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Validation Report

AES AgriVerde Ltd.

VALIDATION OF THE CDM-PROJECT:

METHANE RECOVERY IN WASTEWATER TREATMENT, PROJECT AMA07-W-01, PERAK, MALAYSIA

REPORT NO. 1026968

May 29, 2008

TÜV SÜD Industrie Service GmbH

Carbon Management Service
Westendstr. 199 - 80686 Munich – GERMANY

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Report No.	Date of first issue	Revision No.	Date of this revision	Certificate No.
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Subject: Validation of a CDM Project

Accredited TÜV SÜD Unit:	**TÜV SÜD Contract Partner:**
TÜV SÜD Industrie Service GmbH Certification Body "climate and energy" Westendstr. 199 - 80686 Munich GERMANY	TÜV SÜD PSB Certification Pte. Ltd. 3 Science Park Drive - #03-12 The Franklin 118223 Singapore SINGAPORE
Client:	**Project Site(s):**
AES AgriVerde Ltd. 10 Queen Street, Suite 105 Gibbons Building - Hamilton HM 11 BERMUDA	Foong Lee Sawiminyak Sdn Bhd Batu 9, Jalan 31110 Sungai Siput, Perak MALAYSIA

Project Title: Methane Recovery in Wastewater Treatment, Project AMA07-W-01, Perak, Malaysia

Applied Methodology / Version: AMS III H version 5 | **Scope(s):** 13

First PDD Version:		**Final PDD version:**	
Date of issuance:	2007-05-16	Date of issuance:	2008-05-28
Version No.:	2	Version No.:	7
Starting Date of GSP	2007-05-19		

Estimated Annual Emission Reduction: 57,094 tons CO_{2e}

Assessment Team Leader:	**Further Assessment Team Members:**
Dr. Ayse Frey	Ivan Hernandez Iris Waikinat Bagawathi Renganathan Yoon Jung-Ho

Summary of the Validation Opinion:

☒ The review of the project design documentation and the subsequent follow-up interviews have provided TÜV SÜD with sufficient evidence to determine the fulfilment of all stated criteria. In our opinion, the project meets all relevant UNFCCC requirements for the CDM. Hence TÜV SÜD will recommend the project for registration by the CDM Executive Board in case letters of approval of all Parties involved will be available before the expiring date of the applied methodology(ies) or the applied methodology version respectively.

☐ The review of the project design documentation and the subsequent follow-up interviews have not provided TÜV SÜD with sufficient evidence to determine the fulfilment of all stated criteria. Hence TÜV SÜD will not recommend the project for registration by the CDM Executive Board and will inform the project participants and the CDM Executive Board on this decision.

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Abbreviations

ACM	Approved Consolidated Methodology
AM	Approved Methodology
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CR	Clarification Request
DNA	Designated National Authority
DOE	Designated Operational Entity
EB	Executive Board
EIA / EA	Environmental Impact Assessment / Environmental Assessment
ER	Emission reduction
GHG	Greenhouse gas(es)
KP	Kyoto Protocol
MP	Monitoring Plan
NGO	Non Governmental Organisation
PDD	Project Design Document
PP	Project Participant
TÜV SÜD	TÜV SÜD Industrie Service GmbH
UNFCCC	United Nations Framework Convention on Climate Change
VVM	Validation and Verification Manual

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1 INTRODUCTION

1.1 Objective

The validation objective is an independent assessment by a Third Party (Designated Operational Entity = DOE) of a proposed project activity against all defined criteria set for the registration under the Clean Development Mechanism (CDM). Validation is part of the CDM project cycle and will finally result in a conclusion by the executing DOE whether a project activity is valid and should be submitted for registration to the CDM-EB. The ultimate decision on the registration of a proposed project activity rests at the CDM Executive Board and the Parties involved.

The project activity discussed by this validation report has been submitted under the project title:

Methane Recovery in Wastewater Treatment, Project AMA07-W-01, Perak, Malaysia.

1.2 Scope

The scope of any assessment is defined by the underlying legislation, regulation and guidance given by relevant entities or authorities. In the case of CDM project activities the scope is set by:

- Ø The Kyoto Protocol, in particular § 12
- Ø Decision 2/CMP1 and Decision 3/CMP.1 (Marrakech Accords)
- Ø Further COP/MOP decisions with reference to the CDM (e.g. decisions 4 – 8/CMP.1)
- Ø Decisions by the EB published under http://cdm.unfccc.int
- Ø Specific guidance by the EB published under http://cdm.unfccc.int
- Ø Guidelines for Completing the Project Design Document (CDM-PDD), and the Proposed New Baseline and Monitoring Methodlogy (CDM-NM)
- Ø The applied approved methodology
- Ø The technical environment of the project (technical scope)
- Ø Internal and national standards on monitoring and QA/QC
- Ø Technical guideline and information on best practice

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.

Once TÜV SÜD receives a first PDD version, it is made publicly available on the internet at TÜV SÜD's webpage as well as on the UNFCCC CDM-webpages for starting a 30 day global stakeholder consultation process (GSP). In case of any request a PDD might be revised (under certain conditions the GSP will be repeated) and the final PDD will form the basis for the final evaluation as presented by this report. Information on the first and on the final PDD version is presented at page 1.

The only purpose of a validation is its use during the registration process as part of the CDM project cycle. Hence, TÜV SÜD can not be held liable by any party for decisions made or not made based on the validation opinion, which will go beyond that purpose.

2 METHODOLOGY

The project assessment aims at being a risk based approach and is based on the methodology developed in the Validation and Verification Manual, an initiative of Designated and Applicant Entities, which aims to harmonize the approach and quality of all such assessments.

In order to ensure transparency, a validation protocol was customised for the project. TÜV SÜD developed a "cook-book" for methodology-specific checklists and protocol based on the templates presented by the Validation and Verification Manual. The protocol shows, in a transparent manner, criteria (requirements), the discussion of each criterion by the assessment team and the results from validating the identified criteria. The validation protocol serves the following purposes:

- It organises, details and clarifies the requirements a CDM 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 validation protocol consists of three tables. The different columns in these tables are described in the figure below.

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

Validation Protocol Table 1: Conformity of Project Activity and PDD				
Checklist Topic / Question	**Reference**	**Comments**	**PDD in GSP**	**Final PDD**
The checklist is organised in sections following the arrangement of the applied PDD version. Each section is then further subdivided. The lowest level constitutes a checklist question / criterion.	Gives reference to documents where the answer to the checklist question or item is found in case the comment refers to documents other than the PDD.	The section is used to elaborate and discuss the checklist question and/or the conformance to the question. It is further used to explain the conclusions reached. In some cases sub-checklist are applied indicating yes/no decisions on the compliance with the stated criterion. Any **Request** has to be substantiated within this column	Conclusions are presented based on the assessment of the first PDD version. This is either acceptable based on evidence provided (þ), or a **Corrective Action Request (CAR)** due to non-compliance with the checklist question (See below). **Clarification Request (CR)** is used when the validation team has identified a need for further clarification.	Conclusions are presented in the same manner based on the assessment of the final PDD version.

Validation Protocol Table 2: Resolution of Corrective Action and Clarification Requests			
Clarifications and corrective action requests	**Ref. to table 1**	**Summary of project owner response**	**Validation team conclusion**
If the conclusions from table 1 are either a Corrective Action Request	Reference to the checklist question number in Table 1	The responses given by the client or other project participants	This section should summarise the validation team's responses and final

or a Clarification Request, these should be listed in this section.	where the Corrective Action Request or Clarification Request is explained.	during the communications with the validation team should be summarised in this section.	conclusions. The conclusions should also be included in Table 1, under "Final PDD".

In case of a denial of the project activity more detailed information on this decision will be presented in table 3.

Validation Protocol Table 3: Unresolved Corrective Action and Clarification Requests		
Clarifications and corrective action requests	**Id. of CAR/CR 1**	**Explanation of the Conclusion for Denial**
If the final conclusions from table 2 results in a denial the referenced request should be listed in this section.	Identifier of the Request.	This section should present a detail explanation, why the project is finally considered not to be in compliance with a criterion.

2.1 Appointment of the Assessment Team

According to the technical scopes and experiences in the sectoral or national business environment TÜV SÜD has composed a project team in accordance with the appointment rules of the TÜV SÜD certification body “climate and energy”. The composition of an assessment team has to be approved by the Certification Body ensuring that the required skills are covered by the team. The Certification Body TÜV SÜD operates four qualification levels for team members that are assigned by formal appointment rules:

- Assessment Team Leader (ATL)
- Greenhouse Gas Auditor (GHG-A)
- Greenhouse Gas Auditor Trainee (T)
- Experts (E)

It is required that the sectoral scope linked to the methodology has to be covered by the assessment team.

The validation team was consisting of the following experts (the responsible Assessment Team Leader in written in bold letters):

Name	Qualification	Coverage of technical scope	Coverage of sectoral expertise	Host country experience
Dr. Ayse Frey	**ATL**	þ	þ	
Ivan Hernandez	GHG-A	þ	þ	
Iris Waikinat	GHG-A	þ	þ	
Bagawathi Renganathan	T	þ		þ
Yoon Jung-Ho	T	þ		þ

Dr. Ayse Frey is an auditor and project manager for CDM/JI projects as well as an energy/waste expert at TÜV SÜD Industrie Service GmbH. In her position she is responsible for the implementation of validation, verification and certifications processes for greenhouse gas mitigation projects in the context of the Kyoto Protocol. After her studies in civil and environmental engineering, she completed a PhD in the field of water and waste policy. She has extensive experience with the CDM and JI flexible mechanisms as well as with management systems.

Ivan Hernandez is GHG lead auditor, he has an academic background in industrial engineering and industrial maintenance. He has received extensive training in the CDM Validation and Verification processes and participated already in several CDM project assessments as auditor.

Iris Waikinat, Bagawathi Renganathan and **Yoon Jung-Ho** are GHG-auditor-trainees and are based in Munich, Singapore and South Korea, respectively. They have received extensive training in the CDM Validation and Verification processes. Since April 2008 **Iris Waikinat** is an auditor inter alia in regard to scope 13.

2.2 Review of Documents

The first PDD version submitted by the client and additional background documents related to the project design and baseline were reviewed as initial step of the validation process. A complete list of all documents and proofs reviewed is attached as annex 2 to this report.

2.3 Follow-up Interviews

In the period of June 14 and 15, 2007 TÜV SÜD performed interviews on-site with project stakeholders to confirm selected information and to resolve issues identified in the first document review. The table below provides a list of all persons interviewed in the context of this on-site visit.

Name	Organisation
Foo Siew Theng	AES AgriVerde Assessment Manager
Christina Wong	CDM Services and Logistics
Mark Miller	AES AgriVerde Quality Assurance Manager
Chang Woon Mun	Owner, Foong Lee Sawiminyak Sdn Bhd
Chang Wai Mun	Executive Director, Foong Lee Sawiminyak Sdn Bhd

2.4 Resolution of Clarification and Corrective Action Requests

The objective of this phase of the validation is to resolve the requests for corrective actions and clarifications and any other outstanding issues which needed to be clarified for TÜV SÜD`s positive conclusion on the project design. The Corrective Action Requests and Clarification Requests raised by TÜV SÜD were resolved during communication between the client and TÜV SÜD. To guarantee the transparency of the validation process, the concerns raised and responses that have been given are summarised in chapter 3 below and documented in more detail in the validation protocol in annex 1.

2.5 Internal Quality Control

As final step of a validation the validation report and the protocol have to undergo and internal quality control procedure by the Certification Body “climate and energy”, i.e. each report has to be approved either by the head of the certification body or his deputy. In case one of these two persons is part of the assessment team approval can only be given by the other one.

It rests at the decision of TÜV SÜD’s Certification Body whether a project will be submitted for requesting registration by the EB or not.

3 SUMMARY OF FINDINGS

The following description of the project as per PDD could be verified during the on-site audit:

The proposed project activity is to be implemented at Foong Lee Sawiminyak Sdn Bhd which processes 310,052 tonnes of fresh fruit bunch (FFB) per year, generating approximately 170,529 cubic meters of wastewater per year. The wastewater from the mill is treated through a ponding system consisting of cooling, anaerobic, and facultative lagoons. The project will recover methane caused by the decay of biogenic matter in the effluent stream of an existing oil palm processing mill by introducing methane recovery and combustion to the existing anaerobic effluent treatment system (lagoons).

As informed above all findings are summarized in table 2 of the attached validation protocol. In total the assessment team expressed 21 Clarification Requests and 19 Corrective Action Requests.

Although the amount of requests is comparatively high, this fact is more related to the aspect that this is the first time of applying this methodology in Malaysia.

The key findings focus on the basic requirements of the CDM specifications providing a basis for further (small scale) project activities.

Regarding the project's history, the project schedule and additional references and documents indicate the actual and planning situation/data of the project activity implementation (CR1, CR2, and CR3).

Within the realisation of a small scale project, some general issues which identify the CDM activity had to be verified. Documents on the technical design including information about the operation of the current system; the specification of the applied equipment; and information about the manufacturer/supplier of the technology/technical know how; give the type and category of the proposed project activity. Furthermore a check of debundling was required. In this case the project is not a debundled component of a registered small-scale project activity with the same project participants, in the same project category and technology/measure whose project boundary is within 1 km of another proposed small scale activity. Adequate proofs/information have been provided (CR4, CAR5, CR6) to demonstrate the same.

Based on the proposed project and the current situation an appropriate methodology is applied (here: AMS-III.H) to estimate the baseline, project and leakage emissions and the associated expected emission reductions. The methodology includes several criteria for determining the baseline and project scenarios as well as for defining the project boundary.

The stated baseline scenario is confirmed by the interviewed personnel and the mill owners and evidenced by pictures. The balance of the emission reductions is not affected by a use of 10% (or more) of the biogas produced for renewable energy (CR8), since emission reductions will not be claimed for electricity generated.

In the PDD, Figure 2 essentially reflects the idea of a clearly defined project boundary including the two biodigesters (two anaerobic lagoons) and the occasional de-sludging. The facility will recover the 100% of the methane emitted from the two anaerobic lagoons instead of recovering only 60% of three lagoons (CAR6, CR9, CR8, CAR7, CAR9, CAR8, and CR7).

Documents which establish the project activity as a CDM activity have been provided in addition to the discussion of different barriers in the PDD. The assumptions and data in these documents (e.g. IRR spreadsheet) have been verified and documents have been submitted to support the statements about the baseline of the project. What is especially convincing about the additionality of this project is that at the time of investment decision, no electricity generation was planned. The decision

to utilize some of the biogas for electricity generation was not a financial incentive but rather a result of discussions with the Malaysian DNA (the audit team was able to observe this development). Thus, potential revenues from electricity generation did not play a role in the investment decision, at which time the only revenues were considered to come from carbon credits. Moreover it has been demonstrated that the project is not being implemented to meet some requirement. (CAR10, CAR11, CR10, CR11, CAR12). In addition, a document has been submitted to demonstrate that CDM was considered prior to the construction start date. This document is uploaded along with the Validation Report.

Determination of the project emissions (PE):
Since the major part of the electricity comes from the biomass based boiler for electricity generation and the negligible amount of emission from the diesel consumption of the other genset, the consideration of using zero for the emissions due electricity consumption is acceptable.

As a result of a CAR, the efficiency of the methane recovery system $PE_{y,ww,treated}$ has been recalculated following the applied methodology. Similarly, $PE_{y,\ dissolved,}$ $COD_{y,\ ww,\ untreated,}$ and $MCF_{s,treatment}$ have also been corrected (CAR13, CAR14, CAR15, CAR16).

Finally, the revised PDD follows the guidelines for completing the simplified project design document (CDM-SSC-PDD) based on the requests in CAR1, CAR2, and CAR4.

In conclusion, the project and the revised final PDD complies with the requirements.

Due to the request for review by the CDM Executive Board the PDD and the IRR calculation has been reviewed and adjusted to the following statements:

Issue 1

Further clarification is required on how the DOE has validated the additionality of the project activity in particular:

how it has been determined that the IRR without CDM benefits is insufficient to allow the project to proceed without CDM;

Response by TÜV SÜD

As stated in the PDD and demonstrated in the IRR spreadsheet AES AgriVerde (AES AgriVerde Services (Malaysia) Sdn Bhd, AES AgriVerde Ltd.) is the only project participant and also the owner of the project's equipment as well as the recipient of the CERs which will be issued for the proposed project activity. These are the only revenues for the investor in this CDM project. Thus - without CDM the project would be absolutely unattractive and would not be a business option for these project participants that are neither owner nor operator of the palm oil mill. This demonstrates the additionality of the project.
In case the option "partial utilization of biogas" would have to be implemented due to state (DNA) requirements AES AgriVerde would also provide the necessary equipments to guarantee the success of the collateral project. The option is covered by the monitoring plan. Also in this case the only revenues for AES would be CERs as revenues or costs saving for electricity or heat generation will remain at the mill operator due to the verified contracts. Selling the electricity or participating in cost reductions from reduced fuel costs is not part of AES Agriverde´s business model as evidenced by the contract between the PPs and the mill operator. Also this option thus only can be realised under the CDM system. There are no doubts on the additionality of the project.

Issue 2

what evidence has validated to support the technological barriers;

Response by TÜV SÜD

See response of Issue 3

Issue 3

how the prevailing practice barrier has been validated.

Response by TÜV SÜD

Also referring to issue 2 due to the on-site audit, the validation process of the proposed project as well as to the received documents we can confirm the answers given above.

In addition several articles of technical literature base their studies on a wastewater treatment system of lagoons and open digesting tanks as a business as usual scenario. That also discloses the developmental stage of this field of activity. Following and also reflecting the practice there are currently no biodigester applications in wastewater treatment to recover methane for flaring in the Malaysian Palm Oil Industry. This was assessed by discussions during the on-site audit as well as by the local expertise of our regional auditors participating in the on-site audit and additional literature research. There is no information that the biodigester technology is applied as wastewater treatment system aside from projects applying the CDM mechanism (issue 3). Thus neither local expertise for this technology nor skilled employees are sufficiently available (issue 2).

4 COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS

TÜV SÜD published the project documents on UNFCCC website by installing a link to TÜV SÜD's own website and invited comments by Parties, stakeholders and non-governmental organisations during a period of 30 days.

The following table presents all key information on this process:

<table>
<tr><td colspan="2">webpage:

http://www.netinform.de/KE/Wegweiser/Guide2_1.aspx?ID=3030&Ebene1_ID=26&Ebene2_ID=925&mode=1</td></tr>
<tr><td colspan="2">Starting date of the global stakeholder consultation process:

2007-05-19</td></tr>
<tr><td>Comment submitted by:

A.L. Lee,
Enviro-LIFT Services Sdn Bhd</td><td>Issues raised:

- capture inefficiency/emissions from flaring gases,
- measurement methods and accordant QA/QC procedures.

Please refer to the link above for the complete comment.</td></tr>
<tr><td colspan="2">Response by TÜV SÜD:

A.L. Lee is an not accredited observer under the UNFCCC, hence the comments have not been considered as per the regulations, but relevant points have been taken into account during the validation process.</td></tr>
</table>

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5 VALIDATION OPINION

TÜV SÜD has performed a validation of the following proposed CDM project activity:

"Methane Recovery in Wastewater Treatment, Project AMA07-W-01, Perak, Malaysia."

The review of the project design documentation and the subsequent follow-up interviews have provided TÜV SÜD with sufficient evidence to determine the fulfilment of stated criteria. In our opinion, the project meets all relevant UNFCCC requirements for the CDM. Hence TÜV SÜD will recommend the project for registration by the CDM Executive Board.

An analysis as provided by the applied methodology 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 as designed, the project is likely to achieve the estimated amount of emission reductions as specified within the final PDD version.

The validation is based on the information made available to us and the engagement conditions detailed in this report. The validation has been performed using a risk based approach as described above. The only purpose of this report is its use during the registration process as part of the CDM project cycle. Hence, TÜV SÜD can not be held liable by any party for decisions made or not made based on the validation opinion, which will go beyond that purpose.

Munich, 2008-05-29

Certification Body "climate and energy"
TÜV SÜD Industrie Service GmbH

Munich, 2008-02-13

Assessment Team Leader

Munich, 2008-05-29

on behalf of the Assessment Team Leader

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Annex 1: Validation Protocol

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
A. General description of small-scale project activity				
A.1. Title of the small-scale project activity				
A.1.1. Does the used project title clearly enable to identify the unique CDM activity?	1	Yes, the project title "Methane Recovery in Wastewater Treatment, Project AMA07-W-01, Perak, Malaysia" clearly enables the identification of the CDM Activity.	þ	þ
A.1.2. Are there any indication concerning the revision number and the date of the revision?	1	Yes, the revision no. is made out to version 2 and is dated on 16 May 2007 (16/05/07).	þ	þ
A.1.3. Is this consistent with the time line of the project's history?	1, 18, 25	The time line of the project's history is not so transparent. Currently the PDD is the only document which declares an intention to implement a CDM project activity. **Clarification Request No. 1.** Why is this starting date of the project activity dated on 25 March 2007 (25/03/2007) chosen?	CR1	þ
A.2. Description of the small-scale project activity				
A.2.1. Is the description delivering a transparent overview of the project activities?	1	The purpose of the project activity (GHG emission reduction, here methane), its contribution to sustainable development (improving air quality) incl. a short description of the actual Palm Oil Mill Effluent treatment are presented in a transparent overview. A more detailed description of the applied technology is given in chapter A.4.2. of the PDD.	þ	þ
A.2.2. What proofs are available demonstrating that the project description is in compliance with the actual situation or planning?	1, 11, 25, 26,	Currently the PDD is the only document which declares an intention to implement a CDM project activity. Provided proofs/information are missing.	CR2	þ

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
	28	**Clarification Request No. 2.** In order to demonstrate that project description is in line with the planning and actual situation, please submit a schedule where the activities completed (details about how the construction and equipment installation took place) are described, please include the further (or pendant) activities.		
A.2.3. Is the information provided by these proofs consistent with the information provided by the PDD?	1, 11, 25, 26, 28	See A.2.2.	Open	þ
A.2.4. Is all information presented consistent with details provided by further chapters of the PDD?	1	Yes, the presented information about e. g. - the existing anaerobic effluent treatment system (open air lagoons), - the removal of sludge in the lagoons as needed (monthly monitoring), - data of the oil palm processing (310,052 t FFB/year; 170,529 m3 wastewater/year), - construction of an anaerobic digester with capture and combustion of the resulting biogas are consistent with details in further chapters of the PDD. **Corrective Action Request No.1.** As supplied documents format according to the CDM PDD guidelines, the structure of PDD consists of 4 Annexes. The referred Annex 5 should be deleted and be included in Annex 4 or be submitted with the separate documents.	CAR1	

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
A.2.5. Does the description of the technology to be applied provide sufficient and transparent input to evaluate its impact on the greenhouse gas balance?	1	Yes, the proposed project activity will utilize an anaerobic digester to capture and combust the generated biogas. Hence the current high GHG emissions will move to lower GHG emissions. In addition the project will have positive effects on the (local) environment by improving air quality, e. g. the reduction of odor. A more detailed description of the applied technology is given in chapter A.4.2. of the PDD.	þ	þ
A.2.6. Is the brief explanation how the project will reduce greenhouse gas emission transparent and suitable?	1	Yes, the brief explanation how the project activity will reduce GHG emissions is transparent and suitable, see A.2.5.	þ	þ
A.3. Project participants				
A.3.1. Is the form required for the indication of project participants correctly applied?	1	Yes, the tabular format has been used and has been correctly filled in, see Table 1 in chapter A.3. of the PDD. Complementary see A.3.3 CAR 2	Open	
A.3.2. Is the participation of the listed entities or Parties confirmed by each one of them?	1	**Observation** Please submit Letters of Approval from both involved Parties (Malaysia and the Netherlands).	Open	þ
A.3.3. Is all information on participants / Parties provided in consistency with details provided by further chapters of the PDD (in particular annex 1)?	1	No, not all information on the parties and on the project participants given in Table 1 are consistent with the information in Annex 1 and in further chapters of the PDD. **Corrective Action Request No.2.** Please correct the information about the involved party Netherlands/Bermuda.	CAR2	þ
A.4. Technical description of the small-scale project activity				
A.4.1. *Location of the small-scale project activity*				

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
A.4.1.1. Does the information provided on the location of the project activity allow for a clear identification of the site(s)?	1	Yes, the information provided (GPS coordinates, name of country/region/town/site) allow the identification of the site.	þ	þ
A.4.1.2. How is it ensured and/or demonstrated, that the project proponents can implement the project at this site (ownership, licenses, contracts etc.)?	1, 18, 19, 25	Currently the PDD is the only document which declares an intention to implement an CDM project activity. **Clarification Request No. 3.** Please provide proofs/information like contract with the Owner site, site licenses. In case that it is not required please explain the complete situation.	CR3	þ
A.4.2. *Type and category(ies) and technology/measure of the small-scale project activity*				
A.4.2.1. To which type(s) does the project activity belong to? Is the type correctly identified and indicated?	1	Yes, the project activity is classified and correctly identified as Type III (other project activities that both reduce anthropogenic emissions by sources and directly emit less than 60 kilotonnes of carbon dioxide equivalent annually).	þ	þ
A.4.2.2. To which category (ies) does the project activity belong to? Is the category correctly identified and indicated?	1, 3	Yes, the project activity belongs to category III.H./Version 5 and is correctly identified as Methane Recovery in Wastewater Treatment project. **Clarification Request No. 4.** Please explain the reason/function of the algae treatment lagoon. Is the lagoon part of the existing wastewater treatment system? Which discharge requirements can be met with the project activity lagoon system?	CR4	þ
A.4.2.3. Does the technical design of the project activity reflect current good practices?	1, 16, 17,	The technical design of the project activity reflects current good practice. The project is equipped with a simple, effective and reliable technology inter alia:	CR5	þ

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
	20, 27, 29	- the cover material of the digester (HDPE) is one of the most commonly used geo-membrane material worldwide; - the thermal mass flow meter offers several distinct advantages over standard flow meters. - the flare includes thermo-couples to monitor flare exhaust gas temperature Besides the utilization of a digester inherently is acting by current good practice. **Clarification Request No. 5.** Give more details about the flare. Submit to the validator the manufacture's specification to ensure that the values about the flare efficiency are correctly applied. As part of the information relate of project activity please submit the biodiesters designs and the specifications of the equipments used (thermo mass flow meter, agitators, thermocouples, gas analyzers and pumps). Complementary Please provide that the pressure test procedure & result for the welded seams of HDPE and also suggest your upgrade plan for lagoon berms.		
A.4.2.4. Does the implementation of the project activity require any technology transfer from Annex-I-countries to the host country (ies)?	16, 17, 29, 30	No, indeed a multi-faceted approach will be taken to ensure that technology transfer proceeds smoothly, e. g. to identify and to qualify appropriate technology/service provider, but the materials and labour used in this project are mainly sourced from the host country whenever possible. **Clarification Request No. 6.** From which country does the host country purchase/source the technical equipment/know how? Which Annex-I-Countries partici-	CR6	þ

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
		pate in the project?		
A.4.2.5. Is the technology implemented by the project activity environmentally safe?	20	The project has the approval form the Department of Environment, and during the visit the audit team corroborated that the project does not represent a risk for the environment.	Open	þ
A.4.2.6. Is the information provided in compliance with actual situation or planning?	1, 11, 25, 26, 28	See A.2.2	Open	þ
A.4.2.7. Does the project use state of the art technology and / or does the technology result in a significantly better performance than any commonly used technologies in the host country?	16, 17, 29, 30	Yes, see A.4.2.3. and A.4.2.4.	þ	þ
A.4.2.8. Is the project technology likely to be substituted by other or more efficient technologies within the project period?	1	No, the project technology, especially the digester, is a very modern technology which is not expected to change.	þ	þ
A.4.2.9. Does the project require extensive initial training and maintenance efforts in order to be carried out as scheduled during the project period?	1, 31, 32	The requirement of initial training and maintenance efforts is not mentioned directly, but by both site and project developer personnel it is declared that they will e.g.: - transfer the manufacture and maintenance of certain subassemblies to local manufacturers, - secure a proper operation and maintenance of all installed equipment, - train the staff ensuring sufficient know how to supervise the plant. **Corrective Action Request No.3.**	CAR3	þ

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
		Please provide a scheduled training plan.		
A.4.2.10. Is information available on the demand and requirements for training and maintenance?	1, 31, 32	See A.4.2.9.	Open	þ
A.4.2.11. Is a schedule available for the implementation of the project and are there any risks for delays?	1, 11, 25, 26, 28	See A.2.2.	Open	þ
A.4.3. *Estimated amount of emission reductions over the chosen crediting period*				
A.4.3.1. Is the form required for the indication of projected emission reductions correctly applied?	1	The tabular format required has been correctly applied, but **Corrective Action Request No.4.** Please specify the years of the crediting period (e.g. 2007) in Table 3, chapter A.4.3. of the PDD.	CAR4	þ
A.4.3.2. Are the figures provided consistent with other data presented in the PDD?	1	Yes, the figures provided in Table 3 are consistent with other data presented in further chapters of the PDD.	þ	þ
A.4.3.3. Are the figures consistent with the small-scale criteria for the used Type?	1, 33	Yes, Type III projects shall not exceed total direct emissions of 60 kilotonnes (kt) of carbon dioxide (CO_2) equivalent annually. The data of the PDD keep these conditions.	þ	þ
A.4.4. *Public funding of the small-scale project activity*				
A.4.4.1. Is the information provided on public funding provided in compliance with the actual situation or planning as available by the project participants?	1	There is no official development assistance being provided for this project.	þ	þ

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
A.4.4.2. Is all information provided consistent with the details given in remaining chapters of the PDD (in particular annex 2)?	1	Yes, see A.4.4.1.	þ	þ
A.4.5. *Confirmation that the small-scale project activity is not a debundled component of a large scale project activity*				
A.4.5.1. Is there a registered small-scale CDM project activity or an application to register another small-scale CDM project activity: with the following characteristics:	1	<table><tr><th>Debundling checklist</th><th>Yes / No</th></tr><tr><td>the same project participants?</td><td>No</td></tr><tr><td>In the same project category?</td><td>No</td></tr><tr><td>Registered within previous two years? Or in registration process?</td><td>No</td></tr><tr><td>Whose boundary is within 1 km of the project boundary of the small scale project activity under consideration?</td><td>No</td></tr></table> **Corrective Action Request No.5.** Please supreme the term "large-scale" in the sentence "There are no other registered large-scale project activities with the same project participants, in the same project category and technology/measure whose project boundary is within 1 km of another proposed small-scale activity" to confirm that the project activity is not a debundled component of a large-scale project activity. During the on-site audit it was mentioned that the biomass combustion of the facility is or becomes a further CDM project. To clarify, please give more information about this project.	CAR5	þ
A.4.5.2. If the answer to all the above question is '**Yes**' then does the total size of the small scale project activity combined with previously registered small scale CDM project ac-	1	Not applicable, see A.4.5.1.	þ	þ

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
tivity exceeds the limits of small scale CDM project activities?				
B. Application of a baseline and monitoring methodology				
B.1. Title and reference of the approved baseline and monitoring methodology applied to the small-scale project activity				
B.1.1.1. Are reference number, version number, and title of the baseline and monitoring methodology clearly indicated?	1, 2	Yes, it is clearly indicated in the PDD. The reference no./version no. of the applied methodology is AMS-III.H./Version 5.	þ	þ
B.1.1.2. Is the applied version the most recent one and / or is this version still applicable?	1, 2	Yes, the applied version is the update version and is also still applicable.	þ	þ
B.2. Justification of the choice of the methodology and why it is applicable to the project activity				
B.2.1. Is the applied methodology considered the most appropriate one?	1, 2	The project proposes to introduce methane recovery and combustion to an existing wastewater treatment system (a system of anaerobic and facultative lagoons at an oil palm processing facility). This fits the applied methodology's applicability criterion option iv: iv. Introduction of methane recovery and combustion to an existing anaerobic wastewater treatment system such as anaerobic reactor, lagoon, septic tank or an on site industrial plant. Furthermore the estimated emission reductions of the project activity calculated by historical oil palm Fresh Fruit Bunch processing rates and baseline calculations will not exceed **60 Kt CO_2e** in any year of the crediting period (requirement of eligible activities, Type III). **Corrective Action Request No.6.**	CAR6	þ

<table>
<tr><th>CHECKLIST TOPIC / QUESTION</th><th>Ref.</th><th>COMMENTS</th><th>PPD in GSP</th><th>Final PDD</th></tr>
<tr><td></td><td></td><td>The baseline scenario selected in the PDD is case (iv). However, the project boundary covers a facultative lagoon which supports both aerobic & anaerobic metabolic processes. Bearing in mind that methanogens thrive in strictly anaerobic conditions, there is a potential for an overestimation of the MCFww,treatment value & subsequently the emissions reduction value.
Clarification is required on how the applicability of case (iv) to the actual baseline scenario was justified in the context of the applied methodology.</td><td></td><td></td></tr>
<tr><td colspan="5">Integrate the required amount of sub-checklists on the applicability criteria as given by the applied methodology and comment on at least every line answered with “No”;</td></tr>
<tr><td>B.2.1.1.Criterion 1: Project substitutes aerobic wastewater or sludge treatment systems with anaerobic systems with methane recovery and combustion.</td><td>2</td><td><table><tr><th>Applicability checklist</th><th>Yes / No / NA</th></tr><tr><td>Criterion discussed in the PDD?</td><td>NA</td></tr><tr><td>Compliance provable?</td><td>NA</td></tr><tr><td>Compliance verified?</td><td>NA</td></tr></table></td><td>þ</td><td>þ</td></tr>
<tr><td>B.2.1.2.Criterion 2: Project introduces anaerobic sludge treatment system with methane recovery and combustion to an existing wastewater treatment plant without sludge treatment.</td><td>2</td><td><table><tr><th>Applicability checklist</th><th>Yes / No / NA</th></tr><tr><td>Criterion discussed in the PDD?</td><td>NA</td></tr><tr><td>Compliance provable?</td><td>NA</td></tr><tr><td>Compliance verified?</td><td>NA</td></tr></table></td><td>þ</td><td>þ</td></tr>
<tr><td>B.2.1.3.Criterion 3: Project introduces methane recovery and combustion to an existing sludge treatment system.</td><td>2</td><td><table><tr><th>Applicability checklist</th><th>Yes / No / NA</th></tr><tr><td>Criterion discussed in the PDD?</td><td>NA</td></tr></table></td><td>þ</td><td>þ</td></tr>
</table>

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
		Compliance provable? NA Compliance verified? NA		
B.2.1.4.Criterion 4: Project introduces methane recovery and combustion to an existing anaerobic wastewater treatment system such as anaerobic reactor, lagoon, septic tank or an on site industrial plant.	2	Applicability checklist / Yes / No / NA Criterion discussed in the PDD? Yes Compliance provable? Yes Compliance verified? Yes See B.2.1	Open	þ
B.2.1.5.Criterion 5: Project introduces anaerobic wastewater treatment with methane recovery and combustion, with or without anaerobic sludge treatment, to an untreated wastewater stream.		Applicability checklist / Yes / No / NA Criterion discussed in the PDD? NA Compliance provable? NA Compliance verified? NA	þ	þ
B.2.1.6.Criterion 6: Project introduces sequential stage of wastewater treatment with methane recovery and combustion, with or without sludge treatment, to an existing wastewater treatment system without methane recovery.	2	Applicability checklist / Yes / No / NA Criterion discussed in the PDD? NA Compliance provable? NA Compliance verified? NA	þ	þ
B.2.1.7.Are the projected emission reductions	2		þ	þ

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
less than or equal to 60,000 tonne CO_2 per annum?		Applicability checklist: Yes / No / NA Criterion discussed in the PDD? Yes Compliance provable? Yes Compliance verified? Yes		
B.3. Description of the project boundary				
B.3.1. Does the project boundary include physical, geographical site where the wastewater and sludge treatment takes place?	1, 2	Yes, the project boundary includes a sufficient number of existing lagoons (both anaerobic and facultative) to enable the (project's) capture and combustion of lagoon generated methane, as well as nearby land that accommodates the gas handling, metering system(s), and necessary flares (see also Figure 2 in chapter B.3. of the PDD). The geographical information about the project location is given in Table 2 in chapter A.4.1.4 of the PDD. Complementary see B.2.1.	Open	þ
B.3.2. Do the spatial and technological boundaries as verified on-site comply with the discussion provided by / indication included to the PDD?	1	**Corrective Action Request No.7.** Please provide a project specific Figure (see Figure 2 in chapter B.3. and Figure 4.1. in Annex 4 of the PDD) **Clarification Request No. 7.** The lagoon coverage will facilitate that 60% of emitted CH4 will be captured and flared. Why only 60%? **Corrective Action Request No.8.** Project boundary is not correctly described in the figure 2 project boundary of page 11. The project boundary should include the occasional de-sludging. The final disposition of sludge monitoring is required by the methodology and it is part of the project boundary. Please correct the diagram.	CAR7, CR7 CAR8 CAR9	þ

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
		Corrective Action Request No.9. The PDD describes a flexible project boundary that can cover any number of lagoons that facilitate the capture of between 60-100% of total methane generated and does not specify the total number of existing lagoons capable of generating methane. Such a vague description is not acceptable as the project boundary dictates the calculation of the emission reduction that can be achieved and consequently the judgment on whether the emission reduction cap of 60 kT CO2eq can be met. Further, the site visit revealed that a decision on how many lagoons are to be equipped with methane capture/combustion systems is yet to be reached. Please define the project boundary based on the exact number of lagoons to which methane capture/combustion systems are to be applied.		
B.4. Details of baseline and its development				
Integrate questions concerning the determination of the additionality as provided by the methodology applied or insert the module provided when applying the "additionality tool"; Replace blue text, if necessary				
B.4.1. Have all technically feasible baseline scenario alternatives to the project activity been identified and discussed by the PDD? Why can this list be considered as being complete?	1	A data assessment team visited the Foong Lee Oil Palm Facility and found it uses a **system of open lagoons**, which combine **cooling, sedimentation, anaerobic, facultative and aerobic** processes to treat the Palm Oil Mill Effluent (POME). In their opinion this condition corresponds well with the chosen baseline scenario (iv) The existing anaerobic wastewater treatment system without methane recovery and combustion. Of the applied methodology.	þ	þ

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
B.4.2. Does the project identifies correctly and excludes those options not in line with regulatory or legal requirements?	1	Foong Lee's Palm Oil Mill Effluent (POME) treatment system complies with current effluent discharge standards and is exemplary of the most common practice in Malaysia Palm Oil Mills (see Abdul Latif et al. 2003; Eco-Ideal 2004: Shirai et al. 2003; Yeoh 2004b). To dispose the treated POME in this case the alternative of land application is used. It will be confirmed with the complete documents referenced in foot notes 3 and 4 in section B.4 on the PDD.	Open	þ
B.4.3. Have applicable regulatory or legal requirements been identified?	1	**Clarification Request No. 8.** Are there any plans not only to flare the biogas but also to use parts of it for fuel substitution in the plant? Please add information about plans or recommendations from the state or local authorities about it. There has been some contradictory information during the on-site audit. Please clarify it.	CR8	þ
B.4.4. Baseline scenario selection:				
B.4.4.1.Scenario 1: the existing aerobic wastewater or sludge treatment system.	1, 2	<table><tr><th>Baseline scenario checklist</th><th>Yes / No / NA</th></tr><tr><td>Scenario discussed in the PDD?</td><td>NA</td></tr><tr><td>Compliance provable?</td><td>NA</td></tr><tr><td>Compliance verified?</td><td>NA</td></tr></table>	þ	þ

<table>
<tr><th>CHECKLIST TOPIC / QUESTION</th><th>Ref.</th><th>COMMENTS</th><th>PPD in GSP</th><th>Final PDD</th></tr>
<tr><td>B.4.4.2.Scenario 2: the existing sludge disposal system.</td><td>1, 2</td><td><table><tr><th>Baseline scenario checklist</th><th>Yes / No / NA</th></tr><tr><td>Scenario discussed in the PDD?</td><td>NA</td></tr><tr><td>Compliance provable?</td><td>NA</td></tr><tr><td>Compliance verified?</td><td>NA</td></tr></table></td><td>þ</td><td>þ</td></tr>
<tr><td>B.4.4.3.Scenario 3: the existing sludge disposal system without methane recovery and combustion.</td><td>1, 2</td><td><table><tr><th>Baseline scenario checklist</th><th>Yes / No / NA</th></tr><tr><td>Scenario discussed in the PDD?</td><td>NA</td></tr><tr><td>Compliance provable?</td><td>NA</td></tr><tr><td>Compliance verified?</td><td>NA</td></tr></table></td><td>þ</td><td>þ</td></tr>
<tr><td>B.4.4.4.Scenario 4: the existing anaerobic wastewater treatment system without methane recovery and combustion.</td><td>1, 2, 22</td><td><table><tr><th>Baseline scenario checklist</th><th>Yes / No / NA</th></tr><tr><td>Scenario discussed in the PDD?</td><td>Yes</td></tr><tr><td>Compliance provable?</td><td>No</td></tr><tr><td>Compliance verified?</td><td>No</td></tr></table><u>Clarification Request No. 9.</u>
Like the project activity took part over the original anaerobic lagoon, please submit evidences (pictures, designs, draws, measurements, etc) to demonstrate the correct selection of the Baseline.</td><td>CR9</td><td>þ</td></tr>
</table>

<table>
<tr><th>CHECKLIST TOPIC / QUESTION</th><th>Ref.</th><th>COMMENTS</th><th>PPD in GSP</th><th>Final PDD</th></tr>
<tr><td>B.4.4.5. Scenario 5: the untreated wastewater being discharged into sea, river, lake, stagnant sewer or flowing sewer.</td><td>1, 2</td><td><table><tr><th>Baseline scenario checklist</th><th>Yes / No / NA</th></tr><tr><td>Scenario discussed in the PDD?</td><td>NA</td></tr><tr><td>Compliance provable?</td><td>NA</td></tr><tr><td>Compliance verified?</td><td>NA</td></tr></table></td><td>þ</td><td>þ</td></tr>
<tr><td>B.4.4.6. Scenario 6: the existing anaerobic wastewater treatment system without methane recovery.</td><td>1, 2</td><td><table><tr><th>Baseline scenario checklist</th><th>Yes / No / NA</th></tr><tr><td>Scenario discussed in the PDD?</td><td>NA</td></tr><tr><td>Compliance provable?</td><td>NA</td></tr><tr><td>Compliance verified?</td><td>NA</td></tr></table></td><td>þ</td><td>þ</td></tr>
<tr><td>B.4.5. Does the selected baseline scenario correspond to the selected project scenario as per chapter B.2 above?</td><td>1, 2</td><td>The selected baseline scenario corresponds to the selected project scenario.

See B.2.1.</td><td>Open</td><td>þ</td></tr>
<tr><td>B.4.6. Is the identified baseline scenario in line with regulatory or legal requirements?</td><td>1, 2</td><td>Yes, see B.4.2. and B.4.3.</td><td>þ</td><td>þ</td></tr>
<tr><td>B.4.7. Does the PDD identify the most likely baseline scenario in absence of the project activity?</td><td>1, 2</td><td>See B.4.1.</td><td>þ</td><td>þ</td></tr>
<tr><td>B.4.8. Is this identification supported by official and/or verifiable documents (e.g. studies, web pages, certificates, etc?</td><td>1, 2, 22</td><td>Significant documents are missing.
See B.4.4.4</td><td>Open</td><td>þ</td></tr>
</table>

CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PPD in GSP	Final PDD
B.5. Description of how the anthropogenic emissions of GHG by sources are reduced below those that would have occurred in the absence of the registered CDM project activity (assessment and demonstration of additionality):					
Integrate questions concerning the determination of the additionality when applying the "additionality tool"; Replace blue text, if necessary					
B.5.1.	In case of applying step 2 / investment analysis of the additionality tool: Is the analysis method identified appropriately (step 2a)?		Not applicable, because the applied methodology only takes into account information on additionality of the simplified modalities and procedures for SSC CDM project activities.	þ	þ
B.5.2.	In case of Option I (simple cost analysis): Is it demonstrated that the activity produces no economic benefits other than CDM income?		Not applicable, see B.5.1.	þ	þ
B.5.3.	In case of Option II (investment comparison analysis): Is the most suitable financial indicator clearly identified (IRR, NPV, cost benefit ratio, or (levelized) unit cost)?		Not applicable, see B.5.1.	þ	þ
B.5.4.	In case of Option III (benchmark analysis): Is the most suitable financial indicator clearly identified (IRR, NPV, cost benefit ratio, or (levelized) unit cost)?		Not applicable, see B.5.1.	þ	þ
B.5.5.	In case of Option II or Option III: Is the calculation of financial figures for this indicator correctly done for all alternatives and the project activity?		Not applicable, see B.5.1.	þ	þ
B.5.6.	In case of Option II or Option III: Is the analysis presented in a transparent manner including publicly available proofs for the utilized data?		Not applicable, see B.5.1.	þ	þ
B.5.7.	In case of applying step 3 (barrier analy-		Not applicable, see B.5.1.	þ	þ

CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PPD in GSP	Final PDD
	sis) of the additionality tool: Is a complete list of barriers developed that prevent the different alternatives to occur?				
B.5.8.	In case of applying step 3 (barrier analysis): Is transparent and documented evidence provided on the existence and significance of these barriers?		Not applicable, see B.5.1.	þ	þ
B.5.9.	In case of applying step 3 (barrier analysis): Is it transparently shown that the execution of at least one of the alternatives is not prevented by the identified barriers?		Not applicable, see B.5.1.	þ	þ
B.5.10.	Have other activities in the host country / region similar to the project activity been identified and are these activities appropriately analyzed by the PDD (step 4a)?		Not applicable, see B.5.1.	þ	þ
B.5.11.	If similar activities are occurring: Is it demonstrated that in spite of these similarities the project activity would not be implemented without the CDM component (step 4b)?		Not applicable, see B.5.1.	þ	þ
B.5.12.	Is it appropriately explained how the approval of the project activity will help to overcome the economic and financial hurdles or other identified barriers (step 5)?		Not applicable, see B.5.1.	þ	þ
If the additionality tool has not been used please answer B.5.13 to B.5.18					
B.5.13.	If the starting date of the project activity is before the date of validation, is evidence available to prove that incentive from the CDM was seriously considered in the deci-	1, 11, 25, 26,	The starting date of the project activity (25/03/2007 = start of construction) is before the date of validation/GSP (18/05/2007). However, evidence that CDM has been considered prior to start-	þ	þ

<table>
<tr><th>CHECKLIST TOPIC / QUESTION</th><th>Ref.</th><th>COMMENTS</th><th>PPD in GSP</th><th>Final PDD</th></tr>
<tr><td>sion to proceed with the project activity?</td><td>28</td><td>ing date of construction has been submitted and will be uploaded along with the Validation Report.
See also A.2.2.</td><td></td><td></td></tr>
<tr><td>B.5.14. Is a complete list of barriers developed that prevents the project activity to occur?</td><td>1</td><td>Yes, the required list of barriers has been discussed. Especially a Barrier Test Framework, see Table 6 in chapter B.5. of the PDD, summarizes the barriers for their potential to impact the project activity. Table 5 in chapter B.5. also reflects the potential of the barriers to block the project activity.</td><td>þ</td><td>þ</td></tr>
<tr><td>B.5.15. Does this list include at least one of the following barriers?</td><td>1, 23, 24, 12, 13, 14, 15,</td><td><table><tr><th>Barrier</th><th>Discussed?</th><th>Verifiable?</th></tr><tr><td>Investment</td><td>Yes</td><td></td></tr><tr><td>Technological</td><td>Yes</td><td>Yes</td></tr><tr><td>Due to prevailing practice</td><td>Yes</td><td></td></tr><tr><td>Other</td><td>Yes</td><td></td></tr></table>
Cost estimates and IRR are provided under separate cover.
<u>Corrective Action Request No.10.</u>
Please provide significant documents of the calculated costs and IRR.

The current lagoon-based treatment system is considered the standard operating practice in palm oil mills in Malaysia while the proposed project activity is not.
<u>Corrective Action Request No.11.</u>
Please provide evidence regarding prevailing/most common practice.</td><td>CAR10, CAR11, CR10</td><td>þ</td></tr>
</table>

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
		Clarification Request No. 10. Please provide clearer statements regarding "Other Barriers". DOE is required to ensure that only significant barriers are listed in the PDD. If a barrier is not significant or there is no supporting documentary evidence, please remove it from the PDD and focus on the significant barriers.		
B.5.16. Does the discussion sufficiently take into account relevant national and/or sectoral policies?	1	Yes, Foong Lee's Palm Oil Mill Effluent (POME) treatment system complies with current effluent discharge standards and is exemplary of the most common practice in Malaysia Palm Oil Mills. There are no existing, pending or planned national regulatory requirements that govern GHG emissions from agro-industry operations, specifically Palm Oil Mill Processing Activities. Furthermore the project participants have solicited information regarding the issue of national regulatory requirements during numerous conversations with local and state government officials and through legal representation and have determined there is no regulatory impetus. It will be confirmed with the complete documents referenced in foot notes 3 and 4 in section B.4 on the PDD.	Open	þ
B.5.17. Is transparent and documented evidence provided on the existence and significance of these barriers?	1	See B.5.15 **Clarification Request No. 11.** Regarding the technical barrier: why is it difficult to hire skilled and experienced personnel? Please also explain the asked issues about "performance certainty" and "real or perceived risk?	CR11	þ
B.5.18. Is it appropriately explained how the approval of the project activity will help to overcome the identified barriers?	1, 7	**Corrective Action Request No.12.** Why is the CDM project needed? Please provide comments re-	CAR12	þ

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
		garding the answered issues with Y in Table 6, chapter B.5. of the PDD, especially concerning the applied project activity.		
B.6. Emissions reductions				
Integrate questions concerning methodological choices and selection of options, if necessary				
B.6.1. *Explanation of methodological choices*				
B.6.1.1. Is it explained how the procedures provided in the methodology are applied by the proposed project activity?	1, 2	Yes, during an on-site visit the baseline was found to correspond to the baseline scenario alternative (iv) of the applied methodology (see also B.4. of the PDD) and for this case the appropriate formula and the default values are used.	þ	þ
B.6.1.2. Is every selection of options offered by the methodology correctly justified and is this justification in line with the situation verified on-site?	1, 2, 22	See B.4.7, B.4.8.	Open	þ
B.6.1.3. Determination of project emissions (Comment on any line answered "No")				
B.6.1.3.1. Component 1: emissions from electricity or diesel consumption. [$PE_{y, Power}$]	1, 16, 21	Project emission checklist: Yes / No Component discussed in the PDD? Yes Formulae correctly applied? Yes **Corrective Action Request No.13.** Concerning the agitators in the anaerobic lagoons/digesters (mentioned in Figure 4.1., Annex 4 and chapter 4.2. of the PDD), how much energy do they use and than how much emissions do they generate. Are they part of the existing wastewater treatment system? In annex 4 (page 39) is state "Electrical usage will be conserva-	CAR13	þ

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
		tively estimated by assuming 24-hour/day, full-time operation at manufacturers specifications. Optionally, may meter to reduce impact." Please submit the specification of agitators and please inform if other equipments (like blowers or additional pumps) will be installed for the project activity. Complementary please give more details about electricity consumption of the monitoring devices. Please clarify whether only biomass is used to generate the electricity on-site which is used to provide the auxiliary power to run the project equipments, or if there is any co-firing in the boiler. If diesel gensets are used for start-up operations, please clarify whether additional project emissions are expected as compared to the baseline due to diesel consumption		
B.6.1.3.2. Component 2: emissions from degradable organic carbon in treated wastewater. [$PE_{y, ww, treated}$]	1, 33	<table><tr><td>Project emission checklist</td><td>Yes / No</td></tr><tr><td>Component discussed in the PDD?</td><td>Yes</td></tr><tr><td>Formulae correctly applied?</td><td>No</td></tr></table> **Corrective Action Request No.14.** The methane recovery system has an efficiency of 60%, it means that only this portion of methane will be captured, so the $PE_{y, ww, treated}$ Should be calculated multiplying the total of project emission for the system efficiency. In the calculation submitted it is calculated multiplying the $\mathbf{COD_{y,ww,treated}}$ for the system efficiency, and it means a lower methane production, not a low capture efficiency. Please correct this value and all the assumptions related.	CAR14	þ

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
B.6.1.3.3. Component 3: emissions from anaerobic decay of final sludge. [$PE_{y, S, final}$]	1	Project emission checklist: Yes / No Component discussed in the PDD? Yes Formulae correctly applied? Yes **Clarification Request No. 12.** Accord the information provide during the on site visit, the frequency to extract the sludge from the biodiesters at least twice per year. In comparison with the past frequency to extract the sludge from the lagoons which is once each 2 or 3 years, there is a risk of significant sludge accumulation in the dry beds and methane production due this excess of sludge. Please give more details about the process to de-sludged.	CR12	þ
B.6.1.3.4. Component 4: emissions from methane release in capture and flare systems. [$PE_{y, fugitive}$]	1, 2	Project emission checklist: Yes / No Component discussed in the PDD? Yes Formulae correctly applied? Yes	þ	þ
B.6.1.3.5. Component 5: emissions from dissolved methane in treated wastewater. [$PE_{y, dissolved}$]	1, 33	Project emission checklist: Yes / No Component discussed in the PDD? Yes Formulae correctly applied? No **Corrective Action Request No.15.** For [CH4]y,ww,treated a value of zero was adopted, but, like the	CAR 15	þ

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
		value for dissolved methane content in the treated wastewater is for the wastewater treated (it is anaerobic), not for the treatment that is going to happened, it needs to be considered in the project emission as is recommended in the methodology ("…it can be measured, or a default value of 10e-4 tonnes/m3 can be used.). All calculations need to reflect this change.		
B.6.1.4. Are the formulae required for the determination of baseline emissions correctly presented, enabling a complete identification of parameter to be used and / or monitored?	1, 33	The formulae to determine the baseline emissions is correctly presented in chapter B.6.1 of the PDD, but **Corrective Action Request No.16.** In Table 4., chapter B.4. of the PDD the unit of $COD_{y,ww,\ untreated}$ is missing and the name of the parameter is not consistent with the name of the variable. Also in Annex3 in the table "Baseline Input" and in table "Project Input". The COD of POME as stated in the PDD is certainly contradictory to what the footnote of p. 3 says ("POME has an industry mean Chemical Oxygen Demand rating of 50,000 mg/l."). Please give a short explanation for the vast difference of the measured value (111,842 mg/l) with the industry mean value. The Palm Oil Mill in this project however (COD = 111842 mg/l), has a processing capacity of 60 tonnes FFB/hr and an actual production rate of roughly around 41 tonnes FFB/hr. Perhaps more clarification is required on whether processing capacity of 30 tonnes FFB/hr refers to maximum capacity or actual production rate. In Step 2, the PDD incorrectly assigns MCF Higher value in Table III H of 1 to MCFs,treatment, when for baseline emission calcula-	CAR16	þ

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
		tions, the MCF lower value is to be applied. In this case, no value is to be assigned to this parameter as the emission from sludge is to be neglected.		
B.6.1.5. Are the formulae required for the determination of leakage emissions correctly presented, enabling a complete identification of parameter to be used and / or monitored?		No/Not applicable, because no equipment transfer of used technology from another activity or of existing equipment to another activity seems to be planned.	þ	þ
B.6.1.6. Are the formulae required for the determination of emission reductions correctly presented?	1, 2	The formula is correctly presented. **Clarification Request No. 13.** Please clarify whether the project wastewater is discharged to the facultative lagoon (as is the current case) or to the aerobic lagoon (as would be the case if the 3rd lagoon is included in the project boundary) as this would affect the values assigned to MCFww,final in Step 4 and [CH4]y,ww,treatment in Step 9.	CR13	þ
B.6.2. *Data and parameters that are available at validation*				
B.6.2.1. Is the list of parameters presented in chapter B.6.2 considered to be complete with regard to the requirements of the applied methodology?	1, 2	No, the list of parameters presented in Chapter B.6.2. of the PDD is not complete. Information about $PE_{y,power}$ and $BE_{y,power}$ are not given. **Clarification Request No. 14.** Please measure and record methane content of biogas in shorter intervals following the hourly monitored flare efficiency, as is state in the Tool to determine project emissions from flaring gases containing methane.	CR14	þ

<table>
<tr><th>CHECKLIST TOPIC / QUESTION</th><th>Ref.</th><th>COMMENTS</th><th>PPD in GSP</th><th>Final PDD</th></tr>
<tr><td colspan="5">B.6.2.2.Comment on any line answered with “No”</td></tr>
<tr><td>B.6.2.2.1. Parameter Title:
$PE_{y,power}$ emissions from electricity or diesel consumption in the year “y”</td><td>1, 16, 21</td><td><table><tr><th>Data Checklist</th><th>Yes / No / NA</th></tr><tr><td>Title in line with methodology?</td><td>No / NA</td></tr><tr><td>Data unit correctly expressed?</td><td>No / NA</td></tr><tr><td>Appropriate description of parameter?</td><td>No / NA</td></tr><tr><td>Source clearly referenced?</td><td>No / NA</td></tr><tr><td>Correct value provided?</td><td>No / NA</td></tr><tr><td>Has this value been verified?</td><td>No / NA</td></tr><tr><td>Choice of data correctly justified?</td><td>No / NA</td></tr><tr><td>Measurement method correctly described?</td><td>No / NA</td></tr></table>
See B.6.1.3.1.</td><td>Open</td><td>þ</td></tr>
<tr><td>B.6.2.2.2. Parameter Title:
$Q_{y,ww}$ volume of wastewater treated in the year “y” (m3)</td><td>1, 2</td><td><table><tr><th>Data Checklist</th><th>Yes / No / NA</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>No</td></tr><tr><td>Correct value provided?</td><td>No</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Choice of data correctly justified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>No</td></tr></table>
<u>Corrective Action Request No.17.</u>
Please add the missing information (No) in Table 7, chapter 6.2.</td><td>CAR17</td><td>þ</td></tr>
</table>

<table>
<tr><th>CHECKLIST TOPIC / QUESTION</th><th>Ref.</th><th>COMMENTS</th><th>PPD in GSP</th><th>Final PDD</th></tr>
<tr><td></td><td></td><td>of the PDD.</td><td></td><td></td></tr>
<tr><td>B.6.2.2.3. Parameter Title:
$COD_{y,ww,treated}$– chemical oxygen demand of treated wastewater (tonnes/m3).</td><td>1, 2</td><td><table><tr><th>Data Checklist</th><th>Yes / No / NA</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided?</td><td>No</td></tr><tr><td>Has this value been verified?</td><td>No</td></tr><tr><td>Choice of data correctly justified?</td><td>No</td></tr><tr><td>Measurement method correctly described?</td><td>No</td></tr></table>see B.6.2.2.2.
For this values is critical the Report done by the third company.</td><td>Open</td><td>þ</td></tr>
<tr><td>B.6.2.2.4. Parameter Title:
$B_{o,ww}$ methane producing capacity of the wastewater (IPCC default value for domestic wastewater of 0.21 kg CH4/kg.COD)</td><td>1, 2</td><td><table><tr><th>Data Checklist</th><th>Yes / No / NA</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Choice of data correctly justified?</td><td>No</td></tr><tr><td>Measurement method correctly described?</td><td>No</td></tr></table>see B.6.2.2.2.</td><td>Open</td><td>þ</td></tr>
<tr><td>B.6.2.2.5. Parameter Title:
$MCF_{ww,final}$ methane correction factor based on type of treatment and discharge pathway of the wastewa-</td><td>1, 2</td><td><table><tr><th>Data Checklist</th><th>Yes / No / NA</th></tr><tr><td>Title in line with methodology?</td><td>CAR12</td></tr></table></td><td>CAR18</td><td>þ</td></tr>
</table>

<table>
<tr><th>CHECKLIST TOPIC / QUESTION</th><th>Ref.</th><th>COMMENTS</th><th>PPD in GSP</th><th>Final PDD</th></tr>
<tr><td>ter (fraction) (MCF Higher Value in table III.H.1 for sea, river and lake discharge i.e. 0.2)</td><td></td><td><table><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>CAR18</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided?</td><td>CAR18</td></tr><tr><td>Has this value been verified?</td><td>CAR18</td></tr><tr><td>Choice of data correctly justified?</td><td>No</td></tr><tr><td>Measurement method correctly described?</td><td>No</td></tr></table>
<u>Corrective Action Request No.18.</u>
Please use one single tabular format for each data and parameter in Table 7. chapter 6.2. of the PDD and add the missing information.</td><td></td><td></td></tr>
<tr><td>B.6.2.2.6. Parameter Title:
$S_{y,final}$– amount of final sludge generated by the wastewater treatment (tonnes).</td><td>1, 2</td><td><table><tr><th>Data Checklist</th><th>Yes / No / NA</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr><tr><td>Choice of data correctly justified?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr></table>
The parameter is needed to calculate the total amount of organic material removed in the lagoon system, here: $PE_{y,S,final} = 0$.</td><td>þ</td><td>þ</td></tr>
<tr><td>B.6.2.2.7. Parameter Title:
$DOC_{y,s,final}$– degradable organic</td><td>1, 2</td><td><table><tr><th>Data Checklist</th><th>Yes / No / NA</th></tr></table></td><td>þ</td><td>þ</td></tr>
</table>

<table>
<tr><th>CHECKLIST TOPIC / QUESTION</th><th>Ref.</th><th>COMMENTS</th><th>PPD in GSP</th><th>Final PDD</th></tr>
<tr><td>content of the final sludge generated by the wastewater treatment.</td><td></td><td><table><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr><tr><td>Choice of data correctly justified?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr></table>
The parameter is needed to calculate the total amount of organic material removed in the lagoon system, here: $PE_{y,S,\ final} = 0$.</td><td></td><td></td></tr>
<tr><td>B.6.2.2.8. Parameter Title:
$MCF_{s,final}$– methane correction factor of the landfill that receives the final sludge.</td><td>1, 2</td><td><table><tr><th>Data Checklist</th><th>Yes / No / NA</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr><tr><td>Choice of data correctly justified?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr></table>
The parameter is needed to calculate the total amount of organic material removed in the lagoon system, here: $PE_{y,S,\ final} = 0$.</td><td>þ</td><td>þ</td></tr>
<tr><td>B.6.2.2.9. Parameter Title:
DOC_F– fraction of DOC dissimilated to biogas.</td><td>1, 2</td><td><table><tr><th>Data Checklist</th><th>Yes / No / NA</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr></table></td><td>þ</td><td>þ</td></tr>
</table>

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
		Appropriate description of parameter? NA Source clearly referenced? NA Correct value provided? NA Has this value been verified? NA Choice of data correctly justified? NA Measurement method correctly described? NA The parameter is needed to calculate the total amount of organic material removed in the lagoon system, here: $PE_{y,S,final}$ = 0.		
B.6.2.2.10. Parameter Title: F– fraction of CH_4 in landfill gas.	1, 2	Data Checklist / Yes / No / NA Title in line with methodology? NA Data unit correctly expressed? NA Appropriate description of parameter? NA Source clearly referenced? NA Correct value provided? NA Has this value been verified? NA Choice of data correctly justified? NA Measurement method correctly described? NA The parameter is needed to calculate the total amount of organic material removed in the lagoon system, here: $PE_{y,S,final}$ = 0.	þ	þ
B.6.2.2.11. Parameter Title: $COD_{y,ww,untreated}$ Chemical oxygen demand of the wastewater entering the anaerobic treatment reactor/system with methane capture in the year “y” (tonnes/m3)	1, 2	Data Checklist / Yes / No / NA Title in line with methodology? Yes Data unit correctly expressed? Yes Appropriate description of parameter? Yes Source clearly referenced? Yes	Open	þ

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
		Correct value provided? No Has this value been verified? no Choice of data correctly justified? No Measurement method correctly described? No see B.6.2.2.2.		
B.6.2.2.12. Parameter Title: $S_{y,untreated}$ amount of untreated sludge generated in the year "y" (tonnes)	1, 2	Data Checklist / Yes / No / NA Title in line with methodology? NA Data unit correctly expressed? NA Appropriate description of parameter? NA Source clearly referenced? NA Correct value provided? NA Has this value been verified? NA Choice of data correctly justified? NA Measurement method correctly described? NA The parameter is needed to calculate the Methane Emission Potential of the sludge treatment system in the year, here: $MEP_{y,S,treatment} = 0$.	þ	þ
B.6.2.2.13. Parameter Title: $DOC_{y,S,untreated}$ Degradable organic content of the untreated sludge generated in the year y (fraction). It shall be measured by sampling and analysis of the sludge produced, and estimated ex-ante using the IPCC default values of 0.05 for domestic sludge (wet basis, considering a default dry matter	1, 2	Data Checklist / Yes / No / NA Title in line with methodology? NA Data unit correctly expressed? NA Appropriate description of parameter? NA Source clearly referenced? NA Correct value provided? NA Has this value been verified? NA Choice of data correctly justified? NA	þ	þ

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
content of 10 percent) or 0.09 for industrial sludge (wet basis, assuming dry matter content of 35 percent)		Measurement method correctly described? NA The parameter is needed to calculate the Methane Emission Potential of the sludge treatment system in the year, here: $MEP_{y,S,treatment} = 0$.		
B.6.2.2.14. Parameter Title: $MCF_{s,treatment}$ methane correction factor for the sludge treatment system that will be equipped with methane recovery and combustion (MCF Higher value of 1.0 as per table III.H.1)	1, 2	Data Checklist / Yes / No / NA Title in line with methodology? NA Data unit correctly expressed? NA Appropriate description of parameter? NA Source clearly referenced? NA Correct value provided? NA Has this value been verified? NA Choice of data correctly justified? NA Measurement method correctly described? NA The parameter is needed to calculate the Methane Emission Potential of the sludge treatment system in the year, here: $MEP_{y,S,treatment} = 0$.	þ	þ
B.6.2.2.15. Parameter Title: $[CH4]_{y,ww,treated}$ dissolved methane content in the treated wastewater (tonnes/m3). In aerobic wastewater treatment default value is zero, in anaerobic treatment it can be measured, or a default value of 10e-4 tonnes/m3 can be used	1, 2	Data Checklist / Yes / No / NA Title in line with methodology? Yes Data unit correctly expressed? No Appropriate description of parameter? No Source clearly referenced? No Correct value provided? No Has this value been verified? No Choice of data correctly justified? No	Open	þ

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
		Measurement method correctly described? — No Please see B.6.1.3		
B.6.2.2.16. Parameter Title: $BE_{y,power}$ emissions on account of electricity or diesel consumed in the year "y" by the replaced aerobic wastewater or sludge treatment system	1, 2	Data Checklist — Yes / No / NA Title in line with methodology? — NA Data unit correctly expressed? — NA Appropriate description of parameter? — NA Source clearly referenced? — NA Correct value provided? — NA Has this value been verified? — NA Choice of data correctly justified? — NA Measurement method correctly described? — NA See B.6.1.3.1. and B.6.2.2.1.	Open	þ
B.6.2.2.17. Parameter Title: $MCF_{ww,treatment}$ Methane correction factor for the existing wastewater treatment system to which the sequential anaerobic treatment step is being introduced (MCF lower value in Table III.H.1.)	1, 2	Data Checklist — Yes / No / NA Title in line with methodology? — CAR13 Data unit correctly expressed? — Yes Appropriate description of parameter? — CAR13 Source clearly referenced? — Yes Correct value provided? — CAR13 Has this value been verified? — CAR13 Choice of data correctly justified? — No Measurement method correctly described? — No See B.6.2.2.5.	Open	þ
B.6.3. *Ex-ante calculation of emission reductions*				
B.6.3.1. Is the projection based on the same	1, 33	As per the applied methodology, projection is based on inlet COD	þ	þ

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
procedures as used for future monitoring?		and quantity of wastewater whereas future monitoring will measure actual biogas amount generated. This is in line with the methodology.		
B.6.3.2. Are the GHG calculations documented in a complete and transparent manner?	1, 33	Yes, the spread sheet with the calculation has been submitted to the Validator. Please correct and update the spread sheet with all the clarification and correction related calculation.	Open issue 1	þ
B.6.3.3. If there is more than one component of the project activity, then are emission reduction calculations provided separately for each component?	1, 2	Not applicable. Only one component (methane recovery, capture and combustion) of the project activity (AMS-III.H.) is watched.	þ	þ
B.6.3.4. Is the data provided in this chapter consistent with data as presented in other chapters of the PDD?	1, 33	A document (spreadsheet) how each equation is applied in a manner that enables the reader to reproduce the calculation is missing. See B.6.3.2	Open issue 2	þ
B.6.4. *Summary of the ex-ante estimation of emission reductions*				
B.6.4.1. Will the project result in fewer GHG emissions than the baseline scenario?	1, 33	Yes, the project will result in fewer GHG emissions (71,351 tCO_2e) than the baseline scenario (471,006 tCO_2e). The figures needs to be updated accord the correction required.	Open issue 3	þ
B.6.4.2. Is the form/table required for the indication of projected emission reductions correctly applied?	1	The tabular format required has been correctly applied, but please specify the years (e. g. 2007) in Table 10, chapter A.6.4. of the PDD.	þ	þ
B.6.4.3. If the project activity involves more than one component, is separate table included for each of the component.	1, 2	Not applicable, See B.6.3.3.	þ	þ
B.6.4.4. Do these values comply with small-scale criteria for every year?	1, 2,	Yes, the values do comply with the small-scale criterion (less than	þ	þ

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
	33	60 ktCO_2e/year).		
B.6.4.5.Is the projection in line with the envisioned time schedule for the project's implementation and the indicated crediting period?	1, 11, 25, 26, 28	See A.2.2.	Open	þ
B.6.4.6.Is the data provided in this chapter in consistency with data as presented in other chapters of the PDD?	1, 33	Yes, the data provided about emission reduction presented in this chapter are consistency with the information shown in others chapters of the PDD.	þ	þ
B.7. Application of the monitoring methodology and description of the monitoring plan				
B.7.1. *Data and parameters monitored*				
B.7.1.1.Is the list of parameters presented in chapter B.7.1 considered to be complete with regard to the requirements of the applied methodology?	1	Yes, the list of parameters presented in Chapter B.7.1. of the PDD is complete. **Corrective Action Request No.19.** Concerning the QA/QC procedures, please give more detailed information for each parameter. **Clarification Request No. 15.** Why have the parameter MC_{flare} to be monitored?	CAR19 , CR15	þ
B.7.1.2.Comment on any line answered with "No"				
B.7.1.2.1. Parameter Title: $Q_{y,ww}$-volume of wastewater treated (m^3).	1, 5, 6	Monitoring Checklist / Yes / No Title in line with methodology? / Yes Data unit correctly expressed? / Yes Appropriate description of parameter? / Yes	CR16	þ

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
		Source clearly referenced? Yes Correct value provided for estimation? No Has this value been verified? No Measurement method correctly described? No Correct reference to standards? No Indication of accuracy provided? No QA/QC procedures described? No QA/QC procedures appropriate? No See B.7.1.1. **Clarification Request No. 16.** Please clarify if really this parameter ($Q_{y,ww}$-volume of wastewater treated) will be monitored, in case of affirmative answer, explain the procedure and give details of the instrument to measure it.		
B.7.1.2.2. Parameter Title: $S_{y,untreated}$-amount of untreated sludge generated (tonnes).	1, 2	Monitoring Checklist / Yes / No Title in line with methodology? NA Data unit correctly expressed? NA Appropriate description of parameter? NA Source clearly referenced? NA Correct value provided for estimation? NA Has this value been verified? NA Measurement method correctly described? NA Correct reference to standards? NA Indication of accuracy provided? NA QA/QC procedures described? NA QA/QC procedures appropriate? NA	þ	þ

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<tr><td></td><td></td><td>See B.6.2.2.12.</td><td></td><td></td></tr>
<tr><td>B.7.1.2.3. Parameter Title:
$S_{y,final}$-amount of final sludge generated by wastewater treatment (tonnes).</td><td>1, 2</td><td><table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided for estimation?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr><tr><td>Correct reference to standards?</td><td>NA</td></tr><tr><td>Indication of accuracy provided?</td><td>NA</td></tr><tr><td>QA/QC procedures described?</td><td>NA</td></tr><tr><td>QA/QC procedures appropriate?</td><td>NA</td></tr></table>
See B.6.2.2.6.</td><td>þ</td><td>þ</td></tr>
<tr><td>B.7.1.2.4. Parameter Title:
$COD_{y,ww,untreated}$-chemical oxygen demand of the wastewater entering the anaerobic treatment reactor/system with methane capture (tonnes/m^3).</td><td>1, 2, 30</td><td><table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided for estimation?</td><td>No</td></tr><tr><td>Has this value been verified?</td><td>No</td></tr><tr><td>Measurement method correctly described?</td><td>No</td></tr><tr><td>Correct reference to standards?</td><td>No</td></tr></table></td><td>CR17</td><td>þ</td></tr>
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<tr><td>QA/QC procedures described?</td><td>No</td></tr>
<tr><td>QA/QC procedures appropriate?</td><td>No</td></tr>
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See B.7.1.1.
<u>Clarification Request No. 17.</u>
Please clarify if really this parameter ($COD_{y,ww,untreated}$-chemical oxygen demand of the wastewater) will be monitored, in case of affirmative answer, explain the procedure and give details of the instrument to measure it.
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$COD_{y,ww,treated}$-chemical oxygen demand of the treated wastewater (tonnes/m^3).</td><td>1, 2, 30</td><td>
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<tr><td>QA/QC procedures described?</td><td>No</td></tr>
<tr><td>QA/QC procedures appropriate?</td><td>No</td></tr>
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See B.7.1.1.
<u>Clarification Request No. 18.</u>
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<tr><td></td><td></td><td>Please clarify if really this parameter ($COD_{y,ww,treated}$-chemical oxygen demand of the treated wastewater)$ will be monitored, in case of affirmative answer, explain the procedure and give details of the instrument to measure it.</td><td></td><td></td></tr>
<tr><td>B.7.1.2.6. Parameter Title:
$DOC_{y,s,untreated}$-degradable organic content of the untreated sludge generated (tonnes/m^3).</td><td>1, 2</td><td><table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided for estimation?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr><tr><td>Correct reference to standards?</td><td>NA</td></tr><tr><td>Indication of accuracy provided?</td><td>NA</td></tr><tr><td>QA/QC procedures described?</td><td>NA</td></tr><tr><td>QA/QC procedures appropriate?</td><td>NA</td></tr></table>
See B.6.2.2.13.</td><td>þ</td><td>þ</td></tr>
<tr><td>B.7.1.2.7. Parameter Title:
$DOC_{y,s,final}$– degradable organic content of the final sludge generated by the wastewater treatment.</td><td>1, 2</td><td><table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided for estimation?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr></table></td><td>þ</td><td>þ</td></tr>
</table>

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
		Measurement method correctly described? NA Correct reference to standards? NA Indication of accuracy provided? NA QA/QC procedures described? NA QA/QC procedures appropriate? NA See B.6.2.2.7.		
B.7.1.2.8. Parameter Title: $(CH4)_{y,ww,treated}$– dissolved methane content in the treated wastewater (tones/m^3).	1, 2	Monitoring Checklist — Yes / No Title in line with methodology? NA Data unit correctly expressed? NA Appropriate description of parameter? NA Source clearly referenced? NA Correct value provided for estimation? NA Has this value been verified? NA Measurement method correctly described? NA Correct reference to standards? NA Indication of accuracy provided? NA QA/QC procedures described? NA QA/QC procedures appropriate? NA See B.6.2.2.15.	þ	þ
B.7.1.2.9. Parameter Title: Amount of biogas recovered (m^3).	1, 2		Open	þ

<table>
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<tr><td></td><td></td><td>
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<tr><th>Monitoring Checklist</th><th>Yes / No</th></tr>
<tr><td>Title in line with methodology?</td><td>Yes</td></tr>
<tr><td>Data unit correctly expressed?</td><td>Yes</td></tr>
<tr><td>Appropriate description of parameter?</td><td>Yes</td></tr>
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<tr><td>Indication of accuracy provided?</td><td>No</td></tr>
<tr><td>QA/QC procedures described?</td><td>No</td></tr>
<tr><td>QA/QC procedures appropriate?</td><td>No</td></tr>
</table>
See B.7.1.1.</td><td></td><td></td></tr>
<tr><td>B.7.1.2.10. Parameter Title:
Methane fraction of biogas.</td><td>1</td><td>
<table>
<tr><th>Monitoring Checklist</th><th>Yes / No</th></tr>
<tr><td>Title in line with methodology?</td><td>No</td></tr>
<tr><td>Data unit correctly expressed?</td><td>No</td></tr>
<tr><td>Appropriate description of parameter?</td><td>No</td></tr>
<tr><td>Source clearly referenced?</td><td>No</td></tr>
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<tr><td>Measurement method correctly described?</td><td>No</td></tr>
<tr><td>Correct reference to standards?</td><td>No</td></tr>
<tr><td>Indication of accuracy provided?</td><td>No</td></tr>
<tr><td>QA/QC procedures described?</td><td>No</td></tr>
<tr><td>QA/QC procedures appropriate?</td><td>No</td></tr>
</table></td><td>CR19</td><td>þ</td></tr>
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<tr><td></td><td></td><td>See B.7.1.1.
<u>Clarification Request No. 19.</u>
If the uncertainty range of ± 3% points is determined for the device use to measure the methane fraction and the nominal percentage of CH4 is 65%, the expected reading should be between 62% and 68%. Readings between 55% and 75% indicate a not proper operation of the device. Please give more details about the equipment.</td><td></td><td></td></tr>
<tr><td>B.7.1.2.11. Parameter Title:
Temperature of biogas (^{O}C).</td><td>1, 2</td><td><table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided for estimation?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr><tr><td>Correct reference to standards?</td><td>NA</td></tr><tr><td>Indication of accuracy provided?</td><td>NA</td></tr><tr><td>QA/QC procedures described?</td><td>NA</td></tr><tr><td>QA/QC procedures appropriate?</td><td>NA</td></tr></table>
The meters are temperature and gas pressure corrected. The meter measures the mass flow and automatically converts to normalized volumetric output (NCMH). Using the density of methane at normal conditions, the mass of methane is determined.</td><td>þ</td><td>þ</td></tr>
<tr><td>B.7.1.2.12. Parameter Title:
Pressure of biogas (kg/cm^2).</td><td>1, 2</td><td><table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr></table></td><td>þ</td><td>þ</td></tr>
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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
		Data unit correctly expressed? NA Appropriate description of parameter? NA Source clearly referenced? NA Correct value provided for estimation? NA Has this value been verified? NA Measurement method correctly described? NA Correct reference to standards? NA Indication of accuracy provided? NA QA/QC procedures described? NA QA/QC procedures appropriate? NA The meters are temperature and gas pressure corrected. The meter measures the mass flow and automatically converts to normalized volumetric output (NCMH). Using the density of methane at normal conditions, the mass of methane is determined.		
B.7.1.2.13. Parameter Title: Flame temperature (^{O}C).	1, 2	Monitoring Checklist — Yes / No Title in line with methodology? No Data unit correctly expressed? No Appropriate description of parameter? No Source clearly referenced? No Correct value provided for estimation? No Has this value been verified? No Measurement method correctly described? No Correct reference to standards? No Indication of accuracy provided? No QA/QC procedures described? No QA/QC procedures appropriate? No	Open	þ

<table>
<tr><th>CHECKLIST TOPIC / QUESTION</th><th>Ref.</th><th>COMMENTS</th><th>PPD in GSP</th><th>Final PDD</th></tr>
<tr><td></td><td></td><td>See B.7.1.1.</td><td></td><td></td></tr>
<tr><td>B.7.1.2.14. Parameter Title:
biogas flow rate</td><td>1, 2</td><td><table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>No</td></tr><tr><td>Data unit correctly expressed?</td><td>No</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>Source clearly referenced?</td><td>No</td></tr><tr><td>Correct value provided for estimation?</td><td>No</td></tr><tr><td>Has this value been verified?</td><td>No</td></tr><tr><td>Measurement method correctly described?</td><td>No</td></tr><tr><td>Correct reference to standards?</td><td>No</td></tr><tr><td>Indication of accuracy provided?</td><td>No</td></tr><tr><td>QA/QC procedures described?</td><td>No</td></tr><tr><td>QA/QC procedures appropriate?</td><td>No</td></tr></table>
See B.7.1.1.</td><td>Open</td><td>þ</td></tr>
<tr><td>B.7.1.2.15. Parameter Title:
End use of final sludge generated.</td><td>1, 2</td><td><table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with mehodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>No</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided for estimation?</td><td>No</td></tr><tr><td>Has this value been verified?</td><td>No</td></tr><tr><td>Measurement method correctly described?</td><td>No</td></tr><tr><td>Correct reference to standards?</td><td>No</td></tr><tr><td>Indication of accuracy provided?</td><td>No</td></tr><tr><td>QA/QC procedures described?</td><td>No</td></tr></table></td><td>Open</td><td>þ</td></tr>
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<tr><td></td><td></td><td><table><tr><td>QA/QC procedures appropriate?</td><td>No</td></tr></table>
See B.7.1.1.</td><td></td><td></td></tr>
<tr><td>B.7.1.2.16. Parameter Title:
Volumetric fraction of oxygen in the exhaust gas of the flare.</td><td>1, 2</td><td><table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided for estimation?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr><tr><td>Correct reference to standards?</td><td>NA</td></tr><tr><td>Indication of accuracy provided?</td><td>NA</td></tr><tr><td>QA/QC procedures described?</td><td>NA</td></tr><tr><td>QA/QC procedures appropriate?</td><td>NA</td></tr></table>
The parameter is only required, if the “Tool to determine project emissions from flaring gases containing methane” is applied.</td><td>þ</td><td>þ</td></tr>
<tr><td>B.7.1.2.17. Parameter Title:
Concentration of methane in the exhaust gas of flare on dry basis and at Normal Temperature and Pressure (NTP).</td><td>1, 2</td><td><table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided for estimation?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr></table></td><td>þ</td><td>þ</td></tr>
</table>

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
		Correct reference to standards? NA Indication of accuracy provided? NA QA/QC procedures described? NA QA/QC procedures appropriate? NA The parameter is only required, if the “Tool to determine project emissions from flaring gases containing methane” is applied.		
B.7.2. *Description of the monitoring plan*				
B.7.2.1. Is the operational and management structure clearly described and in compliance with the envisioned situation?	1, 2	A system overview of the equipment used to mitigate Palm Oil Mill Effluent GHG emissions in this project is shown in Figure 4.1. in Annex 4 and summarized by point “Normal Operation” of the PDD. A summary of key parameters which have to be monitor and of the persons who are responsible for the monitoring shows Table 4.2. in Annex 4 of the PDD. Furthermore for monitoring the sludge removal, biogas production, methane content, combustion system operation and flare efficiency tables are given in Annex 4 which include information about the particular operator and his/her activity. In Annex 5 of the PDD a description of measuring and monitoring control incl. the responsible units is given.	þ	þ
B.7.2.2. Are responsibilities and institutional arrangements for data collection and archiving clearly provided?	1	Yes, responsibilities and institutional arrangements for data collections and archiving are provided in Annex 4 and Annex 5 of the PDD.	þ	þ
B.7.2.3. Does the monitoring plan provide current good monitoring practice?	1, 2	Yes, inter alias founded in references regarding UNFCCC approved monitoring methodology and the several project specific monitoring activities.	þ	þ
B.7.2.4. If applicable: Does annex 4 provide	1	Yes, the monitoring activities of the key parameters are clearly	þ	þ

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
useful information enabling a better understanding of the envisioned monitoring provisions?		described to get useful information enabling a better understanding of the envisioned monitoring provisions.		
B.8. Date of completion of the application of the baseline study and monitoring methodology an the name of the responsible person(s)/entity(ies)				
B.8.1.1. Is there any indication of a date when the baseline was determined?	1, 2	Yes, the final draft of the application of the methodology was completed on 16 May 2007 (16/05/2007).	þ	þ
B.8.1.2. Has dd/mm/yyyy format been used to indicate the date.	1, 2	Yes, see B.8.1.1.	þ	þ
B.8.1.3. Is this consistent with the time line of the PDD history?	1, 18, 25	See A.1.3.		
B.8.1.4. Is the information on the person(s) / entity (ies) responsible for the application of the baseline and monitoring methodology provided consistent with the actual situation?	1, 2	Yes, the entity determining the baseline and monitoring methodology is AES AgriVerde.	þ	þ
B.8.1.5. Is information provided whether this person / entity is also considered a project participant?	1	Yes, AES AgriVerde is the project developer as well as a project participant.	þ	þ
C. Duration of the project activity / crediting period				
C.1. Duration of the project activity				
C.1.1. Are the project's starting date and operational lifetime clearly defined and reasonable?	1, 11	Yes, the starting date for this project activity is 25 March 2007 (25/03/2007). The expected lifetime of this project is 22y-8m. Both should be reasonable.	þ	þ

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
C.2. Choice of the crediting period and related information				
C.2.1. Is the assumed crediting time clearly defined and reasonable (renewable crediting period of max 7 years with potential for 2 renewals or fixed crediting period of max. 10 years)?	1	Yes, the project activity will use a renewable crediting period with its first length of 7y-0m. The starting date of the crediting period is 3 December 2007 (03/12/2007).	þ	þ
C.2.2. Has dd/mm/yyyy format been used to indicate the start date of the crediting period.	1	Yes, the dd/mm/yyyy format has been used (see C.1.1. and C.2.1.1. of the PDD).	þ	þ
D. Environmental impacts				
D.1. Documentation on the analysis of the environmental impacts, including transboundary impacts				
D.1.1. Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, has an EIA been approved? If yes answer also D.1.2 to D.1.4	1	No, in Malaysia all mills processing oil palm fresh fruit bunches into crude palm oil are licensed as prescribed premises under the Malaysian Environmental Quality Regulations. While an Environmental Impact Analysis (EIA) is not required for this type of GHG project activity, state-level approval by the Department of the Environment is required. This is accomplished via periodic renewal of the mill's business license.	þ	þ
D.1.2. Has the analysis of the environmental impacts of the project activity been sufficiently described?		Not applicable.	þ	þ
D.1.3. Will the project create any adverse environmental effects?		Not applicable.	þ	þ
D.1.4. Were transboundary environmental impacts identified in the analysis?		Not applicable.	þ	þ

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
D.2. If environmental impacts are considered significant by the project participants or the host Party, please provide conclusions and all references to support documentation of an environmental impact assessment undertaken in accordance with the procedures as required by the host Party				
D.2.1. Have the identified environmental impacts been addressed in the project design sufficiently?	1, 19	In the PDD Section D.1 is state the follow: "While an environmental impact analysis is not required for this type of GHG project activity, state-level approval by the Department of the Environment is required. This is accomplished via periodic renewal of the mill's business license. Additionally, the gas handling system must be approved by the Department of Safety and Health. " **Clarification Request No. 20.** Please give details about the follow approvals from the authorities and how the project met it: - State-level approval by the Department of the Environment - Department of Safety and Health approval to gas handling system.	CR20	þ
D.2.2. Does the project comply with environmental legislation in the host country?	1, 12, 13, 14, 15	Yes, see D.1.1. Malaysian Environmental Quality (Prescribed Premises) (Crude Palm Oil) Regulations, 1977 (ILBS 2004).	þ	þ
E. Stakeholders' comments				
E.1. Brief description how comments by local stakeholders have been invited and compiled				
E.1.1. Have relevant stakeholders been consulted?	1, 8, 9	Yes, AES AgriVerde invited stakeholders to a meeting near the Foong Lee site. The meeting was attended by project participants, various members from the local community and producer representatives. A complete document with the evidences about how the local	þ	þ

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
		stakeholder took places was submitted to the Validator. The complete process accomplishes the requirements.		
E.1.2. Have appropriate media been used to invite comments by local stakeholders?	1, 8, 9	Yes, AES AgriVerde issued invitations to government officials at the federal, state and local levels. Furthermore they published announcements of the meetings in the newspaper, which cover the states of Selangor, Perak and Negeri Sembilan.	þ	þ
E.1.3. If a stakeholder consultation process is required by regulations/laws in the host country, has the stakeholder consultation process been carried out in accordance with such regulations/laws?		It will be confirmed with the LoA.	Open	þ
E.1.4. Is the undertaken stakeholder process that was carried out described in a complete and transparent manner?	1, 8, 9	Yes, the undertaken stakeholder process that was carried out described in a complete and transparent manner with information about - the date of meeting (28/02/2007), - the chosen invitation media, - the attendees, - the presentations and in terms of photos (Figure 3 and Figure 4 in E.1. of the PDD).	þ	þ
E.2. Summary of the comments received				
E.2.1. Is a summary of the received stakeholder comments provided?	1, 8, 9	Overall, the comments from attendees at the stakeholders' meeting were positive and supportive of the project. Additional comments are available in the Stakeholder's Meeting Minutes document.	þ	þ
E.3. Report on how due account was taken of any comments received				
E.3.1. Has due account been taken of any stakeholder comments received?	1, 8, 9	No action required.	þ	þ

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
F. Annexes 1 – 4				
F.1. Annex 1: Contact Information				
F.1.1. Is the information provided consistent with the one given under chapter A.3?	1	See A.3.3.	Open	þ
F.1.2. Is the information on all private participants and directly involved Parties presented?	1	Yes, see A.3.3 and B.8.1.5.	þ	þ
F.2. Annex 2: Information regarding public funding				
F.2.1. Is the information provided on the inclusion of public funding (if any) in consistency with the actual situation presented by the project participants?	1	Not applicable, because there is no official development assistance being provided for this project.	þ	þ
F.2.2. If necessary: Is an affirmation available that any such funding from Annex-I-countries does not result in a diversion of ODA?	1	Not applicable, see F.2.1.	þ	þ
F.3. Annex 3: Baseline information				
F.3.1. If additional background information on baseline data is provided: Is this information consistent with data presented by other chapters of the PDD?	1	Yes, there is a consistency with data presented by other chapters of the PDD.	þ	þ
F.3.2. Is the data provided verifiable? Has sufficient evidence been provided to the validation team?	1, 2	See B.6.2.2.3	Open issue 4	þ
F.3.3. Does the additional information substantiate / support statements given in	1	Yes, other chapters of the PDD are supported by the information given in Annex 3.	þ	þ

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
other chapters of the PDD?				
F.4. Annex 4: Monitoring information				
F.4.1. If additional background information on monitoring is provided: Is this information consistent with data presented in other chapters of the PDD?	1	There is a consistency with data presented by other chapters of the PDD. **Clarification Request No. 21.** Please provide clarification on why the description of the parameter "Efficiency of flare combustion" in Table 4.2 of Annex 4 does not correspond with that of the parameter "efficiency of flaring process" in Table 11 in section B.7.1. Further clarification is required on the purpose of the parameter "Combustion System Operation" which is not described elsewhere in the PDD & on the reference to the use of the "flare monitoring tool" to determine the percent of biogas combusted.	CR21	þ
F.4.2. Is the information provided verifiable? Has sufficient evidence been provided to the validation team?	1, 2	See B.2.1, B.4.4.4 See B.6.2.2.3	Open	þ
F.4.3. Do the additional information and / or documented procedures substantiate / support statements given in other chapters of the PDD?	1	Other chapters of the PDD are supported by the information given in Annex 4 and Annex 5. See F.4.1.	þ	þ

Table 2 Resolution of Corrective Action and Clarification Requests

Clarifications and corrective action requests by validation team	Ref. to table 1	Summary of project owner response	Validation team conclusion
Observation Please submit Letters of Approval from both involved Parties (Malaysia and the Netherlands).	general	Have been submitted.	þ
The time line of the project's history is not so transparent. Currently the PDD is the only document which declares an intention to implement a CDM project activity. **Clarification Request No. 1.** Why is this starting date of the project activity dated on 25 March 2007 (25/03/2007) chosen?	A.1.3	Several dates could have been used, of course, to signify beginning of the project. We have been in discussion with the Foong Lee owners, for instance, since late 2006. The signing of the first "agreement" – a Letter of Intent – was 31 Jan 2007. The effective date of a binding contract, including ERPA terms, was 26 March 2007 (with final signatures 11 April 2007). The GSP meeting was help in nearby Ipoh on 28 February 2007. We chose to use the site construction start date as "tangible" evidence the project had started; this start date was 25 March 2007. We're happy to use one of the other event dates if it is considered easier to understand. See files: Foong Lee LOI.pdf Foong Lee – Contract & ERPA.pdf	With the references given in the answer the project history is clear. Through the revision of the LoI and the project schedule the Validator corroborate that the date established in the PDD like starting date is correct. þ
Currently the PDD is the only document	A.2.2	A copy of the signed Letter of Intent is attached. This documents November 2005	The project schedule indicates with details the activities developed for the

which declares an intention to implement a CDM project activity. Provided proofs/information are missing. **<u>Clarification Request No. 2.</u>** In order to demonstrate that project description is in line with the planning and actual situation, please submit a schedule where the activities completed (details about how the construction and equipment installation took place) are described, please include the further (or pendant) activities.	A.2.3 A.4.2.6 A.4.2.11 B.5.13 B.6.4.5	conversations about establishing a CDM project; the LOI agreement (which clearly documents the intent to undertake this activity as a CDM project) was executed on 29 January 2007. Working timelines for the installation of digesters on Lagoons 1 and 2 (subsequent to pre-construction preparation) are attached as well as an overall schedule showing the 'regulatory' process. Lastly, we will take measures to ensure that the third lagoon remains in a facultative state. See files: Foong Lee LOI.pdf Foong Lee-Project Schedule-Lagoon1.pdf Foong Lee-Project Schedule-Lagoon2.pdf Foong Lee Project Tracking_3Jul2007.pdf	project activity implementation, it is in line with the description made in the PDD and was accord with the planning situation. þ
Yes, the presented information about e. g. - the existing anaerobic effluent treatment system (open air lagoons), - the removal of sludge in the lagoons as needed (monthly monitoring), - data of the oil palm processing (310,052 t FFB/year; 170,529 m3 wastewater/year), - construction of an anaerobic digester with capture and combustion of the	A.2.4	Annex 5 has been included into Annex 4.	The latest version of the PDD has been reviewed. Issue solved. þ

resulting biogas are consistent with details in further chapters of the PDD. **Corrective Action Request No.1.** As supplied documents format from UNFCCC, the structure of PDD consists of 4 Annexes. The referred Annex 5 should be deleted and be included in Annex 4 or be submitted with the separate documents.			
No, not all information on the parties and on the project participants given in Table 1 are consistent with the information in Annex 1 and in further chapters of the PDD. **Corrective Action Request No.2.** Please correct the information about the involved party Netherlands/Bermuda.	A.3.3. A.3.1	From our perspective, Table 1 is correct as written. AES AgriVerde Services (Malaysia) Sdn Bhd is a Malaysia entity located in Malaysia. AES AgriVerde Ltd, the counterparty for the ERPA, is a legal entity incorporated (and located) in Bermuda. Bermuda is not a Kyoto participant, however, and does not issue LoAs. Both the UK and Netherlands have indicated their willingness to issue LoAs behalf of AES AgriVerde Ltd. AES AgriVerde Ltd. is presently seeking a Netherlands' LoA for the Foong Lee project as it is simpler than receiving a LoA from the UK (the UK requires "permission" from the Bermuda government, because of the special relationship between these two sovereign entities, and we have been unable to find a relevant Bermuda government office).	The LoA from Netherlands can be accepted if in the document appear the name of the Project Participant and the Project's name. It will be reviewed when the document will be submitted (as part of the requirement for registration). þ

Currently the PDD is the only document which declares an intention to implement an CDM project. **Clarification Request No. 3.** Please provide proofs/information like contract with the Owner site, site licenses. In case that it is not required please explain the complete situation.	A.4.12	The Letter of Intent and ERPA have recently been provided; they demonstrate an intention to implement a CDM project. The attached (amended) AS3 license was submitted to the Department of the Environment, Ministry of Science, Technology and Environment, to provide information regarding the bio-digester modification to the already approved Foong Lee lagoon system design. See files: Foong Lee LOI.pdf Foong Lee – Contract & ERPA.pdf Foong Lee AS3.pdf	The letter of Intent and the complementary documents describe the project implementation in the Foong Lee plant. They are deemed appropriate proofs to demonstrate that the planned project described in the PDD is in line with the actual situation. þ
Yes, the project activity belongs to category III.H./Version 5 and is correctly identified as Methane Recovery in Wastewater Treatment project. **Clarification Request No. 4.** Please explain the reason/function of the algae treatment lagoon. Is the lagoon part of the existing wastewater treatment system? Which discharge requirements can be met with the project activity lagoon system?	A.4.2.2	The Foong Lee wastewater treatment system is comprised of one cooling lagoon, two anaerobic lagoons, one facultative lagoon, and two aerobic (algae) lagoons. The two algae (aerobic) lagoons are the final step in the wastewater treatment process prior to land application of the effluent. This overall lagoon system complies with Malaysia DOE requirements for palm oil mill lagoon systems. The project activity is confined to the anaerobic lagoons and there is no direct discharge from these lagoons to land; rather, the wastewater continues to flow through the facultative lagoon and from there to the algae lagoons (to land discharge).	The proposed project has been explained. Since the existing plant already meets the requirements for palm oil mill operations, the proposed project is not required by the authorities. þ

The technical design of the project activity reflects current good practice. The project is equipped with a simple, effective and reliable technology inter alia: - the cover material of the digester (HDPE) is one of the most commonly used geo-membrane material world-wide; - the thermal mass flow meter offers several distinct advantages over standard flow meters. - the flare includes thermo-couples to monitor flare exhaust gas temperature Besides the utilization of a digester inherently is acting by current good practice. **Clarification Request No. 5.** Give more details about the flare. Submit to the Validator the manufacture's specification to ensure that the values about the flare efficiency are correctly applied. As part of the information relate of project activity please submit the biodiesters designs and the specifications of the equipments used (thermo mass flow meter, agitators, thermocouples, gas analyzers and pumps). Complementary Please provide that the pressure test procedure & result for the welded seams of HDPE and also suggest your upgrade plan for lagoon berms.	A.4.2.3 A.4.2.7	The specifications for the flare have been included in the attached letter from the manufacturer. The bio-digester design summary is provided in the attached AS3 license application to the Department of Environment. A set of drawings is also attached for your reference. Specifications for the thermal mass flow meter, agitator motor, gas analyzer, rainwater removal pump, and sludge removal pump are attached. Either these particular models, or like equipment with similar specifications will be used on this project. We will initially use a Type K thermocouple for the project. The current Methodological "Tool to determine project emissions from flaring gases containing methane" specifies Type N thermocouples for measuring flare temperatures. The Type N thermocouple is not yet widely available and is not compatible with most data recording devices currently on the market. Special shielded, twisted pair cables are required which can increase the cost of wiring by a factor of 3 to 4 times that of Type K thermocouple wiring. Several data recording device manufacturers do not yet have software/firmware written for the new Type N thermocouple. Type K thermocouples are prevalent throughout the world	The specification of the equipments used for the project activity has been submitted. The technology and the design reflect good practices. The flare efficiency is detailed in the manufacturer specifications. þ

		and have temperature handling characteristics nearly identical to the Type N thermocouple. In summary, the type K thermocouple is a suitable cost effective alternative. A specification sheet for a Type K thermocouple is attached. The HDPE installation contractor's QA-QC letter for the site, including non-destructive test procedure, is attached. Section 3.3.7 of this document specifies the procedures used for HDPE seam testing. The contractor's Quality Control / Quality Assurance for Geomembrane Installation document has also been attached. The berms were determined to be both structurally sound and already wide enough to comfortably accommodate the HDPE periphery termination. It was necessary to cut down some vegetation from the berms to enable installation of the cover. See files: Flare Specifications.pdf Foong Lee AS3.pdf Foong Lee DOE application drawings w fence.pdf Equipment Specifications.pdf Foong Lee QA-QC letter.pdf Geo-membrane Installation QA-QC.pdf	

No, indeed a multi-faceted approach will be taken to ensure that technology transfer proceeds smoothly, e. g. to identify and to qualify appropriate technology/service provider, but the materials and labour used in this project are mainly sourced from the host country whenever possible. **Clarification Request No. 6.** From which country does the host country purchase/source the technical equipment/know how? Which Annex-I-Countries participate in the project?	A.4.2.4 A.4.2.7	Technical know how has been sourced from the USA, Mexico, India and Brazil. Materials and equipment have been purchased from Italy (agitator motors), S. Korea (HDPE), USA (flare electrodes, flow meters and test equipment), igniters (New Zealand) and Malaysia (local distributor for flares, pipes, valves, geotextiles, backflow valve, agitator frames, etc.).	The information provided solve the question about from which countries the technology and equipments come. þ
The requirement of initial training and maintenance efforts is not mentioned directly, but by both site and project developer personnel it is declared that they will e.g.: - transfer the manufacture and maintenance of certain subassemblies to local manufacturers, - secure a proper operation and maintenance of all installed equipment, - train the staff ensuring sufficient know how to supervise the plant. **Corrective Action Request No.3.** Please provide a scheduled training plan.	A.4.2.9 A.2.4.10	A training program is being developed to provide 1 to 3 days of lecture and hands-on proficiency training at site, with as much as 2 additional days for questions, review forum and evaluation. Training will be given prior to site's operational start-up. Training topics will include (but are not limited to): CDM Project Overview, System Overview, Subsystem Specific Modules, Data Collection and Quality Control, Instrument Function, Malfunction Diagnostics, Fault Reporting and Escalation, Facility Personnel Orientation. The titles above may change, but areas of training will all be addressed. Safety and Security are elements that will be emphasized in each functional area.	The project participant has submitted information regarding the topics included in the training plans, complementary has informed about the dates when part of the training took part and the material used in the training session. It covers the requirement. þ

		Follow-up training will be provided on an as-needed basis. Substantive changes to the overall system and/or subsystems will be reviewed; additional training will be provided either onsite or via conference (with visual aids) on an as-needed basis.	
The tabular format required has been correctly applied, but **Corrective Action Request No.4.** Please specify the years of the crediting period (e.g. 2007) in Table 3, chapter A.4.3. of the PDD.	A.4.3.1	The years of the crediting period have now been specified in Table 3, chapter A.4.3. of the PDD.	The last version of the PDD shows correctly the years in the table 3. þ
Corrective Action Request No.5. Please supreme the term "large-scale" in the sentence "There are no other registered large-scale project activities with the same project participants, in the same project category and technology/measure whose project boundary is within 1 km of another proposed small-scale activity" to confirm that the project activity is not a debundled component of a large-scale project activity. During the on-site audit it was mentioned that the biomass combustion of the facility is or becomes a further CDM project. To clarify, please give more information about this project.	A.4.5.1	The de-bundling standard is: A proposed small-scale project activity shall be deemed to be a de-bundled component of a large project activity if there is a registered small-scale CDM project activity or an application to register another small-scale CDM project activity: · With the same project participants; · In the same project category and technology/measure; and · Registered within the previous 2 years; and · Whose project boundary is within 1 km of the project boundary of the proposed small-scale activity at the closest point. The (other) prospective project which was mentioned (by the Chan Brothers) during the Foong Lee mill site audit is not in the same	The change required has been amended in the last version of the PDD. Concerning the other project, the explanation given solve the issue, it is not a de-bundled component of a large project activity. þ

		category, has not yet occurred and is NOT going to be undertaken with AES AGRI-VERDE (therefore, the participants are not the same). We will change the summary in this section of the PDD to read: "At this site, there are no other SSC CDM project activities registered, or applied for registration, with the same project participants."	
The project proposes to introduce methane recovery and combustion to an existing wastewater treatment system (a system of anaerobic and facultative lagoons at an oil palm processing facility). This fits the applied methodology's applicability criterion option iv: iv. Introduction of methane recovery and combustion to an existing anaerobic wastewater treatment system such as anaerobic reactor, lagoon, septic tank or an on site industrial plant. Furthermore the estimated emission reductions of the project activity calculated by historical oil palm Fresh Fruit Bunch processing rates and baseline calculations will not exceed **60 Kt CO_2e** in any year of the crediting period (requirement of eligible activities, Type III). **Corrective Action Request No.6.**	B.2.1 B.2.1.4 B.3.1 B.4.5 F.4.2	The project scenario will be changed to reflect a digester modification of ONLY the first two (anaerobic) lagoons. The third lagoon, which is facultative, will not be converted into a bio-digester. These decisions should eliminate the possibility for an overestimation of $MCF_{ww,treatment}$ and related consequences.	Through the confirmation that only the first two anaerobic lagoons will be converted to biodigesters, the baseline criteria is correctly applied and thereby an overestimation of baseline emissions is avoided. Since the facultative lagoon has both anaerobic and aerobic processes, including this lagoon (as an anaerobic lagoon) in the calculations would have resulted in an overestimation of baseline emissions. It is to be ensured during verification that this 3rd lagoon is still facultative, hence same as in the baseline scenario. Furthermore, since the first two lagoons are expected to be more efficient than in the baseline scenario, it can be expected that the organic loading entering the 3rd lagoon will be much lower. In conclusion, this change in the plans (from covering 2 lagoons instead of 3) is deemed conservative.

The baseline scenario selected in the PDD is case (iv). However, the project boundary covers a facultative lagoon which supports both aerobic & anaerobic metabolic processes. Bearing in mind that methano-gens thrive in strictly anaerobic conditions, there is a potential for an overestimation of the MCFww,treatment value & subsequently the emissions reduction value. Clarification is required on how the applicabil-ity of case (iv) to the actual baseline scenario was justified in the context of the applied me-thodology.			þ
Corrective Action Request No.7. Please provide a project specific Figure (see Figure 2 in chapter B.3. and Figure 4.1. in Annex 4 of the PDD)	B.3.2	The boundary diagram shown in Figure 2 (in Chapter B.3) has been changed to show that only the 1st two lagoons will be converted to bio-digesters. Moreover, this diagram has been updated to reflect the use of two algae ponds following the facultative lagoon and the inclusion of the de-sludging/drying ponds. Figure 4.1 is a generic diagram from the Mon-itoring Plan. This same basic monitoring plan will be used with *ALL* III.H based projects undertaken by AES AgriVerde. It has NOT been the practice to make this diagram "project specific" in the past. Please indicate if this has recently become essential.	The latest version of the PDD reflects the change in the figures, and the figure in Annex 4 reflects all key components of the monitoring plan. þ

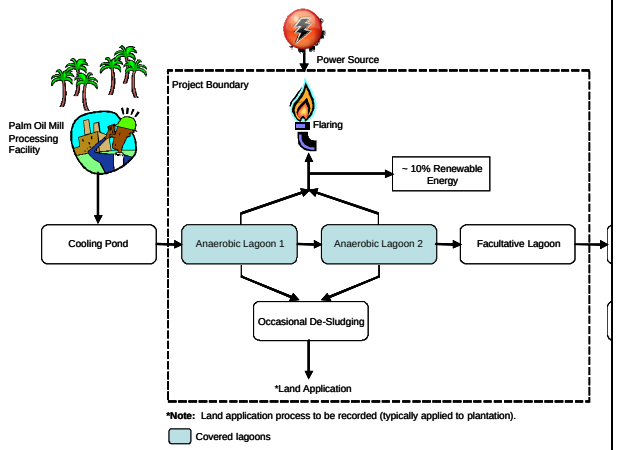
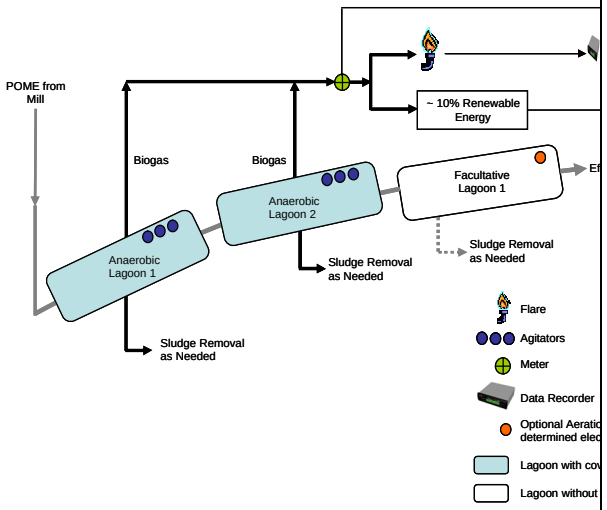
		Figure 2  	

		Figure 4.1  	
Clarification Request No. 7. The lagoon coverage will facilitate that 60% of emitted CH4 will be captured and flared. Why only 60%?	B.3.2	The project scenario will be changed to reflect a digester modification of ONLY the first two (anaerobic) lagoons. The third lagoon, which is facultative, will not be converted into a bio-digester (see diagrams, CAR #7). Effectively, 100% of the biogas from these 1st two lagoons will be captured and flared. PDD calculations show reduced emissions (baseline minus project emissions) of approx 57Kt CO_2e for the 1st two lagoons. There appears to be no risk of exceeding the 60Kt CO_2e small scale project limit if only the 1st	The project scenario described in the latest version of the PDD reflects the correct way to apply the methodology. The facility will recover the 100% of the methane emitted from two anaerobic lagoons instead of recover only 60% of three lagoons. With the exclusion of the possible further installation of a cover in the third lagoon there is not risk of exceeding the 60 Kt CO_2e. The new calculations, which have resulted in a change in the expected ERs, are deemed to be correct and in line with the applied methodology. þ

		two lagoons are converted.	
Corrective Action Request No.8. Project boundary is not correctly described in the figure 2 project boundary of page 11. The project boundary should include the occasional de-sludging. The final disposition of sludge monitoring is required by the methodology and it is part of the project boundary. Please correct the diagram.	B.3.2	The project boundary diagram has been updated to reflect that occasional de-sludging and sludge monitoring (disposition) are part of the project boundary (see diagram CAR #7).	The latest version of the PDD reflects the diagram updated where the occasional de-sludging is included within the project boundary. þ
Corrective Action Request No.9. The PDD describes a flexible project boundary that can cover any number of lagoons that facilitate the capture of between 60-100% of total methane generated and does not specify the total number of existing lagoons capable of generating methane. Such a vague description is not acceptable as the project boundary dictates the calculation of the emission reduction that can be achieved and consequently the judgment on whether the emission reduction cap of 60 kT CO2eq can be met. Further, the site visit revealed that a decision on how many lagoons are to be equipped with methane capture/combustion systems is yet to be reached. Please define the project boundary based on the exact number of lagoons to which methane capture/combustion systems are to be applied.	B.3.2	The project scenario will be changed to reflect a digester modification of ONLY the first two (anaerobic) lagoons. These two lagoons will have both biogas capture and combustion equipment. The third lagoon, which is facultative, will not be converted into a biodigester. The 3rd lagoon will be retained in the project boundary in case it becomes necessary to add either procedures and/or equipment to ensure this lagoon stays facultative. If any equipment is added, full records will be maintained (including electricity requirements). (see diagram, CAR #7)	The project boundary is clearly defined and describe in the latest version of the PDD. With the exclusion of the possible further installation of a cover in the third lagoon there is not risk of exceeding the 60 Kt CO_2e. þ
Clarification Request No. 8. Are there any plans not only to flare the bio-	B.4.3	Recent discussions with the Malaysian DNA have convinced the Foong Lee mill to utilize	The description about the use of the 10% (or more) of he bio gas produced for re-

gas but also to use parts of it for fuel substitution in the plant? Please add information about plans or recommendations from the state or local authorities about it. There has been some contradictory information during the on-site audit. Please clarify it.		some 10% (or more) of the project biogas to create Renewable Energy (RE) at the site. The type of RE is still under discussion (a modest electrical generator vs. hot water boiler) as multiple forms of energy are useful to the mill. While the RE may partially displace the use of diesel fuel, this project and PDD will take no emission reduction credits for such diesel displacement The PDD will be updated to reflect the addition of a Renewable Energy assembly that combusts biogas to create energy. This assembly will be added after biogas operation has stabilized and digester metrics can be properly forecast. The PDD has been updated to reflect additional data parameters that will be gathered to reliably confirm RE associated metrics (substantiating biogas combustion).	newable energy has been delivered in the latest version of the PDD. The balance of the Emission Reductions is not affected by this change because no credits are claimed for electricity generation. The consideration about monitoring of biogas conducted to this unit has been added in the monitoring plan. þ
Clarification Request No. 9. Like the project activity took part over the original anaerobic lagoon, please submit evidences (pictures, designs, draws, measurements, etc) to demonstrate the correct selection of the Baseline.	B.4.4.4 B.4.8 F.4.2	A copy of the GSP PowerPoint presentation (given on 28 Feb 2007) has been included. It shows pictures of the 1st three Foong Lee lagoons pre-project. See File: Foong Lee GSP Meeting.pdf	The evidences submitted corroborate the version of the managers and personnel interviewed about the operation of the anaerobic lagoons prior the project implementation. The baseline has been selected correctly. þ
Corrective Action Request No.10. Please provide significant documents of the	B.5.15	The attached IRR spreadsheet was provided to the DNA as part of their required applica-	The complete information with the details about how is calculated the IRR has been

calculated costs and IRR.	B.5.17	tion for a Letter of Approval. During recent exchanges with the DNA we have discussed that the IRR calculations were based on "optimized" estimations for ER production – that is, no discounts were taken for flare efficiency or the "under production" of biogas (that is, "real world" results compared to calculated values) that is common with biologic systems (such as bio-digesters). Both the original submitted IRR document and an amended IRR document, which includes these discounts, are provided herein. Both documents are based upon an estimation of the CAPEX costs for the Foong Lee site (minor system revisions are still being made), a prorated regional staff and OPEX cost (based upon an estimate of the number of sites that will be constructed by AES Agri-Verde's Malaysia staff over the next year) and a prorated allocation of Headquarters' staff (note: three geographic regions are being supervised by the HQ staff, and full attention from the HQ staff is not available to our Malaysia project activities.) See files: Foong Lee IRR optimized.pdf Foong Lee IRR real world discounts.pdf	submitted. The document supports the financial/Investment Barriers presented in the PDD. þ
The current lagoon-based treatment system is considered the standard operating practice in palm oil mills in Malaysia while the pro-	B.5.15 B.5.17	A scanned copy of "Industrial Processes and the Environment; Handbook 3, Crude Palm Oil Industry" is attached. This book, written &	In the document submitted is describes the general situation of the Crude Palm Oil Industry including the common and

posed project activity is not. **Corrective Action Request No.11.** Please provide evidence regarding prevailing/most common practice.	B.6.2.2.1 1	distributed by Malaysia's Department of the Environment, discusses practices common to Malaysia's palm oil industry. This document is referenced by the PDD. See Files: Industrial_Processes_and_The_Environement_Handbook3_Crude_Palm_Oil_Industry-1.pdf Industrial_Processes_and_The_Environement_Handbook3_Crude_Palm_Oil_Industry-2.pdf Industrial_Processes_and_The_Environement_Handbook3_Crude_Palm_Oil_Industry-3.pdf Industrial_Processes_and_The_Environement_Handbook3_Crude_Palm_Oil_Industry-4.pdf	usual wastewater system. Explicitly there is a description about the anaerobic treatments which emit methane, carbon dioxide and other gases. The documents support the statements about the baseline of the project. þ
Clarification Request No. 10. Please provide clearer statements regarding "Other Barriers". What kind of barriers (institutional, managerial, organizational, financial)?	B.5.15 B.5.17	Table 5 of the PDD was originally written to address the general case of barriers in Malaysia rather than assessing them directly for the Foong Lee project. It is shown here: **Table 5. Barriers and their Potential to block project activity** **Barriers** / **Potential** Legal / Absolute Technical / Most Significant Financial / Most Significant Social / Significant Business Culture / Significant Assessing these same "barrier categories"	The latest version of the PDD shows an expanded description of each of these barriers. þ

<table>
<tr>
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<td>specifically for the Foong Lee project gives the following updated table:

Table 5. Barriers and their Potential to block proje
<table><tr><th>Barriers</th><th>Potential</th></tr><tr><td>Financial/Investment</td><td>Most Significant</td></tr><tr><td>Technology</td><td>Significant</td></tr><tr><td>Prevailing Practice</td><td>Significant</td></tr><tr><td>Legal</td><td>No Barrier</td></tr><tr><td>Social</td><td>No Barrier</td></tr><tr><td>Business Culture</td><td>Moderate</td></tr></table>
Updates and an expanded description of each of these barriers have been included in the revised version of the PDD.</td>
<td></td>
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<tr>
<td><u>Clarification Request No. 11.</u>
Regarding the technical barrier: why is it difficult to hire skilled and experienced personnel?
Please also explain the asked issues about “performance certainty” and “real or perceived risk?</td>
<td>B.5.17</td>
<td>While Malaysia is replete with engineering staff who understand palm oil mill operation, there are very few bio-digesters in operation in Malaysia. Digester optimization requires staff that is experienced both with digester operation AND with effluent characteristics. There are few individuals in whom this combination can be found.

The perceived risks and certainty relate to the “newness” of this technology approach in Malaysia. While there have been a small number of biodigesters used in Malaysia (at other sites) they are not common and the general operating characteristics of such installations are not well understood.</td>
<td>The justification of this barrier is reasonable an acceptable.
þ</td>
</tr>
</table>

Corrective Action Request No.12. Why is the CDM project needed? Please provide comments regarding the answered issues with Y in Table 6, chapter B.5. of the PDD, especially concerning the applied project activity.	B.5.18	No steps were needed (project or otherwise) to bring the mill's practices into compliance. Copies of recent DOE forms (these are submitted on a regular basis) show the mill's effluent discharges are well within BOD/COD limits and they are stamped by the government to show that DOE accepts the form and approves it. These have been attached. As such, the CDM project was not needed but was an optional action based upon AES AGRIVERDE and Foong Lee's desire to participate in the CDM program. See file: Foong Lee DOE Effluent Test Results.pdf	The test result submitted about the accomplishment of the COD and BOD limits were carried out at early 2007 (January and February) before the project implementation. These demonstrate that the project is not being implemented to meet some requirement. Furthermore, at the time of the decision to proceed with the project activity, there was no electricity generation planned. Hence, the only revenues expected were to come from carbon credits, and therefore this project is very additional. The decision to utilize some of the biogas for electricity generation was not a financial incentive but rather a result of discussions with the Malaysian DNA. þ
Corrective Action Request No.13. Concerning the agitators in the anaerobic lagoons/digesters (mentioned in Figure 4.1., Annex 4 and chapter 4.2. of the PDD), how much energy do they use and than how much emissions do they generate. Are they part of the existing wastewater treatment system? In annex 4 (page 39) is state "Electrical usage will be conservatively estimated by assuming 24-hour/day, full-time operation at manufacturers specifications. Optionally, may meter to reduce impact." Please submit the specification of agitators and please inform if other equipments (like blowers or additional	B.6.1.3.1 B.6.2.2.1. B.6.2.2.16	The agitator motors are rated at 1.5 kW and are intended to simulate the natural atmospheric and solar turbulence which will be blocked by the HDPE covers. The equipment specification for the agitator motors can be found in the attached file. The Foong Lee mill employs a 1,200 kW biomass based boiler for its electricity generation. No electricity is taken from the grid. Two diesel based gensets, rated at 400kW and 125 kW, are used briefly during start-up operations and to augment peak loads. These two gensets provide approximately	The equipment specifications and electricity consumption calculations were reviewed. During the onsite audit team corroborate the system used (biomass) for the electricity generation. As the major part of the electricity comes from biomass based boiler for electricity generation and the negligible amount of emission from the diesel consumption of the other genset, it is deemed acceptable to assume that the project emissions due to electricity consumption is negligible. þ

pumps) will be installed for the project activity. Complementary please give more details about electricity consumption of the monitoring devices. Please clarify whether only biomass is used to generate the electricity on-site which is used to provide the auxiliary power to run the project equipments, or if there is any co-firing in the boiler. If diesel gensets are used for start-up operations, please clarify whether additional project emissions are expected as compared to the baseline due to diesel consumption		15% percent of the electricity generated at the Foong Lee mill. Using an overly conservative assumption that all of the installed project related equipment (including agitators, flow meters, data logger, sludge pump and water pump) operate 24 hours per day all year long, the additional diesel based electricity required by this equipment equates to 2.4 tonnes of CO_2e per year. Detailed calculations and supporting data is in the attached file. Of this equipment, the agitators use a majority of the electricity. As they will operate only about 6 hours per day, the total CO2e attributed to the total leakage from all project equipment is less than 1 t CO2e per year. Therefore, this has been disregarded in our calculations. See files: Equipment Specifications.pdf Foong Lee Equipment Project Emissions.pdf	
Corrective Action Request No.14. The methane recovery system has an efficiency of 60%, it means that only this portion of methane will be captured, so the $PE_{y, ww, treated}$ Should be calculated multiplying the total of project emission for the system efficiency. In the calculation submitted it is calculated multiplying the $\mathbf{COD_{y,ww,treated}}$ for the sys-	B.6.1.3.2	The PDD originally suggested that 60% or more of the biogas would be captured. This was intended to convey ONLY that sufficient number of lagoons would be covered to enable the capture/destruction of • 60% of the total biogas produced by the overall lagoon system. The project boundary has been mod-	The project scenario described in the latest version of the PDD reflects the correct way to apply the methodology. The facility will recover the 100% of the methane emitted from two anaerobic lagoons instead of recover only 60% of three lagoons.

tem efficiency, and it means a lower methane production, not a low capture efficiency. Please correct this value and all the assumptions related.		ified to indicate that only the first two (anaerobic) lagoons will be covered. Effectively, 100% of the biogas (and methane contained within it) from these two lagoons is captured. The HDPE material used to cover the lagoons is double welded, each seam is QA-QC tested, and the periphery of the cover is trenched to a depth of about 1 meter.	þ
Clarification Request No. 12. Accord the information provide during the on site visit, the frequency to extract the sludge from the biodiesters at least twice per year. In comparison with the past frequency to extract the sludge from the lagoons which is once each 2 or 3 years, there is a risk of significant sludge accumulation in the dry beds and methane production due this excess of sludge. Please give more details about the process to de-sludged.	B.6.1.3.3	The development of sludge in the anaerobic lagoons is not expected to be different as a result of the project activity (covering the lagoons). Although the sludge removal rate may be more frequent during the project operation, the total amount of sludge that is removed from the anaerobic lagoons is not expected to be different as a result of the project activity.	As is describe in the answer emission from the sludge treatment won't occur. The final disposition of the sludge is part of the monitoring plan, it will ensure the proper disposition of it. þ
Corrective Action Request No.15. For [CH4]y,ww,treated a value of zero was adopted, but, like the value for dissolved methane content in the treated wastewater is for the wastewater treated (it is anaerobic), not for the treatment that is going to happened, it needs to be considered in the project emission as is recommended in the methodology ("…it can be measured, or a default value of 10e-4 tonnes/m3 can be used.). All calculations need to reflect this change.	B.6.1.3.5 B.6.2.2.15	The $PE_{y,dissolved}$ equation was modified as noted using a default value of 0.0001 tons/m3 wherein: $PE_{y,dissolved} = Q_{y,ww} * [CH_4]_{y,ww,treated} * GWP\_CH_4$ = (310,052 t FFB * 0.55) m3/yr * 0.0001 * 21 = 358 tonnes CO2-e/year Total Project emissions calculation in the PDD will be changed according to this clarification.	The project emission has been amended and the latest version of the PDD reflects the change in the balance of emission reductions. þ
Corrective Action Request No.16.	B.6.1.4	Corrections have been made to Table 4 in the	The latest version of the PDD reflects the

In Table 4. chapter B.4. of the PDD the unit of $COD_{y,ww,\ untreated}$ is missing and the name of the parameter is not consistent with the name of the variable. Also in Annex3 in the table "Baseline Input" and in table "Project Input". The COD of POME as stated in the PDD is certainly contradictory to what the footnote of p. 3 says ("POME has an industry mean Chemical Oxygen Demand rating of 50,000 mg/l."). Please give a short explanation for the vast difference of the measured value (111,842 mg/l) with the industry mean value. The Palm Oil Mill in this project however (COD = 111842 mg/l), has a processing capacity of 60 tonnes FFB/hr and an actual production rate of roughly around 41 tonnes FFB/hr. Perhaps more clarification is required on whether processing capacity of 30 tonnes FFB/hr refers to maximum capacity or actual production rate. In Step 2, the PDD incorrectly assigns MCF Higher value in Table III H of 1 to MCFs,treatment, when for baseline emission calculations, the MCF lower value is to be applied. In this case, no value is to be assigned to this parameter as the emission from sludge is to be neglected.		PDD. The PDD makes reference to a DOE publication that outlines "typical" industry values. This document cites a typical COD value of 50,000 mg/l. This said, AES AGRIVERDE has engaged 3rd party laboratory analyses at several Malaysian mill sites. To date, we have received results ranging from just over 25,000 to about 140,000 mg/l. Actual results are a function of total quantity of FFB processed (especially compared to mill equipment "capacity"), equipment age, and (mill) internal processes/procedures, etc. The Foong Lee mill operates near the capacity of their equipment; presumably this drives the high influent COD value. Foong Lee competently manages their lagoons, however, and their effluent discharge is well within statutory limits. The Foong Lee mill has a 60T per hour processing capacity (also documented as a 1,000 tonnes per day capacity) and nominally operates 6 days/week, 2 shifts per day. The attached AS3 documents a mill capacity of 312,000 tonnes of FFB annually (and mill equipment and lagoons are designed to process this maximum capacity); consistent with the 310,052 tonnes processed last year.	change the table 4. Concerning the value of the COD the answer justify the result used for this project, the production capacity of the plant can delivered a result in this range. Complementary, in the document used like reference (Industrial Processes & the Environment (Handbook #3) Crude Palm Oil Industry, pp. 23 & 27.), in the page 27 in the same table where the reference was extracted, in a column next to the value of the 50,000 mg/l there is the rage of the COD in the wastewater of palm oil the rage is 16,000 – 100,000. þ

		In Step 2, the PDD has been corrected to note the MCF lower value should be used.	
Clarification Request No. 13. Please clarify whether the project wastewater is discharged to the facultative lagoon (as is the current case) or to the aerobic lagoon (as would be the case if the 3rd lagoon is included in the project boundary) as this would affect the values assigned to MCFww,final in Step 4 and [CH4]y,ww,treatment in Step 9.	B.6.1.6 B.6.2.2.15.	The project boundary has been modified to show the 3rd lagoon will NOT be covered and will be maintained in a facultative state ($MCF_{ww,final}$ in Step 4 and $[CH4]_{y,ww,treatment}$ in Step 9 do not change). The effluent from (covered) lagoon #2 will become the influent to (uncovered) lagoon #3.	Through the determination to not cover the third lagoon no change in $MCF_{ww,final}$ in Step 4 and $[CH4]_{y,ww,treatment}$ in Step 9. þ
Clarification Request No. 14. Please measure and record methane content of biogas in shorter intervals following the hourly monitored flare efficiency.	B.6.2.1. B. 6.2.2.16 B.7.1.2.4	The data acquisition system will measure and record flare related parameters (biogas flow, yielding flow rate & temperature) at intervals shorter than hourly. PDD references to methane monitoring were associated with our intent to upgrade from a 90% flare efficiency rating to 90+% (using the Methodological "Tool to determine project emissions from flaring gases containing methane"). We will modify the PDD to indicate we will undertake the monitoring necessary to comply with a 90% flare efficiency rating. To this end, biogas methane will be monitored periodically with a 95% confidence level.	The frequency (quarterly) established by the project participant is accepted since in the methodology there is no explicit requirement for a (Shorter) frequency of measurement. Furthermore, it is measured more often than hourly and recorded quarterly. þ
Corrective Action Request No.17. Please add the missing information (No) in Table 7, chapter 6.2. of the PDD.	B.6.2.2.2 B.6.2.2.3 B.6.2.2.4	This has been corrected in the PDD.	The missing information ($\mathbf{MCF_{ww,final}}$ and $\mathbf{MCF_{s,treatment,}}$ $\mathbf{CH_{4,\,y,\,ww,\,treated}}$) has been added in the latest version of the PDD. þ
Corrective Action Request No.18. Please use one single tabular format for each	B.6.2.2.5. B.6.2.2.1	This has been corrected in the PDD.	The latest version has been revised. Issue solved.

data and parameter in Table 7. chapter 6.2. of the PDD and add the missing information.	7		þ
Corrective Action Request No.19. Concerning the QA/QC procedures, please give more detailed information for each parameter.	B.7.11 B.7.1.2.1 B.7.1.2.5 B.7.1.2.9 B.7.1.2.10 B.7.1.2.13 B.7.1.2.14 B.7.1.2.15	The "QA/QC procedures to be applied:" section for each parameter in Table 11 (Data to be monitored) will be modified as follows: $Q_{y,ww}$: Mill FFB production data used in the calculation of yearly volume of wastewater treated will be checked against mill records. $COD_{y,ww,untreated}$: COD analysis of wastewater samples will be conducted in accordance to analysis equipment manufacturer's specifications and will include blank and calibration standards. $COD_{y,ww,treated}$: COD analysis of wastewater samples will be conducted in accordance to analysis equipment manufacturer's specifications and will include blank and calibration standards. MC_{biogas}: Use and calibration of the methane analyzer will be conducted in accordance with manufacturer's standards. A calibration/service log will be maintained for each methane analyzer. CFE_{ww}: All flare monitoring equipment will be operated and calibrated according to manufacturer's specifications. Flare temperature	In the latest version of the PDD there are more details for each parameter concerning QA/QC. This is deemed acceptable. þ

		and biogas flow data will be compiled and analyzed using software. Electronic flare monitoring data will be stored for the duration of the project + years. Biogas: Thermal mass flow meters will be operated and calibrated according to manufacturer's specifications. $S_{f,end\ use}$: End use of sludge will be monitored and inspected on-site (visually) with verification by the mill manager.	
Clarification Request No. 15. Why have the parameter MC_{flare} to be monitored?	B.7.11	This parameter will not be formally monitored and will be removed from Table 11.	In the latest version of the PDD the monitoring plan has been updated. þ
Clarification Request No. 16. Please clarify if really this parameter ($Q_{y,ww}$-volume of wastewater treated) will be monitored, in case of affirmative answer, explain the procedure and give details of the instrument to measure it.	B.7.1.2.1	This parameter will be ascertained on a periodic basis during the project and will be based on the mill's (one time determined) effluent conversion factor and current FFB production data.	The latest version of the PDD shows the details about the estimation of this parameter. Since the POME from the mill is delivered to the biodigester via a trench, the technology associated with measuring this on a real time basis is not practical nor cost effective. Instead, the monthly production values of FFB will be used along with a conversion factor (POME per tonne of FFB processed). The project proponent has submitted a publication from the Malaysian Department of Environment called "Industrial Processes and the Environment" which indicates that palm oil mills will generate between 0.5 to 0.7 m3 POME / tonne FFB processed.

			The Foong Lee mill has reported a number of 0.55 m3 POME / tonne FFB processed, which is toward the conservative end. The project proponent will use this figure, and then have an independent third party verify this conversion factor once a year. This is deemed acceptable by the audit team. þ
Clarification Request No. 17. Please clarify if really this parameter ($COD_{y,ww,untreated}$-chemical oxygen demand of the wastewater) will be monitored, in case of affirmative answer, explain the procedure and give details of the instrument to measure it.	B.7.1.2.4	At the beginning of the project, this variable is measured to help establish project baseline performance. During this period both 3rd party laboratories and handheld meter measurements are made. Once the project is implemented, this parameter will be monitored on a semi-annual basis to help monitor digester operation. These measurements will be made using a handheld meter. See file: Handheld Meter.pdf	The latest version of the PDD shows the details about the estimation of this parameter. þ
Clarification Request No. 18. Please clarify if really this parameter ($COD_{y,ww,treated}$-chemical oxygen demand of the treated wastewater)$ will be monitored, in case of affirmative answer, explain the procedure and give details of the instrument to measure it.	B.7.1.2.5	Once the project is implemented, this parameter will be monitored on a semi-annual basis to help monitor digester operation. These measurements will be made using a handheld meter. See file: Handheld Meter.pdf	The latest version of the PDD shows the details about the estimation of this parameter. þ
Clarification Request No. 19. If the uncertainty range of ± 3% points is determined for the device use to measure the	B.7.1.2.10	Per the manufacturer's specification sheet, the accuracy of the biogas analyzer is ±3% of an observed reading.	It has been clarified that the range mentioned (55%-75%) is relevant for the methane concentration and not the reading

methane fraction and the nominal percentage of CH4 is 65%, the expected reading should be between 62% and 68%. Readings between 55% and 75% indicate a not proper operation of the device. Please give more details about the equipment.		While we expect the methane concentration of the biogas to be consistent at any one site, we expect the biogas methane concentrations to vary between different sites (site-specific methane readings). While biogas methane concentrations are typically in the 60-65% range, they can vary between 55% and 75% methane under normal conditions.	expected from the device used to measure this parameter. The device will work (accord the manufacturer specs which has been reviewed) under accuracy of ±3%. þ
Clarification Request No. 20. Please give details about the follow approvals from the authorities and how the project met it: • State-level approval by the Department of the Environment • Department of Safety and Health approval to gas handling system.	D.2.1	State level approval requires an amended AS3 form to be filed, including details of how the lagoon system is to be modified. A copy of this application (which was approved) is attached. The Department of Safety and Health has no regulations concerning the combustion of biogas and presently has no requirements for DOSH registration. AES AgriVerde is in dialogue with DOSH and will comply with any registration requirements that may arise. See file: Foong Lee AS3.pdf	The copy of the application approved (from State-level approval by the Department of the Environment) has been submitted. Since the written confirmation from the DOSH about the equipment used in the project requires approximately 6 weeks, the resolution from this authority should be reviewed in the verification. This is deemed acceptable for validation purposes. þ
Clarification Request No. 21. Please provide clarification on why the description of the parameter "Efficiency of flare combustion" in Table 4.2 of Annex 4 does not correspond with that of the parameter "efficiency of flaring process" in Table 11 in section B.7.1. Further clarification is required on the purpose of the parameter "Combustion System Operation" which is not described	F.4.1 F.4.3	This project will perform measurements necessary to qualify for a default 90% flare efficiency rating and will not use the CDM methodological “Tool to determine project emissions from flaring gases containing methane” to seek a higher efficiency rating at this time. Table 4.2 has been modified to clarify the redundancy of parameters 4 and 5 and to be consistent with Table 11 in section B.7.1.	In the latest version of the PDD, the information form the table 11 in section 7.1 is in line with the table 4.2 in annex 4. The clarification is solved. þ

elsewhere in the PDD & on the reference to the use of the "flare monitoring tool" to determine the percent of biogas combusted.		The new ID number 4 in Table 4.2 (Key parameters monitored) will be called, “Efficiency of flaring process”. This parameter incorporates the collection and analysis of flare temperature and biogas flow data.	

Table 3 Unresolved Corrective Action and Clarification Requests (in case of denials)

Clarifications and / or corrective action requests by validation team	Id. of CAR/CR	Explanation of Conclusion for Denial
-	-	-

Industrie Service

Annex 2: Information Reference List

Reference No.	Document or Type of Information
1	Project Design Document for CDM project "Methane Recovery in Wastewater Treatment, Project AMA07-W-01, Perak, Malaysia", version 2, dated May 16th, 2007
2	AMS III H small scale methodology for Methane Recovery in Wastewater Treatment, Version 5
3	Participant list of on-site interview, signed on June 14 and 15th, 2007
4	On-site interviews and inspection at the office conducted on June. 14 and 15, 2007 by validators of TÜV SÜD. Validation team: Ivan Hernandez TÜV SÜD Industrie Service GmbH Iris Waikinat TÜV SÜD Industrie Service GmbH Bagawathi Renganathan TÜV SÜD PSB Singapore Yoon Jung-Ho TÜV SÜD PSB Korea Interviewed persons: Foo Siew Theng AES AgriVerde Assessment Manager Christina Wong AES AgriVerde CDM Services and Logistics Mark Miller AES AgriVerde Quality Assurance Manager Chang Woon Mun Owner, Foong Lee Sawiminyak Sdn Bhd Chang Wai Mun Executive Director, Foong Lee Sawiminyak Sdn Bhd
5	COP & Kernel Production & Despatch Figures for 2006, submitted June 14th, 2007.
6	COP & Kernel Production & Despatch Figures for 2005, submitted June 14th, 2007.

Reference No.	Document or Type of Information
7	Effluent test certificate January 2006, February 2007 and March 2007 (Laboratory analysis developed to compliy the requirement for wastewater at final stage of treatment) , submitted June 14th, 2007
8	Sumary of comments received during the Local stakeholder realized on February 28, 2007, submitted June 14th, 2007
9	Attendance Sheet of Local stakeholder realized on February 28, 2007, submitted June 14th, 2007
11	Project Schedule for Methane Recovery in Wastewater Treatment, Project AMA07-W-01, Perak, Malaysia, submitted June 14th, 2007
12	Industrial_Processes_and_The_Environement_Handbook3_Crude_Palm_Oil_Industry-1, submitted August 7th, 2007
13	Industrial_Processes_and_The_Environement_Handbook3_Crude_Palm_Oil_Industry-2, submitted August 7th, 2007
14	Industrial_Processes_and_The_Environement_Handbook3_Crude_Palm_Oil_Industry-3, submitted August 7th, 2007
15	Industrial_Processes_and_The_Environement_Handbook3_Crude_Palm_Oil_Industry-4, submitted August 7th, 2007
16	Equipment Specifications, submitted August 7th, 2007
17	Flare Specifications, submitted August 7th, 2007
18	Foong Lee - Contract & ERPA, submitted August 7th, 2007
19	Foong Lee AS3, submitted August 7th, 2007
20	Foong Lee DOE application drawings w Fence, submitted August 7th, 2007
21	Foong Lee Equipment Project Emissions, submitted August 7th, 2007
22	Foong Lee GSP Meeting, submitted August 7th, 2007
23	Foong Lee IRR optimized, submitted August 7th, 2007
24	Foong Lee IRR real world discounts, submitted August 7th, 2007
25	Foong Lee LOI, submitted August 7th, 2007
26	Foong Lee Project Tracking_3Jul2007, submitted August 7th, 2007
27	Foong Lee QA-QC letter, submitted August 7th, 2007

Reference No.	Document or Type of Information
28	Foong Lee-Project Schedule-Lagoon1 and Foong Lee-Project Schedule-Lagoon2, submitted August 7th, 2007
29	Geo-membrane Installation QA-QC, submitted August 7th, 2007
30	Handheld Meter, submitted August 7th, 2007
31	MMManualOutlineb, submitted August 17th, 2007
32	AAVGuidetoDigesterOperations, submitted August 17th, 2007
33	PDDcalculationspreadsheetFoongLee060607
34	Project Design Document for CDM project "Methane Recovery in Wastewater Treatment, Project AMA07-W-01, Perak, Malaysia", version 7, dated May 28, 2008