not mandatory for small scale project.	OK	OK
h.	If an alternative does not comply with all mandatory applicable legislation and regulations, has it been shown that, based on an examination of current practice in the country or region in which the law or regulation applies, those applicable legal or regulatory requirements are systematically not enforced and that noncompliance with those requirements is widespread in the country?	EB 39	Ann 10	Not mandatory for small scale project.	OK	OK
i.	Has the outcome of Step 1b: Identified realistic and credible alternative scenario(s) to the project activity that are in compliance with mandatory legislation and regulations taking into account the enforcement in the region or country and EB decisions on national and/or sectoral policies and regulations done correctly? Please state the outcome.	EB 39	Ann 10	Not mandatory for small scale project.	OK	OK

j. Has PP selected Step 2 (Investment analysis) or Step 3 (Barrier analysis) or both Steps 2 and 3?	EB 39	Ann 10	PP selected step 2 (investment analysis), technological barrier and barrier due to prevailing practice.	OK	OK
k. In step 2, have all the sub-steps as below been followed?	EB 39	Ann 10	Yes.	OK	OK
i. Sub-step 2a: Determine appropriate analysis method;	EB 39	Ann 10	Yes.	OK	OK
ii. Sub-step 2b: Option I. Apply simple cost analysis;	EB 39	Ann 10	N/A.	OK	OK
iii. Sub-step 2b: Option II. Apply investment comparison analysis;	EB 39	Ann 10	N/A	OK	OK
iv. Sub-step 2b: Option III. Apply benchmark analysis;	EB 39	Ann 10	Yes.	OK	OK
v. Sub-step 2c: Calculation and comparison of financial indicators (only applicable to Options II and III);	EB 39	Ann 10	N/A	OK	OK
vi. Sub-step 2d: Sensitivity analysis (only applicable to Options II and III).	EB 39	Ann 10	Yes.	OK	OK
l. In sub-step 2a has the determination of appropraite method of analysis done as per the guidance as below?	EB 39	Ann 10			
i. Simple cost analysis if the CDM project activity and the alternatives identified in Step 1 generate no financial or economic benefits other than CDM related income (Option I).	EB 39	Ann 10	N/A	OK	OK
ii. Otherwise, use the investment comparison analysis (Option II) or the benchmark analysis (Option III). Specify option used with justification.	EB 39	Ann 10	The benchmark analysis (Option III) is used for the Sri Senggora Biogas project as the project activity generates other financial and economic benefits other than CDM revenue.	OK	OK

m. Has the below guideline followed for sub-step 2b Option I. Apply simple cost analysis? Document the costs associated with the CDM project activity and the alternatives identified in Step1 and demonstrate that there is at least one alternative which is less costly than the project activity.	EB 39	Ann 10	N/A	OK	OK
n. Has the below guideline followed for sub-step 2b Option II. Apply investment comparison analysis? Identify the financial indicator, such as IRR, NPV, cost benefit ratio, or unit cost of service most suitable for the project type and decision-making context. Please specify	EB 39	Ann 10	N/A	OK	OK
o. Has the below guideline followed for Sub-step 2b: Option III. Apply benchmark analysis?	EB 39	Ann 10	Yes. Benchmark analysis is applied throughout the project activity.	OK	OK
i. Identify the financial/economic indicator, such as IRR, most suitable for the project type and decision context.	EB 39	Ann 10	Yes. IRR and NPV was used in determining the feasibility of the project.	OK	OK
ii. When applying Option II or Option III, the financial/economic analysis shall be based on parameters that are standard in the market, considering the specific characteristics of the project type, but not linked to the subjective profitability expectation or risk profile of a particular project developer. Only in the particular case where the project activity can be implemented by the project participant, the specific financial/economic situation of the company undertaking the project activity can be considered.	EB 39	Ann 10	Benchmark analysis (Option III) was used and the parameters used are standard in the markets which are not linked to the subjective profitability expectation or risk profile of the project.	OK	OK

iii.	Discount rates and benchmarks shall be derived from: (a) Government bond rates, increased by a suitable risk premium to reflect private investment and/or the project type, as substantiated by an independent (financial) expert or documented by official publicly available financial data; (b) Estimates of the cost of financing and required return on capital (e.g. commercial lending rates and guarantees required for the country and the type of project activity concerned), based on bankers views and private equity investors/funds' required return on comparable projects; (c) A company internal benchmark (weighted average capital cost of the company), only in the particular case referred to above in 2. The project developers shall demonstrate that this benchmark has been consistently used in the past, i.e. that project activities under similar conditions developed by the same company used the same benchmark; (d) Government/official approved benchmark where such benchmarks are used for investment decisions; (e) Any other indicators, if the project participants can demonstrate that the above Options are not applicable and their indicator is appropriately justified. Please specify benchmark and justify.	EB 39	Ann 10	Equity IRR has been chosen as the financial indicator for the financial analysis for this CPA. The benchmark of 15% was used in the investment analysis and is supported by relevant national authorities which are an applicable benchmark in Malaysia for CDM projects. No discount rates and other benchmarks were set against the project activity.	OK	OK

p. Has the below guideline followed for Sub-step 2c: Calculation and comparison of financial indicators (only applicable to Options II and III)?	EB 39	Ann 10	Yes.	OK	OK
i. Calculate the suitable financial indicator for the proposed CDM project activity and, in the case of Option II above, for the other alternatives. Include all relevant costs (including, for example, the investment cost, the operations and maintenance costs), and revenues (excluding CER revenues, but possibly including inter alia subsidies/fiscal incentives, ODA, etc, where applicable), and, as appropriate, non-market cost and benefits in the case of public investors if this is standard practice for the selection of public investments in the host country.	EB 39	Ann 10	All financial indicators have been taken into account in the proposed CDM project activity. All relevant costs and revenues were also taken into consideration in the investment analysis. Sri Senggora IRR Calculation	OK	OK
ii. Present the investment analysis in a transparent manner and provide all the relevant assumptions, preferably in the CDM-PDD, or in separate annexes to the CDM-PDD.	EB 39	Ann 10	Yes. The investment analysis was presented in a transparent manner with all assumptions provided.	OK	OK
iii. Justify and/or cite assumptions.	EB 39	Ann 10	All assumptions has been justified	OK	OK
iv. In calculating the financial/economic indicator, the project's risks can be included through the cash flow pattern, subject to project-specific expectations and assumptions.	EB 39	Ann 10	Yes. The sensitivity analysis was presented. Sri Senggora IRR Calculation	OK	OK
v. Assumptions and input data for the investment analysis shall not differ across the project activity and its alternatives, unless differences can be well substantiated.	EB 39	Ann 10	No assumptions or input data for the investment analysis were differed across the project activity.	OK	OK

vi. Present in the CDM-PDD a clear comparison of the financial indicator for the proposed CDM activity.Please specify details for above.	EB 39	Ann 10	Yes. Sri Senggora IRR Calculation	OK	OK
q. Has the below guideline followed for Sub-step 2d: Sensitivity analysis (only applicable to Options II and III)? Include a sensitivity analysis that shows whether the conclusion regarding the financial/economic attractiveness is robust to reasonable variations in the critical assumptions.	EB 39	Ann 10	Yes.	OK	OK
r. Has the outcome of Step 2 clearly mentioned with justification?	EB 39	Ann 10	Yes.	OK	OK
s. In step 3: Barrier analysis have all the sub-steps as below been followed?	EB 39	Ann 10			
i. Sub-step 3a: Identify barriers that would prevent the implementation of the proposed CDM project activity;	EB 39	Ann 10	Yes.	OK	OK
ii. Sub-step 3 b: Show that the identified barriers would not prevent the implementation of at least one of the alternatives (except the proposed project activity).	EB 39	Ann 10	Yes.	OK	OK
t. Has the below guideline followed for Sub-step 3a: Identify barriers that would prevent the implementation of the proposed CDM project?	EB 39	Ann 10	Yes.	OK	OK

i.	(a) Investment barriers: For alternatives undertaken and operated by private entities: Similar activities have only been implemented with grants or other non-commercial finance terms. No private capital is available from domestic or international capital markets due to real or perceived risks associated with investment in the country where the proposed CDM project activity is to be implemented, as demonstrated by the credit rating of the country or other country investments reports of reputed origin.	EB 39	Ann 10	Yes. Based on the benchmark analysis, without CDM revenue, the Sri Senggora Biogas Project is not feasible as the IRR is not meaningful (NM) and the NPV value is negative	OK	OK
ii.	(b) Technological barriers: Skilled and/or properly trained labour to operate and maintain the technology is not available in the relevant country/region, which leads to an unacceptably high risk of equipment disrepair and malfunctioning or other underperformance; Lack of infrastructure for implementation and logistics for maintenance of the technology, Risk of technological failure: the process/technology failure risk in the local circumstances is significantly greater than for other technologies that provide services or outputs comparable to those of the proposed CDM project activity, as demonstrated by relevant scientific literature or technology manufacturer information, The particular technology used in the proposed project activity is not available in the relevant region.	EB 39	Ann 10	Yes. Most of the palm oil mills opted for the open lagoon system as it is simple in operation and maintenance as compared to the proposed biogas digester tank which is still new in Malaysia. This has been supported by the literature review reference 7 in the SSC-CPA-DD. In addition to that, the validation also cross check the information provided in the PDD with other literature review.	OK	OK

iii. (c) Barriers due to prevailing practice: The project activity is the "first of its kind".	EB 39	Ann 10	Yes. Based on the literature review reference 8 in SSC-CPA-DD, around 85% of palm oil mills are adopting anaerobic lagoon systems and it is considered the prevailing practice for the palm oil industry to treat POME and there is no reason for the palm oil mill the change its prevailing practice from the viewpoint of compliance to legal requirements.		
iv. (d) Other barriers, preferably specified in the underlying methodology as examples.	EB 39	Ann 10	N/A	OK	OK
u. Has the outcome from Step 3a clearly mentioned in PDD?	EB 39	Ann 10	Yes.	OK	OK
v. Has the below guideline followed for Sub-step 3 b: Show that the identified barriers would not prevent the implementation of at least one of the alternatives (except the proposed project activity)?	EB 39	Ann 10	Yes.	OK	OK
i. If the identified barriers also affect other alternatives, explain how they are affected less strongly than they affect the proposed CDM project activity. In other words, demonstrate that the identified barriers do not prevent the implementation of at least one of the alternatives. Any alternative that would be prevented by the barriers identified in Sub-step 3a is not a viable alternative, and shall be eliminated from consideration.	EB 39	Ann 10	N/A	OK	OK
ii. Provide transparent and documented evidence, and offer conservative interpretations of this documented evidence, as to how it demonstrates the existence and significance of the identified barriers and whether alternatives are prevented by these barriers.	EB 39	Ann 10	N/A.	OK	OK

iii. The type of evidence to be provided should include at least one of the following: (a) Relevant legislation, regulatory information or industry norms; (b) Relevant (sectoral) studies or surveys (e.g. market surveys, technology studies, etc) undertaken by universities, research institutions, industry associations, companies, bilateral/multilateral institutions, etc; (c) Relevant statistical data from national or international statistics; (d) Documentation of relevant market data (e.g. market prices, tariffs, rules); (e) Written documentation of independent expert judgments from industry, educational institutions (e.g. universities, technical schools, training centres), industry associations and others. Please specify.	EB 39	Ann 10	N/A	OK	OK
w. Has the outcome from Step 3 clearly mentioned in PDD?	EB 39	Ann 10	Yes.	OK	OK
x. In step 4: Common practise analysis have all the sub-steps as below followed?	EB 39	Ann 10	N/A.	OK	OK
i. Sub-step 4a: Analyze other activities similar to the proposed project activity;	EB 39	Ann 10	N/A.	OK	OK
ii. Sub-step 4b: Discuss any similar Options that are occurring.	EB 39	Ann 10	N/A.	OK	OK

y. Has the below guideline followed for Sub-step 4a: Analyze other activities similar to the proposed project activity? Provide an analysis of any other activities that are operational and that are similar to the proposed project activity. Other CDM project activities are not to be included in this analysis. Provide documented evidence and, where relevant, quantitative information. On the basis of that analysis, describe whether and to which extent similar activities have already diffused in the relevant region.	EB 39	Ann 10	N/A.	OK	OK
z. Has the below guideline followed for Sub-step 4b: Discuss any similar Options that are occurring? If similar activities are identified, then it is necessary to demonstrate why the existence of these activities does not contradict the claim that the proposed project activity is financially/economically unattractive or subject to barriers. This can be done by comparing the proposed project activity to the other similar activities, and pointing out and explaining essential distinctions between them that explain why the similar activities enjoyed certain benefits that rendered it financially/economically attractive (e.g., subsidies or other financial flows) and which the proposed project activity cannot use or did not face the barriers to which the proposed project activity is subject. In case similar projects are not accessible, the PDD should include justification about non-accessibility of data/information.	EB 39	Ann 10	N/A.	OK	OK
aa. Has the outcome from Step 4 clearly mentioned in PDD?	EB 39	Ann 10	N/A.	OK	OK
bb. Has it been proved that the porject is additional?	EB 39	Ann	N/A.	OK	OK

		10			
cc. Has the PP demonstrated additionality by explaining Investment barrier, Access-to-finance barrier, Technological barrier, Barrier due to prevailing practice or other barriers?	EB 35	Ann 34	PP demonstrated additionality by explaining investment barrier, technological barrier and barrier due to prevailing practice.	OK	OK
dd. If Investment barrier has been explained, is it demonstraed that financilly more viable alternative to the project activity would have led to higher emissions? Please explain.	EB 35	Ann 34	Yes. Baseline scenario is the most viable alternative to the project activity. The baseline scenario is the continuation of the existing open lagoon POME treatment system without methane recovery and combustion. Currently, the Environmental Quality (Prescribed Premises) (Crude Palm Oil) Regulation 1977 only specify discharge limit of the treated POME to the water course and does not specify any treatment technology requirement for a POME treatment system nor require GHG emissions from wastewater treatment operations to be captured. As such, the continuation of the existing scenario would have led to higher emissions.	OK	OK
ee. If Access-to-finance has been explained, is it demonstraed that the project activity could not access appropriate capital without consideration of the CDM revenues? Please explain.	EB 35	Ann 34	N/A.	OK	OK
ff. If Technological barrier has been explained, is it demonstraed that a less technologically advanced alternative to the project activity involves lower risks due to the performance uncertinity or low market share of the new technology adopted for the project activity and so would have led to higher emissions? Please explain.	EB 35	Ann 34	Yes. The prosposed project activity require special expertise or skilled workers with respect to design of the facility, operation, maintenance and the proposed technology. Most of the palm oil mills opted for the open lagoon system as it is simple in operation and maintenance without monitoring.	OK	OK

gg. If prevailing practise barrier has been explained, is it demonstrated that the prevailing practice or existing regulatory or policy requirements would have led to implementation of a technology with higher emissions? Please explain.	EB 35	Ann 34	Yes. Around 85% of palm oil mills are adopting anaerobic lagoon systems and it is considered the prevailing practice for the palm oil industry to treat POME. Biogas recovery system is relatively new in Malaysia and not readily accepted by the palm oil industry in Malaysia. Moreover, there is no reason for palm oil mill to change its prevailing practice as the current system is in compliance with the regulatory requirements.	OK	OK
hh. If other barrier has been explained, is it demonstrated that Other barriers such as institutional barriers or limited information, managerial resources, organizational capacity, or capacity to absorb new technologies would prevent the project activity any way?	EB 35	Ann 34	N/A.	OK	OK
ii. Have the project participants identifed the most relevant barrier?	EB 35	Ann 34	Yes. The most relevant barrier are investment barrier, technological barrier and barrier due to prevailing practice.	OK	OK

jj. Have the project participants provided transparent and documented third party evidence such as national/international statistics, national/provincial policy and legislation, studies/surveys by independent agencies etc. to demonstrate the most relevant barrier? Please explain.	EB 35	Ann 34	Yes. The following barriers have been presented to show that project activity is not the likely baseline scenario and that emissions reductions from the project are additional: Technological barrier: The use of POME using a tank system with biogas recovery is a new process in Malaysia. Most of the palm oil mills opted for the open lagoon system because it is simple in operation and maintenance. The use enclosed anaerobic digester required skilled workers to operate and maintain the system. The skilled workers are not commonly available to the palm oil mill industry and thus require external support. This is substantiated by the literature review, namely A technical and economic analysis of heat and power generation from biomethanation of palm oil mill effluent. Barrier due to prevailing practice: Currently, majorities of the palm oil mills are using anaerobic lagoon systems to treat POME. Using enclosed anaerobic digester system is not common among the palm oil mills and it is deemed difficult to change this practice. Barrier due to prevailing practice has been crossed check with information provided by the PP namely study on clean development mechanism potential in the waste sectors in Malaysia. National policies: The use open lagoon system to treat POME is in compliance with Environmental Quality (Prescribed Premises) (Crude Palm Oil) Regulations 1977, hence there is no need to change the practice.	OK	OK

7. *Prior consideration of the clean development mechanism*						
a.	Is the project ativity start date prior to the date of publication of the PDD for stakeholder comments?	VVM	98	~~CL 25~~ Please provide CDM consideration statement prior to project start date Closed of CL 25 CDM consideration statement prior to project start date is provided.	~~CL 25~~	OK
b.	If yes, were the CDM benefits considered necessary in the decision to undertake the project as a proposed CDM project activity?	VVM	98	CDM benefits were considerd necessary in the decision to undertake the project as a proposed CDM project activity.	OK	OK
c.	Is the start date of the project activity, reported in the PDD, in accordance with the "Glossary of CDM terms", which states that "The starting date of a CDM project activity is the earliest date at which either the implementation or construction or real action of a project activity begins."?	VVM	99	Yes. The PoA start date will be the date on which the PoA is registered with the CDM executive board. Start date for Sri Senggora CPA is on 01-10-2011 or 2 months after CPA registered, whichever is later.	OK	OK
d.	Does the project activity require construction, retrofit or other modifications?	VVM	99	Yes. The project activity requires construction of concrete biogas digester tank.	OK	OK
e.	If yes, is it ensured that the date of commissioning cannot be considered as the project activity start date?	VVM	99	Project start date is on 01-10-2011 or 2 months after CPA registered whichever is later.	OK	OK
f.	Is it a new project activity (a project activity with a start date on or after 02 August 2008) or an existing project activity (a project activity with a start date before 02 August 2008)?	VVM	100	It is a new project activity with a start date after 02 August 2008.	OK	OK
g.	For a new project, for which PDD has not been published for global stakeholder consultation or a new methodology proposed to the CDM Executive Board before the project activity start date, had the PP informed the Host Party DNA and/or the UNFCCC secretariat in writing of the	VVM	101	N/A	OK	OK

	commencement of the project activity and of their intention to seek CDM status? (Provide reference to such confirmation from host Party DNA and/or UNFCCC secretariat).					
h.	For an existing project activity, for which the start date is prior to the date of publication of the PDD for global stakeholder consultation, are the following evidences provided:	VVM	102	N/A	OK	OK
i.	evidence that must indicate that awareness of the CDM prior to the project activity start date, and that the benefits of the CDM were a decisive factor in the decision to proceed with the project, including, inter alia:	VVM	102	N/A	OK	OK
a.	minutes and/or notes related to the consideration of the decision by the Board of Directors, or equivalent, of the project participant, to undertake the project as a proposed CDM project activity?	VVM	102	N/A	OK	OK
ii.	reliable evidence from project participants that must indicate that continuing and real actions were taken to secure CDM status for the project in parallel with its implementation, including, inter alia:	VVM	102	N/A	OK	OK
a.	contract with consultants for CDM/PDD/methodology services?	VVM	102	N/A	OK	OK
b.	Emission Reduction Purchase Agreements or other documentation related to the sale of the potential CERs (including correspondence with multilateral financial institutions or carbon funds)?	VVM	102	N/A	OK	OK
c.	evidence of agreements or negotiations with a DOE for validation services?	VVM	102	N/A	OK	OK

d.	submission of a new methodology to the CDM Executive Board?	VVM	102	N/A	OK	OK
e.	publication in newspaper?	VVM	102	N/A	OK	OK
f.	interviews with DNA?	VVM	102	N/A	OK	OK
g.	earlier correspondence on the project with the DNA or the UNFCCC secretariat?	VVM	102	N/A	OK	OK
h.	Has the chronology of events including time lines been appropriately captured and explained/detailed in the PDD?	VVM	102	N/A	OK	OK
8. Identification of alternatives						
a.	Does the approved methodology that is selected by the proposed CDM project activity prescribe the baseline scenario and hence no further analysis is required?	VVM	105	Yes.	OK	OK
b.	If no, does the PDD identify credible alternatives to the project activity in order to determine the most realistic baseline scenario?	VVM	105	N/A	OK	OK
c.	Does the list of alternatives given in the PDD esure that:	VVM	106	N/A	OK	OK
i.	the list of alternatives includes as one of the options that the `project activity is undertaken without being registered as a proposed CDM project activity?	VVM	106	Yes.	OK	OK

ii.	the list contains all plausible alternatives that the DOE, on the basis of its local and sectoral knowledge, considers to be viable means of supplying the outputs or services that are to be supplied by the proposed CDM project activity?	VVM	106	~~CL 26~~ Refer to Annex 3, baseline information; please clarify whether all alternative has been taking into account in the demonstration of additionality. Please also explain more detail why plausible scenarios for the generation of heat, electricity, hydrogen production and injection into natural gas distribution grid but as the project does not involve processes other than electricity generation and flare, these scenario will not further be discussed. Alternative 3 and alternative 4 faces same barriers but why only alternative 4 is remaining? Closed of CL 26 The explanation acceptable and hence CL 26 closed.	~~CL 26~~	OK
iii.	the alternatives comply with all applicable and enforced legislation?	VVM	106	N/A	OK	OK
9. Investment analysis						
a.	Has investment analysis been used to demonstrate the additionality of the proposed CDM project activity?	VVM	108	Yes. It has been used to demonstrate the additionality of the proposed CDM project activity.	OK	OK
b.	If yes, does the PDD provide evidence that the proposed CDM project activity would not be:	VVM	108		OK	OK

i. the most economically or financially attractive alternative?	VVM	108	Not applicable.	OK	OK
ii. economically or financially feasible, without the revenue from the sale of certified emission reductions (CERs)?	VVM	108	Yes. The benchmark analysis is chosen as the proposed CDM project activity would generate financial or ecomic benefits other than CDM related income, Based on the sensitivity analysis on the propsed CDM project, it concluded that without CDM revenue, the CDM project CPA is not feasible as the IRR is far below the benchmark of 15% and the NPV value is negative, The costs associated with the proposed CDM project activity is documented in B3 CPA-DD.	OK	OK
c. Was this shown by one of the following approaches?	VVM	109			
i. The proposed CDM project activity would produce no financial or economic benefits other than CDM-related income. Document the costs associated with the proposed CDM project activity and the alternatives identified and demonstrate that there is at least one alternative which is less costly than the proposed CDM project activity.	VVM	109	Not applicable.	OK	OK
ii. The proposed CDM project activity is less economically or financially attractive than at least one other credible and realistic alternative.	VVM	109	Not applicable.	OK	OK
Iii The financial returns of the proposed CDM project activity would be insufficient to justify the required investment.	VVM	109	The financial returns presented in the investment analysis spreadsheet shows that it is sufficient to justify the required investment as the IRR of the CDM project proves favourable given the CER and electricity revenue in place.	OK	OK

d. Is the period of assessment limited to the proposed crediting period of the CDM project activity?	EB 51	Ann 58	The period of assessment limited to the proposed crediting period of the CDM project activity which is 10 years period. A.4.3.2 – CPA-DD. ~~CL 27~~ Please clarify why the period of assessment limited to the proposed crediting period of the CDM project activity. Closed CL 27 The project's depreciation life is 10 years. So the IRR is only considered for 10 years instead of 30 years. GenPower will solely invest in the project and run it, after 10 years we will hand over the digester to the mill. An evaluation of the project's feasibility from a financial standpoint is more appropriate to use the accelerated depreciation schedule of ten years. The asset could have a small residual value at the end of 10 years, but millers would be unwilling to pay for the digester at the end of the crediting period. Evaluating the project for the full 30 years would greatly reduce the IRR and financial viability because we would be unprofitable for the last 20 years as we would have operating costs and no revenue as the only revenue is from CERs. From a financial evaluation standpoint, the digester has a 10 year usable life.	~~CL 27~~	OK

e.	Does the project IRR and equity IRR calculations reflect the period of expected operation of the underlying project activity (technical lifetime), or - if a shorter period is chosen - include the fair value of the project activity assets at the end of the assessment period?	EB 51	Ann 58	Yes. The project IRR and equity IRR calculations reflected the period of expected operation of the underlying project activity, i.e. 10 years. No shorter duration is considered. Sri Senggora Investment Analysis Spreadsheet	OK	OK
f.	Does the IRR calculation include the cost of major maintenance and/or rehabilitation if these are expected to be incurred during the period of assessment?	EB 51	Ann 58	No. The IRR calculation does not include the cost of major maintanance that are expected to be incurred during the period of assessment as the expected lifespan of the assets/machineries are estimated to be 10 years. However, there is a budget for O&M expenses every year to support the maintenance of assets/machineries. Sri Senggora Investment Analysis Spreadsheet	OK	OK
g.	Do the project participants justify the appropriateness of the period of assessment in the context of the underlying project activity, without reference to the proposed CDM crediting period?	EB 51	Ann 58	The period of assessment in the context of the underlying project activity is justifiable with reference to Eco-Ideal Consulting Sdn Bhd: Study on Clean Development Mechanism, potential in waste sectors in Malaysia.	OK	OK
h.	Does the cash flow in the final year include a fair value of the project activity assets at the end of the assessment period?	EB 51	Ann 58	No. The cash flow in the final year does not include a fair value of the project as the assets/machinery is expected to be scrapped.	OK	OK
i.	Has the fair value been calculated in accordance with local accounting regulations where available, or international best practice?	EB 51	Ann 58	Not applicable as there is no fair value calculated for the project activity assets.	OK	OK
j.	Does the fair value calculations include both the book value of the asset and the reasonable expectation of the potential profit or loss on the realization of the assets?	EB 51	Ann 58	No. The fair value calculations does not include both the book value of the asset and the reasonable expectation of the potential profit or loss on the assets/machinery.	OK	OK

k. Was depreciation, and other non-cash items related to the project activity, which have been deducted in estimating gross profits on which tax is calculated, added back to net profits for the purpose of calculating the financial indicator (e.g. IRR, NPV)?	EB 51	Ann 58	Yes. The rationale is because depreciation is not an actual expense incurred by the company and as such does not directly affect the financial viability of the project. To treat both the capital cost of the assets and their depreciation as an expense to the project would be double counting of this cost. Sri Senggora Investment Analysis Spreadsheet	OK	OK
l. Has taxation been included as an expense in the IRR/NPV calculation in cases where the benchmark or other comparator is intended for post-tax comparisons?	EB 51	Ann 58	Yes. Taxation has been included as an expense in the calculation as the benchmark or other comparator is intended for post-tax comparisons. Sri Senggora Investment Analysis Spreadsheet	OK	OK
m. Are the input values used in all investment analysis valid and applicable at the time of the investment decision taken by the project participant?	EB 51	Ann 58	Yes. All the input values used in all investment analysis valid and applicable at the time of the investment decision taken by the project participant based on the key assumptions on the current market values worked out by the project participant.	OK	OK
n. Is the timing of the investment decision consistent and appropriate with the input values?	EB 51	Ann 58	Yes. The input values used are appropriate as the project commences on 25 April 2011. B.1.-CPA-DD.	OK	OK
o. Are all the listed input values been consistently applied in all calculations?	EB 51	Ann 58	Yes. All the input values are consistently applied throughout the IRR and NPV calculations.	OK	OK
p. Does the investment analysis reflect the economic decision making context at point of the decision to recomence the project in the case of project activities for which implementation ceases after the commencement and where implementation is recommenced due to consideration of the CDM?	EB 51	Ann 58	Not applicable. The investment analysis does not reflect the recommencement of the project in the case of the project activities implementation ceases. Sri Senggora Investment Analysis Spreadsheet	OK	OK

q. Have project participants supplied the spreadsheet versions of all investment analysis?	EB 51	Ann 58	Yes. The project participants supplied the spreadsheet versions of all investment analysis. Sri Senggora Investment Analysis Spreadsheet	OK	OK
r. Are all formulas used in this analysis readable and all relevant cells be viewable and unprotected?	EB 51	Ann 58	Yes. All the formulas used in the analysis is readable and all relevant cells be viewable and unprotected. Sri Senggora Investment Analysis Spreadsheet	OK	OK
s. In cases where the project participant does not wish to make such a spreadsheet available to the public has the PP provided an exact read-only or PDF copy for general publication?	EB 51	Ann 58	Spreadsheet provided.	OK	OK
t. In case the PP wishes to black-out certain elements of the publicly available version, is it justifiable?	EB 51	Ann 58	Not applicable.	OK	OK
u. Was the cost of financing expenditures (i.e. loan repayments and interest) included in the calculation of project IRR?	EB 51	Ann 58	No. There is no cost of financing expenditure applicable in the calculation of project IRR as this project does not seek for public funding. Annex 2-CPA-DD.	OK	OK
v. In the calculation of equity IRR, has only the portion of investment costs which is financed by equity been considered as the net cash outflow?	EB 51	Ann 58	Not applicable as there is no equity IRR included in the investment analysis provided by the Project Participant (PP). Sri Senggora Investment Analysis Spreadsheet	OK	OK
w. Has the portion of the investment costs which is financed by debt been considered a cash outflow in the calcualtion of equity IRR? (this is not allowed)	EB 51	Ann 58	Not appliable as there is no debt involved in the project.	OK	OK
x. Was a pre-tax benchmark be applied?	EB 51	Ann 58	No pre-tax benchmark was applied.	OK	OK
y. In cases where a post-tax benchmark is applied, is actual interest payable taken into account in the calculation of income tax?	EB 51	Ann 58	Not appliable as there is no debt involved in the project.	OK	OK

z. In such situations, was interest calculated according to the prevailing commercial interest rates in the region, preferably by assessing the cost of other debt recently acquired by the project developer and by applying a debt-equity ratio used by the project developer for investments taken in the previous three years?	EB 51	Ann 58	Not applicable as there is no equity IRR included in the investment analysis provided by the Project Participant (PP).	OK	OK
aa. In cases where a benchmark approach is used is the applied benchmark appropriate to the type of IRR calculated?	EB 51	Ann 58	Yes. The benchmark applied is appropriate to the type of IRR calculated in the financial analysis.	OK	OK
bb. Has local commercial lending rates or weighted average costs of capital (WACC) selected as appropriate benchmarks for a project IRR?	EB 51	Ann 58	Not applicable.	OK	OK
cc. Has required/expected returns on equity selected as appropriate benchmark for an equity IRR?	EB 51	Ann 58	Not applicable.	OK	OK
dd. In case benchmarks supplied by relevant national authorities selected is it applicable to the project activity and the type of IRR calculation presented?	EB 51	Ann 58	The equity IRR calculation was presented and the benchmark figure set is supported by relevant national authorities.	OK	OK
ee. In the cases of projects which could be developed by an entity other than the project participant is the benchmark applied based on publicly available data sources which can be clearly validated?	EB 51	Ann 58	Yes. The benchmark applied is based on publically available data which can be clearly validated. Footnote – CPA-DD.	OK	OK
ff. Have internal company benchmarks/expected returns (including those used as the expected return on equity in the calculation of a weighted average cost of capital - WACC) been applied in cases where there is only one possible project developer?	EB 51	Ann 58	Not applicable.	OK	OK

gg. In such cases, have these values been used for similar projects with similar risks, developed by the same company or, if the company is brand new, would have been used for similar projects in the same sector in the country/region?	EB 51	Ann 58	Not applicable.	OK	OK
hh. Has a minimum clear evidence of the resolution by the company's Board and/or shareholders been provided to the effect as above?	EB 51	Ann 58	Not applicable.	OK	OK
ii. Has a thorough assessment of the financial statements of the project developer - including the proposed WACC - to assess the past financial behavior of the entity during at least the last 3 years in relation to similar projects been conduted?	EB 51	Ann 58	Not applicble.	OK	OK
jj. Does the risk premiums applied in the determination of required returns on equity reflect the risk profile of the project activity being assessed, established according to national/international accounting principles? (It is not considered reasonable to apply the rate general stock market returns as a risk premium for project activities that face a different risk profile than an investment in such indices.)	EB 51	Ann 58	Not applicable.	OK	OK
kk. Has an investment comparison analysis and not a benchmark analysis used when the proposed baseline scenario leaves the project participant no other choice than to make an investment to supply the same (or substitute) products or services?	EB 51	Ann 58	No. Only Option III, benchmark analysis is used in investment analysis.	OK	OK

ll. Have variables, including the initial investment cost, that constitute more than 20% of either total project costs or total project revenues been subjected to reasonable variation (positive and negative) and the results of this variation been presented in the PDD and be reproducible in the associated spreadsheets?	EB 51	Ann 58	Yes. The variables constitute more than 20% of the total project costs which are subject to reasonable variations and can be reproduced in associated spreadsheets.	OK	OK
mm. Have a corrective action been raised for a variable to be included in the sensitivity analysis which constitute less than 20% and have a material impact on the analysis ?	EB 51	Ann 58	Not applicable.	OK	OK
nn. Is the range of variations selected is reasonable in the project context?	EB 51	Ann 58	Yes. The range of variations selected is reasonable in the project context as these variations are the most prudent calculations.	OK	OK
oo. Dos the variations in the sensitivity analysis at least cover a range of +10% and -10%, unless this is not deemed appropriate in the context of the specific project circumstances?	EB 51	Ann 58	Yes. Based on the sensitivity analysis, it covers a range of +10% and -10% and it is deemed appropriate as an average plausible range for the project activity.	OK	OK
pp. In cases where a scenario will result in the project activity passing the benchmark or becoming the most financially attractive alternative, is an assessment done of the probability of the occurrence of this scenario in comparison to the likelihood of the assumptions in the presented investment analysis, taking into consideration correlations between the variables as well as the specific socio-economic and policy context of the project activity?	EB 51	Ann 58	Not applicable.	OK	OK

qq. Was the plant load factor defined ex-ante in the CDM-PDD according to one of the following options:	EB 51	Ann 58	Not applicable.	OK	OK
i. The plant load factor provided to banks and/or equity financiers while applying the project activity for project financing, or to the government while applying the project activity for implementation approval?	EB 51	Ann 58	Not applicable.	OK	OK
ii. The plant load factor determined by a third party contracted by the project participants (e.g. an engineering company)?	EB 51	Ann 58	Not applicable.	OK	OK
rr. Was a thorough assessment of all parameters and assumptions used in calculating the relevant financial indicator, and determine the accuracy and suitability of these parameters using the available evidence and expertise in relevant accounting practices conducted?	VVM	111	Yes. There was a thorough assessment of all parameters and assumptions used in the project analysis. All the parameters were reported in B.5 – CPA-DD.	OK	OK
ss. Were the parameters cross-checked agains third-party or publicly available sources, such as invoices or price indices?	VVM	111	Yes. The parameters were cross-checked against publicly available sources.	OK	OK
tt. Were feasibility reports, public announcements and annual financial reports related to the proposed CDM project activity and the project participants reviewed?	VVM	111	Not applicable.	OK	OK
uu. Was the correctnes of computations carried out and documented by the project participants assessed?	VVM	111	Not applicable.	OK	OK

vv. Was the sensitivity analysis by the project participants to determine under what conditions variations in the result would occur, and the likelihood of these conditions assessed?	VVM	111	Yes. The sensitivity analaysis does demonstrate the assessment on the conditions variations for the project.	OK	OK
ww. Is the type of benchmark applied is suitable for the type of financial indicator presented?	VVM	112	Yes. The benchmark applied is suitable for the type of financial indicator presented.	OK	OK
xx. Do any risk premiums applied determining the benchmark reflect the risks associated with the project type or activity?	VVM	112	Not aplicable as there is no assessment associated with risk premium in the investment analysis.	OK	OK
yy. To determine this, was it assessed whether it is reasonable to assume that no investment would be made at a rate of return lower than the benchmark by:	VVM	112			
i. assessing previous investment decisions by the project participants involved?	VVM	112	Not applicable.	OK	OK
ii. determining whether the same benchmark has been applied?	VVM	112	Not applicable.	OK	OK
iii. determining if there are verifiable circumstances that have led to a change in the benchmark?	VVM	112	Not applicable.	OK	OK
zz. Did the project participants rely on values from Feasibility Study Reports (FSR) that are approved by national authorities for proposed CDM project activities?	VVM	113	Not applicable.	OK	OK

zz. If yes:	VVM	113			
i. has the FSR been the basis of the decision to proceed with the investment in the project, i.e. that the period of time between the finalization of the FSR and the investment decision is sufficiently short for the DOE to confirm that it is unlikely in the context of the underlying project activity that the input values would have materially changed?	VVM	113	Not applicable.	OK	OK
ii. Are the values used in the PDD and associated annexes fully consistent with the FSR?	VVM	113	Not applicable.	OK	OK
iii. If not, was the appropriateness of the values validated?	VVM	113	Not applicable.	OK	OK
iv. On the basis of its specific local and sectoral expertise, is confirmation provided, by cross-checking or other appropriate manner, that the input values from the FSR are valid and applicable at the time of the investment decision?	VVM	113	Not applicable.	OK	OK
10. Barrier analysis					
a. Has barrier analysis been used to demonstrated the additionality of the proposed CDM project activity?	VVM	115	Yes. Barrier analysis been used to demonstrated the additionality of the proposed CDM project activity. Each CPA provide an explanation showing that the project activity would not have occurred otherwise due to at least one of the following barriers below: (i) Investment barrier; (ii) Technological barrier; (iii) Barrier due to prevailing practice.	OK	OK

b. If yes, does the PDD demonstrate that the proposed CDM project activity faces barriers that:	VVM	115			
i. prevent the implementation of this type of proposed CMD project activity?	VVM	115	Yes. PDD demonstrate that the proposed CDM project activity faces investment barrier, technological barrier and barrier due to prevailing practice.	OK	OK
ii. do not prevent the implementation of at least one of the alternatives?	VVM	115	No.	OK	OK
c. Are there any issues that have a clear direct impact on the financial returns of the project activity, other than: risk related barriers, for example risk of technical failure, that could have negative effects on the financial performance; or barriers related to the unavailability of sources of finance for the project activity? {If yes, these issues cannot be considered barriers and shall be assessed by investment analysis. [Refer to (6.c) above]}	VVM	116	N/A	OK	OK
d. Were the barriers determined as real by:	VVM	117			
i. asssing the available evidence and/or undertaking interviews with relevant individuals (including members of industry associations, government officials or local experts if necessary) to determine whether the barriers listed in the PDD exist?	VVM	117	N/A	OK	OK
ii. ensuring that existence of barriers is substantiated by independent sources of data such as relevant national legislation, surveys of local conditions and national or international statistics?	VVM	117	N/A	OK	OK
iii. Is existence of a barrier substantiated only by the opinions of the project participants? (If yes, this barrier cannot be considered as adequately substantiated)	VVM	117	N/A	OK	OK

e. Were the barriers determined as preventing the implementation of the project activity but not the implementation of at least one of the possible alternatives by applying local and sectoral expertise to judge whether a barrier or set of barriers would prevent the implementation of the proposed CDM project activity and would not equally prevent implementation of *at least one of* the possible alternatives, in particular the identified baseline scenario?	VVM	117	N/A	OK	OK
11. Common practice analysis					
a. Is this a proposed large-scale, or first-of-its kind small-scale project activity?	VVM	119	N/A	OK	OK
b. If yes, was common practice analysis carried out as a credibility check of the other available evidence used by the project participants to demonstrate additionality?	VVM	119	N/A	OK	OK
c. Was it assessed whether the geograpphical scope (e.g. defined region) of the common practice analysis is appropriate for the assessment of common practice related to the project activity's technology or industry type? (For certain technologis the relevatn region for assessment will be local and for others it may be transnational/global.	VVM	120	N/A	OK	OK
d. Was a region other than the entire host country chosen?	VVM	120	N/A	OK	OK
e. If yes, was the explanation why this region is more appropriate assessed?	VVM	120	N/A	OK	OK

f.	Using official sources and local and industry expertise, was it determined to what extent similar and operational projects (e.g., using similar technology or practice), other than CDM project activities, have been undertaken in the defined region?	VVM	120	N/A	OK	OK
g.	Are similar and operational projects, other than CDM project activities, already "widely observed and commonly carried out" in the defined region?	VVM	120	N/A	OK	OK
h.	If yes, was it assessed whether there are essential distinctions between the proposed CDM project activity and the other similar activities?	VVM	120	N/A	OK	OK
12. Monotoring plan						
a.	Does the PDD include a monitoring plan?	VVM	122	Yes.	OK	OK
b.	Is this monitoring plan based on the approved monitoring methodology applied to the proposed CDM project activity?	VVM	122	Yes. Monitoring plan is based on the approved monitoring methodology AMS III H version 15.	OK	OK
c.	Were the list of parameters required by the the selected methodology identified?	VVM	123	Yes. Refer to 12 f i.	OK	OK
d.	Does the monitoring plan contains all necessary parameters?	VVM	123	Yes. Refer to 12 f i.	OK	OK
e.	Are the parameters clearly described?	VVM	123	Yes. Refer to 12 f i.	OK	OK
f.	Does the means of monitoring described in the plan comply with the requirements of the methodology?	VVM	123	Yes.	OK	OK

	Specific questions per methodology regarding parameters.					
	i. What are the relevant parameter monitored in Sri Senggora CPA?			Parameters for monitoring during crediting period are as follows: (i) The flow of wastewater, $Q_{ww, i y}$ (ii) The COD of wastewater before and after the treatment system affected by the project activity; $COD_{ww, untreated, y}$ and $COD_{ww, treated,y}$; (iii) Mass flow rate of biogas produced by the digesters, $TM_{digester, h}$; (iv) Mass flow rate of biogas destroyed in gas engine for power generation; $TM_{gas engine,h}$; (v) Average volumetric fraction of methane in the biogas (residual gas), $fv_{CH4, RG, H}$; (vi) Average volumetric fraction of oxygen in the biogas from digester, $fv_{O2 RG h}$; (vii) Power consumption (project activity); (viii) Power consumption (worker quarters and office); (ix) End use of the final sludge (x) Flare efficiency	OK	OK
g.	Are the monitoring arrangements described in the monitoring plan feasibl within the project design?	VVM	123	Yes.	OK	OK
h.	Does the monitoring plan provide details regarding calibration of monitoring equipments/ instruments or does it include zero check as a substitute for calibration? (zero check can not be considered as a substitute for calibration)	EB 24	37	Yes.	OK	OK

i. Are the following means of implementation of the monitoring plan sufficient to ensure that the emission reductions achieved by/resulting from the proposed CDM project activity can be reported ex post and verified:	VVM	123	Yes.	OK	OK
i. data management procedures?	VVM	123	Yes.	OK	OK
ii. quality assurance procedures?	VVM	123	Yes.	OK	OK
iii. quality control procedures?	VVM	123	Yes.	OK	OK
13. Sustainable development					
a. Does the CDM project activity assists Parties not included in Annex I to the Convention in achieving sustainable development?	VVM	125	Yes.	OK	OK
b. Does the letter of approval by the DNA of the host Party confirm the contribution of the proposed CDM project activity to the sustainable development of the host Party?	VVM	126	Yes.	OK	OK
14. Local stakeholder consultation					
a. Were local stakeholders (public, including individuals, groups or communities affected, of likely to be affected, by the proposed CDM project activity or actions leading to the implementation of such an activity) invited by the PPs to comment on the proposed CDM project activity prior to the publication of the PDD on the UNFCCC website?	VVM	128	Yes. Local stakeholders were invited by the PP to comment on the proposed CDM project activity prior to the publication of the PDD on the UNFCCC website.	OK	OK
b. Have comments by local stakeholders that can reasonably be considered relevant for the proposed CDM project activity been invited?	VVM	129	Yes.	OK	OK
c. Is the summary of the comments received as provided in the PDD complete?	VVM	129	Yes.	OK	OK
d. Have the project participants taken due account of any comments received and described this process in the PDD?	VVM	129	Yes.	OK	OK

15. Environmental impacts					
a. Have the project participants submitted documentation on the analysis of the environmental impacts of the project activity?	VVM	131	EIA is not required for this proposed project activity.	OK	OK
b. Have the project participants undertaken an analysis of environmental impacts?	VVM	132	Yes.	OK	OK
c. Does the host Party require an environmental impact assessment?	VVM	132	No. The project activity is not a prescribe activity and therefore no need to comply with Environmental Quality (Prescribed Activities) (EIA) Regulations 1987.	OK	OK
d. If yes, have the project participants undertaken an environmental impact assessment?	VVM	132	N/A.	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. 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

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
2. Project design of small-scale clean development mechanism project activities *(delete this table if the project activity is not a small scale project activity)*					
e. 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
f. 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 60 kilotonnesof carbon dixide equivalent annually.]	VVM	136	The project activity qualifies within the thresholds of type III project activities.	OK	OK
g. Does the project activity conform to one of the approved small-scale categories?	VVM	136	Refer to 1 b	OK	OK
h. Does the project activity apply the relevant tool and methodology?	VVM	136	Refer to (5.b.h) above	-	-

i.	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 Greefield project activities, sampling and other monitoring-related issues?	VVM	136	Yes.	OK	OK
j.	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
k.	Is and assessment of the environmental impacts of the proposed CDM project activity required by the host Party?	VVM	136	Refers to 10 above	OK	OK
l.	Is the project additional?	VVM	137	Refer to 6 above	OK	OK

Table 6: Resolution of Corrective Action and Clarification Requests

Draft 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 Malaysia and UK was not provided.	1a	Application for LoA from DNA Malaysia has been submitted to Department of Environment, Ministry of Natural Resources and Environment on 9 November 2010. LoA for United Kingdom of Great Britain has been provided too.	Verify LoA from DNA Malayais and LoA from United Kingdow of Greate Britain and Northern Ireland and hence CAR 1 closed.
CAR 2 In CDM-SSC-PoA-DD section C.1 Environmental Analysis is done at CPA level. PDD has not clearly indicated any choice of level of which the environmental analysis is undertaken and justify the choices.	3a e	The environmental analysis is chosen to be performed at CPA level as in section C.1 PoA-DD. The justification is included in the PoA-DD. PoA-DD has been revised in section C.1 page 9.	Verified justification is included in the PoA-DD in section C1 page 9, hence CAR 2 closed.
CAR 3 In CDM-SSC-PoA-DD section D.1 Level of local stakeholder consultation is done at CPA level but there is no justification provided.	3a h	The justification of stakeholder consultation at CPA level is included in the PoA-DD. PoA-DD has been revised in section D.1 page 10.	Verified justification of stakeholder consultation at CPA level is included in the PoA-DD. Stakeholder consultation is done at CPA level to reach wider group of stakeholder due to geographical positions and different group of stakeholder affected – CAR 3 closed.

CAR 4 To correct typo error on: (iv) Page 40 of PoA – QA/QC procedure for $S_{I\,PJ\,Y}$ and $S_{final\,PJ\,y}$ were wrongly describe. (v) Page 27 of CPA – formula for efficiency for $n_{flare,h}$ was incorrect. (vi) Page 29 of CPA was left blank.	3a o ii	The corrections have been made in the relevant page of PoA-DD and CPA-DD. PoA-DD has been revised in section E.6.3 page 40 and 41. CPA-DD has been revised in section B.6.1 page 27 and 30.	Type error verified corrected and hence CAR 4 closed.
CAR 5 In CDM-SSC-CPA-DD Main equipment to be installed has not been clearly discussed in section A4	3b a iv a	The description of main equipments to be installed has been included in the CPA-DD section A.4. The reference document is attached per below. Reference Document: Biogas Environment Engineering Sdn Bhd. *Palm Oil Processing Mill Wastewater Methane Project Proposal (Designed for Sri Senggora Kilang Kelapa Sawit Sdn Bhd)* page 6. CPA-DD has been revised in section A.4 page 4.	The description of main equipments to be installed has been included in the CPA-DD section A4 and hence CAR 5 closed.
CAR 6 In CDM-SSC-CPA-DD section A.4.1.2 Coordinate stated in page 6 of CPA is in degree shall be corrected to degree and minute	3b a iv a	The corrections have been made in CPA-DD section A.4.1.2 and B.4. The coordinate is reverted back to degree and minute. CPA-DD has been revised in section A.4.1.2 page 6 & 7 and section B.4 page 14.	Coordinate is in degree and minute and hence CAR 6 closed.

CL 1 Please clarify why the combined tool to identify the baseline scenario and demonstrate additionality is chosen (Section E 4 of PoA)	3a m	The PoA-DD has been revised in Section E.4 page 15. The identified baseline must be in accordance with the procedures provided in the approved small scale baseline and monitoring methodology, AMS-III.H.	Verified section E4 of the PoA-DD been revised and hence CL 1 closed.
CL 2 Section E 5 of PoA stated The possible return by generating energy for either electricity or heat, if applicable, is rather small – please provide evidence to support the statement.	3a p	In order to generate energy either electricity or heat, the methane rich biogas must be recovered/captured and then utilized. These systems (biogas recovery and energy generation) need investment to be installed and operated compare to open lagoon which is a currently a common practise and less costly solution. A study has been done by Ministry of Energy, Water and Communications, Malaysia Energy Centre (PTM) and Danida, most POME biogas project are likely to be economically less attractive and carbon credit is needed to make the project potentially attractive for the investment. The high investment (high upfront capital and high operation and maintenance cost) for energy generation with has prevented the project participant to invest in the energy generation project. This was further support by the fact that most palm oil mills have surplus energy or don't have additional energy requirement at the mill. So there is no demand for energy needs to substantiate the energy investment at palm oil mills in Malaysia.	Verified CL 2 and found appropriate and hence CL 2 closed.

CL 2 Section E 5 of PoA stated The possible return by generating energy for either electricity or heat, if applicable, is rather small – please provide evidence to support the statement.		Reference documents is attached per below: 1. Eco-Ideal Consulting Sdn. Bhd. (Eco-Ideal). MEWC/PTM/DANIDA: *Study on Clean Development Mechanism Potential in the Waste Sectors in Malaysia*. December 2004. 2. 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.* 3. United Nations Development Program, 'Generating Renewable Energy from Palm Oil Wastes', August 2007. For the Sri Senggora Biogas Project (SS 33610255-1), GenPower Carbon Solutions Services (GPCS) is investing in anaerobic digester with biogas capture with combustion. The future CERs generated by this project are the only potential revenues for the project developer in this project. Any potential revenues or cost savings for electricity or heat generation will remain with the facility owner as specifically stated in the LERPA between GPCS and Sri Senggora Kilang Kelapa Sawit Sdn Bhd. However, this will now be a part of the project activity, as even though the investment is by the mill owner, it is in the Project Boundary.	Verified CL 2 and found appropriate and hence CL 2 closed.

CL 3 Section E5.1 of PoA stated potential revenue from generating electricity or savings due to displacing fossil fuels in heat generation, if applicable, is rather limited based on specific site requirements – please give more reasons.	3a p i	Most palm oil mills have surplus energy or don't have additional energy requirement at the mill. So there is no demand for energy needs to substantiate the energy investment at palm oil mills in Malaysia. The high investment (high upfront capital and high operation and maintenance cost) for energy generation with has prevented the project participant to invest in the energy generation project. Only few mills have power requirement and normally the mill with industries in the vicinity of the palm mill. For example, mill with kernel crushing plant (KCP). Reference documents is attached per below: 1. "Renewable Energy from the Palm Oil Industry", MA, A N; CHOO, Y M AND YUSOF, B. 2. United Nations Development Program, 'Generating Renewable Energy from Palm Oil Wastes', August 2007.	Verified CL 3 and found appropriate and hence CL 3 closed.

CL 4 Please clarify D_{CH4} in section E 6.3 of PoA is measured or constant/default value.	3a q iii	D_{CH4} in section E 6.3 will be measured in ex post during the monitoring period. It is not been used in the Sri Senggora Biogas project CPA-DD ex ante calculation. D_{CH4} is methane density at temperature and pressure of the biogas in the year *y*. The unit is (t/m3). The monitored temperature (T) and pressure (P) will fluctuate during the monitoring year *y*. This will resulted the methane density also to be varies as well and the average value throughout the year. The parameter D_{CH4} will be monitored instead of using default value as the methodology did not mentioned whether it is compulsory to use the constant/default value. The monitored D_{CH4} will record the accurate data for methane density in the project activity.	Verified CL 4 and found appropriate and hence CL 4 closed.
CL 5 Section A3 of CPA stated Sri Senggora Kilang Kelapa Sawit Sdn Bhd is project participants but not project implementer. Please clarify.	3 b a iii	All the investment required to install biogas plant will be borne by GPCS. GPCS will investing and responsible in implementing the installation of the project activity, operation and maintenance of the project activity. GPCS also is the owner of project equipments. Sri Senggora Kilang Kelapa Sawit Sdn Bhd does not involve directly with the project activity and will continue to focus in the palm oil milling business as before.	Verified CL 5 and found appropriate and hence CL 5 closed.

CL 6 MPOB study report on the system performance and tabulation of system efficiency.	3b a iv	The MPOB final report is a report by Malaysian Palm Oil Board (MPOB) on the performance evaluation of the Biogas Environmental Engineering (BEE) system at Tee Teh Palm Oil Mill. MPOB has monitored the system from September 2007 to May 2009 and all the data has been recorded and summarized in the report. The reference document is attached per below. Reference Document: Malaysian Palm Oil Board (MPOB): *Report on Palm Oil Wastewater Methane Fermentation System Performance*. Collaboration between Malaysian Palm Oil Board (MPOB) and Biogas Environmental Engineering Sdn Bhd, 20 September 2010.	MPOB study report provided and CL 6 closed.
CL 7 Please clarify the source of power supply for worker quarters and office and why it is not in project boundary. Please also clarify whether electricity generated will be used by the palm oil mill or biogas plant only. (Section A4 of CPA)	3b a iv	The CPA-DD has been revised in Section A.4 Currently, the worker's quarters and office got the power supply from the grid and mill's turbine. In project activity, the gas engine will provide the electricity to the worker's quarters and office displacing the electricity from grid. CER will not be claimed from displacement of electricity from grid to the worker's quarters and office by electricity from the gas engine. The worker's quarters and office will be in the project boundary. Electricity generated from the new gas engine will supply to the biogas plant, worker's quarters, office and not the palm oil mill.	Section A4 of the CPA-DD revised and hence CL 7 closed.

CL 8 To provide project implementation schedule	3b a v a	The reference document is attached per below. Reference Document: Sri Senggora Construction schedule.	Project implementation scheduled provided – CL 2 closed.
CL 9 To provide evidence operational lifetime the digester tank – 30 years. (page 7 of CPA).	3b a v b	The reference document is attached per below. Reference Document: Biogas Environment Engineering Sdn Bhd. *Palm Oil Processing Mill Wastewater Methane Project Proposal (Designed for Sri Senggora Kilang Kelapa Sawit Sdn Bhd)* page 6.	CL 9 verified closed.
CL 10 To provide date and name of person meet during discussion with DNA Malaysia (page 8 of CPA)	3b a ix	1st Meeting (15 June 2010) at Malaysian Green Technology Corporation Office 1. Ms. Norli (Research Officer) 2. Cik Radin Diana (Research Officer) 3. En. Mohd Zulhilmi (Research Officer) 2nd Meeting (20 August 2010) at Malaysian Green Technology Corporation Office 1. En. Azman Zainal Abidin (Deputy Director) 2. Cik Sazalina (Research Officer) 3. Cik Radin Diana (Research Officer) 4. En. Zulhilmi (Research Officer)	Date and name of person meet during discussion with DNA Malaysia provided – CL 10 closed.

CL 11 Section B3 of CPA under the topic of technological barrier, it stated the monitoring is very crucial as all monitoring equipment needs to be maintained and calibrated on a regular basis. Please clarify. Please explain also how CDM can help to overcome barrier due to prevailing practise.	3 b b iii	In the baseline scenario, the only parameter that was monitored is the BOD of the discharged POME. This was done by the mill as a requirement to ensure that the discharged effluent is below the permitted limit set up by the Department of Environment Negeri Pahang. It is compulsory for the mill to comply with the environmental regulation. In project activity, all the monitoring parameters are described in the Monitoring Plan of CPA-DD according to the PoA-DD and the AMS III.H methodology. The monitoring equipment needs to be maintained and calibrated on a regular basis to get reliable and accurate data as required by monitoring plan. Without CDM project, all there are no need for the monitoring as there is no regulation or requirement to do monitoring. Approximately 85% of palm oil mills are adopting open anaerobic lagoon systems and it is considered the prevailing practice for the palm oil industry to treat POME. There is no reason for the palm oil mill to change its prevailing practice as the mills already complied with the national requirements on wastewater treatment. CDM provide investment opportunity to install methane recovery technology at palm oil mill effluent treatment system to replace or improve the anaerobic lagoon system. CDM also provide the revenue through carbon credit to make the investment possible.	Verified explanation provided and hence CL 11 closed.

CL 12 Please explain in detail why simple cost analysis is applicable to the project and why IRR is calculated? Why there is a need to install gas engine and not only biogas recovery and flaring system? Section B3 of CPA – investment analysis	3 b b iii	The CPA-DD has been revised in Section B.3 page 13 The benchmark analysis will be used to replace simple cost analysis to consider the potential revenue from electricity generation from gas engine. Reasons to install a new gas engine: 1. To supply electricity to the biogas plant, worker's quarters and office as well as to the Project. 2. To fulfill PoA eligibility criteria for inclusion of a CPA in PoA. (The project developer required to utilize at least 10% of the biogas for energy utilization) 3. To fulfill Malaysia National CDM Criteria. (The project developer required to utilize at least 10% of the biogas for energy utilization)	The 3 reasons are found to be reasonable as the new gas engines will generate savings on electricity which will enhance the IRR calculated. Also, benchmark analysis is the applicable analysis for this project as it considers revenue other than CERs. Hence CL 12 closed.

CL 13 To justify selection of capture efficiency of the biogas recovery equipment in the wastewater treatment system CFE_{ww} (Methodology specify to use default value of 0.9 instead of 0.99 (page 15 of CPA)	3b b v a	The 0.99 value is used based on the data provided by the wastewater designer, "99% of biogas generated from the digester will be channelled out by the system's piping". The digester is securely sealed and the water placed on top of the digester will enable any leakage of biogas to be detected" mentioned in the project proposal. 2006 IPCC Guidelines for National Greenhouse Gas Inventories mentioned emissions of CH4 from such facilities (anaerobic digestion of organic waste) due to unintentional leakages during process disturbances or other unexpected events will generally be between 0 and 10 percent of the amount of CH4 generated. Where technical standards for biogas plants ensure that unintentional CH4 emissions are flared, CH4 emissions are likely to be close to zero. The CPA is planning to use the biogas generated in gas engine and any remaining will be flared in enclosed flare continuously. Based on EB 25, paragraph 29 page 1 (Guidance on IPCC Default Values), the default value should be used only when country or project specific data are not available or difficult to obtain.	The explanation accepted and hence CL 13 closed.

		The data used for the CFE_{ww} came from the wastewater designer which is available instead of default data. The reference document is attached per below. Reference Document: 1. Biogas Environment Engineering Sdn Bhd. *Palm Oil Processing Mill Wastewater Methane Project Proposal (Designed for Sri Senggora Kilang Kelapa Sawit Sdn Bhd)* page 4 2. 2006 IPCC Guidelines for National Greenhouse Gas Inventories. Volume 5: Waste, Chapter 4 Biological Treatment of Solid waste, page 4.4 3. EB 25, paragraph 29 page 1 (Guidance on IPCC Default Values)	The explanation accepted and hence CL 13 closed.

CL 14 Section B 5.2 of CPA stated there are no baseline emissions from the electricity or fuel consumption in the baseline activity. Please clarify. As for project emission, no electricity or diesel used in project activity. Please clarify if gas engine under maintenance or breakdown, how to start up biogas plant.	3b b v b	The CPA-DD has been revised in Section B.5.2. The project activity claims CER from the methane recovery in wastewater (POME) treatment under AMS III.H methodology and electricity produced by gas engine displacing electricity from the grid for worker's quarters and office under will not be claimed by the project activity. The power from mill's turbine will be used as a backup during the gas engine downtime and also for start up. The unutilized biogas will be send to enclosed flare for methane destruction and this will be monitored.	The power from mill's turbine is used as a backup during the gas engine downtime and also for start up. As the mill's power from biomass boiler, hence, it is considered carbon neutral and no project emissions. The explanation accepted and hence CL 14 closed.
CL 15 End-use of the final sludge QA/QC procedure (page 24 of CPA) was not filled in .	3b b vi a	The QA/QC procedure has been included in CPA-DD section B.6.1 CPA-DD has been revised in section B.6.1 page 25.	QA/QC procedure has been included – CL 15 closed.

CL 16 Calculation of $PE_{flare, y}$ was not in line with the tool to determine project emissions from flaring gases containing methane.	3b b vi a	The calculation has been revised and corrections have been made in the relevant page of the CPA-DD, emission reduction calculation sheet and financial analysis calculation sheet. CPA-DD has been revised in section A.4.4 page 8, section B.2 page 10, section B.3 page 13, section B.5.2 page 19 & 20, section B.5.3 page 20.	Verified calculation of $PE_{flare, y}$ was in line with the tool to determine project emissions from flaring gases containing methane. Hence CL 16 closed.
CL 17 Please review ID4, ID5, ID6, ID7, ID8 and ID9 to ensure it is in line with the methodology. Section B6.1 –CPA	3b b vi a	The CPA-DD has been revised in Monitoring Plan Section B.6.1.	Verified the revision in CPA-DD and hence CL 17 closed.

CL 18 Section C2-CPA stated the CPA will not have any adverse environmental impacts, even though no noise pollution? Please clarify	3b d	The CPA will not have any adverse environmental impacts. The project activity already got an Environmental Impact Assesment (EIA) exemption letter from the Malaysian Department of Environment dated 12 August 2010. The Department of Environment of Pahang (state) has also issue a no objection letter for this project dated 23 March 2011. The gas engine that will be installed is a small capacity gas engine with a containerized acoustic insulation as an option. A written approval from Department of Environment Negeri Pahang is needed for the installation of the gas engine and the department will monitor the parameters related to the environment regulations. GPCS is taking mitigation measure to reduce the noise pollution and comply with the permissible noise level set up by Department of Environment Negeri Pahang. Among the mitigation measures are: 1. Build a fence to mark the boundary the project activity. 2. Only authorized person can enter the project activity area. 3. Safety procedure and training will be given to the operation & maintenance personnel. All the personnel will be equipped with safety equipment during operation. For example, ear plug.	The explanation acceptable and hence CL 18 closed.

CL 19 Please provide explanation does the project CDM project activity involve the alteration of an existing installation or process in section A4.	4k	The CDM project activity is a Greenfield project and does not involves alteration of an existing installation or process. The existing lagoon system will continue to operate with the same quantity of feed inflow, volume (retention time) and temperature during the project activity as describe in CPA-DD section A.4 page 5.	Verified explanation provided and accepted and hence CL 19 closed.

CL 20 Please provide explanation on the proposed location of proposed biogas digester tank including whether it will resulting in a capacity addition of the wastewater treatment system compared to the designed capacity of the baseline treatment system and comply with he relevant requirements in the general guidelines to SSC CDM methodologies. In addition the requirements for demonstrating the remaining lifetime of the equipment replaced, as described in the general guidelines shall be followed.	5b a iv	Approximately 202,342 m2 of land area required to place all the equipments for this CPA. The mill owner Sri Senggora Kilang Kelapa Sawit Sdn Bhd has signed a Land Tenancy Agreement with GenPower Carbon Solutions Services (Malaysia) Sdn. Bhd. to use the mill's own land for the CPA, located adjacent to the mill compound. The baseline of this CPA is a Greenfield project. The CPA will not result in a capacity addition to the mill. The mill can only process up to the limit approved by the Department of Environment. The CPA has demonstrated the most plausible baseline scenario as in Annex 3 CPA-DD (Baseline Information) that following the steps stated in General Guidelines to SSC CDM methodologies Version 15, paragraph 19. There is no equipments replacement in this CPA. The reference document is attached per below. Reference Document: Land Tenancy Agreement	CL 20 verified closed.

CL 21 Please provide description on the location of the wastewater treatment plant as well as the source generating wastewater.	5b a v	The location of the new treatment plant is described in Land Tenancy Agreement between GenPower Carbon Solutions Services (Malaysia) Sdn. Bhd. and Sri Senggora Kilang Kelapa Sawit Sdn Bhd. The source of the wastewater is from the palm oil production process as detailed below: 1. Sterilization process 2. Clarification of crude palm oil 3. Others (i.e. washing water)	Source of the wastewater and the location of the new treatment plant is explained and hence CL 21 closed.

CL 22 Please describe project boundary in essay form rather than flow chart only with cross reference to paragraph 14 of methodology AMS III H.	5c a	The project boundary consist of new facilities of acid pond, 2 concrete enclosed digester tanks, second deposit pond, sludge pond, enclosed flare and a gas engine. The plantation area where the sun dried sludge will be applied via soil application is included in the project boundary as the sludge application will be monitored during the crediting period. The existing lagoon system is excluded from the project boundary because existing treatment system will continue to operate with the same quantity of feed inflow, volume (retention time) and temperature during the project activity. The electricity generated by the gas engine will be consumed by the proposed project which is in the project boundary and also to the existing worker quarters and office. CPA-DD has been revised in section A.4 page 5.	Project boundary been explained clearly and hence CL 22 closed.

CL 23 Please explain sections of the wastewater treatment system that will be affected and not affected by the implementation of the project activity.	5c a i	The baseline of this project activity is based on Greenfield project as in paragraph 19 b. (ii), supported by Malaysian palm Oil Board (MPOB) data. The existing lagoon system that consists of anaerobic ponds, facultative ponds, aerobic ponds and maturations ponds will not be affected and will continue to be operated with the same quantity of feed inflow, volume (retention time) and temperature during the project activity as describe in CPA-DD section A.4 page 5. The sludge will continue to be treated as in the past practice by pumping the sludge in the sludge holding pond and drying in the sun.	CL 23 verified closed.
CL 24 The assessment and identification of the systems affected by the project activity will be undertaken ex ante, and the SSC-CPA-DD shall justify the exclusion of sections or components of the system. Please explain in SSC-CPA-DD.	5c a ii	Please refer to the explanation as described in CPA-DD section A.4 page 5.	CL 24 verified closed.

CL 25 Please provide CDM consideration statement prior to project start date	7 a	The notification of the commencement of the project activity and intention to seek CDM status was received by UNFCCC secretariat on 10 February 2009. This information is available on UNFCCC website. The Malaysia DNA also has been informed by notification letter from PP dated 11 August 2010. The project activity will only start when the CPA is registered as there is no other revenue except from carbon credits. The reference document is attached per below. Reference Document: 1. Notification letter to DNA Malaysia 2. A photocopy of UNFCCC website (Prior Consideration of CDM)	CL 25 verified closed.

CL 26 Refer to Annex 3, baseline information; please clarify whether all alternative has been taking into account in the demonstration of additionality. Please also explain more detail why plausible scenarios for the generation of heat, electricity, hydrogen production and injection into natural gas distribution grid but as the project does not involve processes other than electricity generation and flare, these scenario will not further be discussed. Alternative 3 and alternative 4 faces same barriers but why only alternative 4 is remaining?	8 c ii	The CPA-DD has been revised in Annex 3. Assessment of alternatives has been demonstrated in Annex 3 as per General Guideline to SSC CDM Methodologies. The project baseline is the POME treatment system and power generation. This project activity involved methane recovery from POME and electricity produced by gas engine displacing electricity from the grid for worker's quarters and office. The emission reduction from the displaced electricity is not claim by project activity. Other scenarios such as generation of heat, hydrogen production and injection into natural gas distribution grid are not further discussed because they are not applicable for this project activity. The CPA-DD has been revised in Annex 3.	The explanation acceptable and hence CL 26 closed.

CL 27 Please clarify why the period of assessment limited to the proposed crediting period of the CDM project activity.	9 d	The project's depreciation life is 10 years. So the IRR is only considered for 10 years instead of 30 years. GenPower will solely invest in the project and run it, after 10 years we will hand over the digester to the mill. An evaluation of the project's feasibility from a financial standpoint is more appropriate to use the accelerated depreciation schedule of ten years. The asset could have a small residual value at the end of 10 years, but millers would be unwilling to pay for the digester at the end of the crediting period. Evaluating the project for the full 30 years would greatly reduce the IRR and financial viability because we would be unprofitable for the last 20 years as we would have operating costs and no revenue as the only revenue is from CERs. From a financial evaluation standpoint, the digester has a 10 year usable life.	CL 27 verified closed.