Validation Report

AMAZON CARBON S/S LTDA

VALIDATION OF THE CDM-PROJECT:

AMAZON CARBON SWINE WASTE MANAGEMENT SYSTEM PROJECT 02.

REPORT NO. 1161120

2009, March 09

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Report No.	Date of first issue	Revision No.	Date of this revision	Certificate No.
1161120	2008-05-07	2.1	2009-03-07	-

The only changes made to this version of the validation report compared to the validation report version 02 dated 2008-11-14 referred to in the Brazilian Letter of Approval issued on 2008-11-19 are related to the minor corrections requested on 2008-02-24 by the CDM Executive Board.
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 Federal Republic of Germany	TÜV SÜD DO BRASIL – SERVIÇOS TÉCNICOS PARA A INDÚSTRIA E O MEIO AMBIENTE LTDA. Rua Henrique Monteiro n.90, 10.º andar ZIP 05423-020 - São Paulo Brazil
Client: Amazon Carbon S/S Ltda. Rua Conselheiro Mafra, 758 sala 703 – Centro Florianópolis – SC ZIP 88010-102 Brazil	Project Site(s): 1. Granja Cambrasil -, GPS S 27º50'11.5", W 54º32'09.2" 2. Granja Capim -, GPS S 27º50'17.7", W 54º24'47.9" 3. Granja Rincão dos Rochas, GPS S 27º56'23.5", W 54º30'02.1" 4. Granja Santo Ângelo GPS S 28º 15'16.4", W 54º13'39.2" 5. Granja COOPERMIL GPS S 27º49'38.1", W 54º30'53.9" 6. Fazenda Chapecózinho, , GPS S 26º44'28.5", W 52º23'08.2" 7. Granja Pompermaier GPS S 26º51'12.5", W 52º20'53.1" 8. Fazenda Martelli III, GPS S 12º29'31.5", W 56º43'01.6" 9. Fazenda Coqueiros do Rio Doce, GPS S 17º51'07.5", W 51º10'00.6"

Project Title:	Amazon Carbon Swine Waste Management System Project 02.

Applied Methodology / Version: **AMS – III.D -** Methane Recovery in agricultural and agro industrial activities / Version 13	Scope(s): 15

First PDD Version:	Final PDD version:
Date of issuance: 2008-02-19	Date of issuance: 2009-03-03
Version No.: 1	Version No.: 8.1
Starting Date of GSP 2008-03-05	

Estimated Annual Emission Reduction:	21,939 tCO2e

Assessment Team Leader:	Further Assessment Team Members:
Johann Thaler (TÜV SÜD do Brasil)	----

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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.

Abbreviations

ACM	Approved Consolidated Methodology
Amazon Carbon	Amazon Carbon S/S Ltda.
AWMS	Animal Waste Management System
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
Vs	Volatile Solids excretion
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:

Amazon Carbon Swine Waste Management System Project 02.

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:

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

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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 sub-divided. 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 (☑)**, 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.*

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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 or a Clarification Request, these should be listed in this section.	*Reference to the checklist question number in Table 1 where the Corrective Action Request or Clarification Request is explained.*	*The responses given by the client or other project participants during the communications with the validation team should be summarised in this section.*	*This section should summarise the validation team's responses and final 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.*

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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
Johann Thaler	**ATL**	☑	☑	☑

Johann Thaler graduated as Master of environmental Economy at the University of Augsburg. During his study he got first experiences in environmental management systems. His master thesis was about a fuel switch program in Brazil as a CDM project. Based in Brazil he has been working for TÜV SÜD as a GHG auditor on freelance basis since March 2005. He attended and successfully finished a ISO 14001 Environmental Management Internal Auditing Training.

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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 from March 05 to 12, 2008 TÜV SÜD performed interviews on-site with the project participant, farm owners and/or managers 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 the on-site visit.

Name	Organisation
Arno Tyllmann	ALIBEM , engineer
Laides Hoffmann	ALIBEM, environmental consultant
Pietro F. Pelizzaro	ALIBEM, veterinary
Thiago Othero	Amazon Carbon, project director
Roberto Gelsolail	Granja Cambrasil, supervisor
Marcos Schneider	Granja Cambrasil, supervisor
Claudio Flech	Granja Santo Angelo, manager
Ivair Brandalize	Granja Brandalize, owner
Gabriel Weber	Granja Coopermil, manager
Milton Aliegg	Granja Coopermil, manager
Wilson Martelli	Faz. Martelli III, manager
Flavio Cavallari	Amazon Carbon, Field manager
Odvar Pessenti	Faz. Coqueiros do R. Doce, manager

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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.

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3 SUMMAR Y OF FINDINGS

As informed above all findings are summarized in table 2 of the attached validation protocol.

History of the validation process

The audit team has been provided with a draft PDD in February 2008. Based on this documentation a document review and a fact finding mission in form of an on-site audit has taken place. Afterwards the client decided to revise the PDD according to the CARs and CRs indicated in the audit process. The final PDD version 8.1, dated 03/03/2009 which was submitted in March 2009 serves as the basis for the assessment presented herewith. Changes are not considered to be significant with respect to the qualification of the project as a CDM project based on the two main objectives of the CDM to achieve a reduction of anthropogenic GHG emissions by sources and to contribute to sustainable development.

Project description

The project proposes to replace the existing Animal Waste Management Systems (AWMS) by a lower-GHG emitting AWMS. Currently, swine waste is flushed from the barns and treated in sequential anaerobic lagoon management systems that results in high GHG emissions.

The project will replace this system by anaerobic digesters that capture and combusts methane in a controlled and economically sustainable manner. Certified Emission Reductions are claimed exclusively for the emission reductions associated to methane capture and combustion.

Findings

In total the assessment team expressed 14 Corrective Action Requests and 09 Clarification Requests.

The most important findings during the validation audit were related to information not provided in the first version of the PDD, and non updated figures or information. Inconsistencies between PDD and other documents or evidences were also found, mainly related to the baseline emissions and emissions reductions. Information about monitoring were incomplete and were updated in the the final version of the PDD.

Corrections made on number of heads and exclusion of 2 farms resulted in lower emission reductions in the final PDD than estimated before.

Farm Brandalize has been excluded from the project activitydue to non compliance of the farm activity with its environmental license. Farm Pasqual has also been excluded from the PDD due to lack of retraceable control of number of heads, which would be used for the baseline calculation.

Farm Pompermaier has signed a number of leasing contracts for the use of 3rd parties land. Given that biodigester is on its planning phase, it will be necessary to check actual position of biodigester in the first verification to make sure it has not been built out of the farm´s property.

Considering these findings the PDD version 1 has been revised and the actual PDD version 8.1 is in compliance with the CDM requirements.

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Baseline calculation

The baseline is been determined using reliable assumptions. The parameter "livestock population" as one of the decisive parameters for the quantitative prognosis is determined by using reliable data and is based on either the average of animals confined in 2007 or the total of animals produced in 2007. The choice of approach is based on the type of historic data available at the farms. Where farms performed monitoring of monthly livestock, the first approach was chosen. In this approach, the values used to determine livestock population are directly monitored by the farms´ manager. This was the case for farm Cambrasil (except for piglets), farm Capim, farm Rincão dos Rocha, farm Santo Ângelo (except for piglets), farm Coopermil and farm Pompermaier. The second approach was used where farms performed monitoring of animals produced in a given year. In this approach, the number of animals produced was corrected for the average days animals are confined. This was the case for Fazenda Chapecózinho, Fazenda Coqueiros do Rio Doce, Fazenda Martelli III and to determine piglets population for farm Cambrasil and farm Santo Angelo. During the on-site visit the availability of such comprehensive data could be observed predominantly. Hence, plausible data have been provided from traceable sources ensuring the reliability of the parameter.

Regarding farm Capim and farm Santo Angelo, baseline emissions have been calculated taking into account the recently licensed increase in the number of heads. The validation team considers this approach as reasonable as it is supported by law and by the increase of the farm activity.

The methane emission factors are determined for each animal category (gilts, sows in gestation, sows, boars, piglets, nursery, finishers) separately, considering local weight data and local VS values (except for gilts, sows and boars where default values have been used) besides default values defined as per the 2006 IPCC Guidelines for National Greenhouse Gas Inventories.

Regarding the VS value it should be mentioned that even the application of a default value is not indicated within the TIER 2 approach, the approach is accepted by the validation team as it has been already accepted by the EB in other registered projects. Where possible, such default values for VS were adjusted for local, site-specific average animal weight to provide more realistic values for this parameter.

Default values for North American and Western European genetics were chosen, since these are the genetics used in the participating farms. The use of either North American and/or Western European genetics was validated by the DOE.

The proposed project activity considers as project emissions "methane emissions from anaerobic digesters" and "emissions from inefficiency in methane flaring", even though this is not requested by the methodology AMS-III-D, version 13. This shows the conservative approach chosen by the project participant.

Project CO_2 emissions from fossil fuel combusted to operate the AWMS and emissions from electricity consumption to operate the AWMS have not been considered in the ex-ante estimations, as there is no increase in fossil fuel consumption and no significant increase in electricity consumption due to the project activity, thus both are considered negligible. The estimated additional electricity consumption for each farm is approximately 0.8 MW/year. Nevertheless, during the crediting period both fossil fuel combustion as well as electricity consumption will be monitored.

Besides, there is no leakage due to the project activity.

Default values have been correctly applied and in the case where a selection of different options was possible, the chosen values are appropriate. Regarding the value for the methane density, the project participant decided to apply the conservative value of 0.67 kg/m3 indicated in AMS III-D, version 14.

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The baseline scenario is the continuation of the current Animal Waste Management System, namely the treatment of swine waste in anaerobic lagoons. There is no legal requirement nor any current planning for a legislation to capture and combust greenhouse gases produced by swine manure in AWMS.

Additionality

The additionality of the project was checked carefully. In doing so the assessment team has put the main focus on the following issues.

As the starting date of the project activity is prior the date of GSP uploading, the validation team has requested an evidence that the CDM was seriously considered in the decision to proceed with the project activity. The first contract between the project developer Amazon Carbon and a farm owner participating in the project clearly evidences CDM consideration. The date when the contract was signed (01/11/2007) is at the same time the project´s starting date.

The project participant decided to apply Attachment A to Appendix B of the Simplified modalities and procedures for small-scale clean development mechanism project activities in order to demonstrate additionality

In step one alternatives to the proposed project activity are identified. Step two exlcudes those alternatives which are not plausible or not in line with laws or regulations. After step two, only two alternatives, namely the continuation of the status-quo (AWSM in anaerobic lagoons) and the proposed project activity without CDM revenues are left over.

Step 3, the barrier analysis shows, why the proposed project activity without CDM would not be realized. Investment and technological barriers prevent the implementation of a digester based AWMS.

Step 4, the common practice analysis, describes that the usual technology applied to Brazilian swine confinement farms is based on anaerobic lagoons. Therefore the project activity, which consists on anaerobic digesters, is not similar to what can be commonly found in Brazil.

Step 5 shows why the impact caused by the registration of the CDM project was decisive to overcome the barriers to the implementation of the proposed project activity.

To conclude the additionality assessment it may be stated that the proposed project activity is without doubt additional.

The project boundary, the project´s starting date as well as the starting date of the crediting period are clearly defined in the last submitted PDD.

The proposed small-scale project activity is not deemed to be a debundled component of a large project activity.

Monitoring

The final PDD includes all relevant parameters to be monitored in order to determine baseline and project emissions. Baseline emissions will be monitored as according to the requirements of the methodology AMS III-D, version 13. In the case of project emissions (("CO_2 emissions from use of fossil fuels", "CO_2 emissions from electricity consumption", "methane emissions from anaerobic digesters" and "emissions from inefficiency in methane flaring"), the methodology does not indicate the latter two ones as project emissions and its monitoring, however the project participant considered them in order to be conservative. Methane emissions from the digesters are

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based on the methane captured and destroyed by the project activity and the Methane Conversion Factor (MCF) for the project AWMS. Even though the biodigester is a sealed system that does not result in methane emissions, a 10% conservative MCF was adopted to account for uncertainties. Emissions from inefficiency in methane flaring are incorporated in the calculation of methane captured and destroyed by the project activity, as it is correctly described in section B.6.1. of the final PDD. CO_2 emissions from use of fossil fuels are calculated according to option B of the "Tool to calculate project or leakage CO_2 emissions from fossil fuel combustion, version 2". CO_2 emissions from electricity consumption are calculated according to the procedures prescribed in the "Tool to calculate the emissions factor for an electricity system, version 01.1.". Hereby the electricity consumed by the project activity is multiplied with the ex-post determined emissions factor. The latter one is updated annually by the Brazilian DNA by using the latest electricity data provided by the Brazilian Dispatch Centre ONS and the newest IPCC default values.

The chosen monitoring approach, formulae, calculations as well as the application of the Tools like "Tool to calculate project or leakage CO_2 emissions from fossil fuel combustion" and "Tool to calculate the emissions factor for an electricity system" deem to be reasonable and retraceable to the validation team.

The final destination of sludge will also be monitored to ensure that anaerobic conditions are avoided.

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:

webpage:	
http://www.netinform.de/KE/Wegweiser/Ebene1_Projekte.aspx?Ebene1_ID=26&mode=1	
Starting date of the global stakeholder consultation process:	
2008-03-05	
Comment submitted by:	**Issues raised:**
No comments	-
Response by TÜV SÜD:	
-	

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5 V ALIDATION OPINION

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

Amazon Carbon Swine Waste Management System Project 02.

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. The Letter of Approval, dated 19/11/2008, was issued by the Host Country after the finalisation of the validation report, version 2, thus was dated after the date (14/11/2008) of version 2 of the validation report. The Letter of Approval was submitted to the validation team and verified by the same. Its correctness can be confirmed by the validation team. 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, 2009-03-07   Munich, 2009-03-07

_____   _____
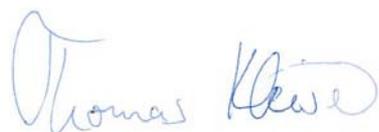
Thomas Kleiser   Johann Thaler

Head of Certification Body "climate and energy"   Assessment Team Leader
TÜV SÜD Industrie Service GmbH

Annex 1: Validation Protocol

Validation Protocol

Project Title: Amazon Carbon Swine Waste Management System Project 02

Date of Completion: 07/03/2009

Number of Pages: 44

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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?	3	The project title "Amazon Carbon Swine Waste Management System Project 02" clealy enables to identify the unique CDM activity.	☑	☑
A.1.2. Are there any indication concerning the revision number and the date of the revision?	3	The PDD indicates version 1 from 19/02/2008.	☑	☑
A.1.3. Is this consistent with the time line of the project's history?	1,2,3,6,14,39	**Corrective Action Request No.1.** Starting date of Project Activity should be after the signature of the first contract with farms participating in the project or with Avesuy, whatever comes first. Such signed contract has still to be presented for farms Chapecozinho, Pompermeier and Pasqual. Please correct starting date of project activity according to missing contracts or according to the purchase contract with Avesuy , whatever is first.	CAR 1	☑
A.2. Description of the small-scale project activity				
A.2.1. Is the description delivering a transparent overview of the project activities?	1,2,3, 7, 9	PDD Section A..2 gives an overview, which is further detailed in other sections.	☑	☑
A.2.2. What proofs are available demonstrating that the project description is in compliance with the actual situation or planning?	1,2,3,4,5, 13, 7, 9	The following evidences have been presented during the on-site visit showing that the project description is in compliance with the actual situation or planning: -Environmental licences or protocols of each of the farms -Evidence about the ownership of the land for each farm -Technical plans of the biodigesters - Records of number of heads - Visual inspection of open lagoons on each site	☑	☑

Table 1 is applicable to AMS III-D, version 13   Page A-1

Validation Protocol

Project Title: Amazon Carbon Swine Waste Management System Project 02

Date of Completion: 07/03/2009

Number of Pages: 44

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
A.2.3. Is the information provided by these proofs consistent with the information provided by the PDD?	1,2,3 ,4,5, 13, 7,9,1 4	Some corrections and updates have to be done. See CARs 1 to 14 and CRs 2 to 4	CAR 1 to 14 CR 2 CR 3 CR 4	☑ ☑ ☑ ☑
A.2.4. Is all information presented consistent with details provided by further chapters of the PDD?	3,14	Some corrections and updates have to be done. See CARs 1 to 14 and CRs 2 to 4	CAR 1 to 14 CR 2 CR 3 CR 4	☑ ☑ ☑ ☑
A.2.5. Describe the type of Waste Management System (WMS) used in the site (e. g. Anaerobic lagoon, composting, solid separator, etc.)	1,2,3	PDD correctly describes the type of WMS in place.	☑	☑
A.2.6. Does the description of the technology to be applied provide sufficient and transparent input to evaluate its impact on the greenhouse gas balance?	1,2,3	Yes, description is sufficient.	☑	☑
A.2.7. Is the brief explanation how the project will reduce greenhouse gas emission transparent and suitable?	1,2,3	PDD Section A..2 gives an overview, which is further detailed in other sections.	☑	☑
A.3. Project participants				
A.3.1. Is the form required for the indication of project participants correctly applied?	3	PDD Section A..3 supports a positive answer	☑	☑

Table 1 is applicable to AMS III-D, version 13   Page A-2

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
A.3.2. Is the participation of the listed entities or Parties confirmed by each one of them?	6	**Corrective Action Request No.2.** A contract between farms Chapecozinho, Pompermeier, Pasqual and Amazon Carbon dully signed has to be presented to confirm the voluntary participation in the PDD.	CAR 2	☑
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)?	1,3,14	Corrections have to be made. See CARs on session A.4.1.1.	☑	☑
A.4. Technical description of the small-scale project activity				
A.4.1. Location of the small-scale project activity				
A.4.1.1. Does the information provided on the location of the project activity allow for a clear identification of the site(s)?	1,2,3,14, 19, 39	**Corrective Action Request No.3.** 1. Please update address of Amazon Carbon in the PDD 2. Please correct address of Fazenda Martinelli III to Rodovia MT 338, km 120 +13, caixa postal 04. 3. Faz. Brandalize address should be corrected to Linha Passo Ferraz s/n 4. Granja Coopermil address should be corrected to Linha Lajea-do Bonito s/n 5. PDD session 4.1.4 should be corrected for Faz. Martinelli III regarding lagoons. There are 2 lagoons onsite, one measuring 2,5x61x35m, the other 24 (diameter) x 2. 6. Name of Granja Brandalize should be corrected to match license and other docs. 7. Name of site Rincao dos Rocha should be changed to Rincao dos Rochas. 8. Address of Granja Sto. Angelo should be corrected to Estrada Colonia das Almas s/n	CAR 3 CAR 4	☑ ☑

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
		9. Description of G. Sto. Angelo should be corrected for number of Barns 21 , 3 more in construction, and 11 lagoons, 10 in operation (depth 2,5 for all, other dimensions 30x27/40x28/41x23/25x22/27x22/46x22/40x30/44x22/28x27/28x30). **Corrective Action Request No.4.** Please add biodigester GPS coordinates of Fazenda Chapecozinho and Granja Pompemaier, and use biodigester GPS coordinates for all other farms in the PDD.		
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.)?	1,2,3,5,14	Ownerships are confirmed directly or indirectly (licenses) on site.	☑	☑
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, 3	The project activity belongs to type III. This type is correctly identified and indicated in the PDD section A.4.2.	☑	☑
A.4.2.2. To which category (ies) does the project activity belong to? Is the category correctly identified and indicated?	1, 3	PDD section A.4.2 correctly identifies category III.D.	☑	☑
A.4.2.3. Does the technical design of the project activity reflect current good practices?	1,3	Yes, the project design does reflect current good practice.	☑	☑
A.4.2.4. Does the implementation of the project activity require any technology transfer from Annex-I-countries to the host country (ies)?	1, 3, 13	PDD Section A.4.2 states that some monitoring equipment will be provided by a Annex 1 supplier.	☑	☑
A.4.2.5. Is the technology implemented by	1, 3,	The technology implemented by the project activity is environmen-	☑	☑

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
the project activity environmentally safe?	13	tally safe. It has been implemented in other CDM projects.		
A.4.2.6. Is the information provided in compliance with actual situation or planning?	1,3, 13,14	See 4.1.1.	See CAR 4	☑
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?	1,3, 13	The project uses state of the art technology which has been already applied in other CDM projects.	☑	☑
A.4.2.8. Is the project technology likely to be substituted by other or more efficient technologies within the project period?	1,3, 13	The project equipment can be expected to run for the whole project period and it can not be expected that it will be replaced by more efficient technologies. However additional components could be added, such as for the use of biogas to generate heat and produce electricity.	☑	☑
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?	1,3, 10, 13	The project requires initial training and maintenance efforts. **Corrective Action Request No.5.** Please provide training schedules for people involved in all sites.	CAR 5	☑
A.4.2.10. Is information available on the demand and requirements for training and maintenance?	1,3, 10 13	No, information not available. See A.4.2.9.	See CAR 5	☑
A.4.2.11. Is a schedule available for the implementation of the project and are there any risks for delays?	1,3, 10, 50	No implementation schedule is available. **Corrective Action Request No.6.** Please provide a project implementation schedule (biodigester commissioning, etc..) for all participating farms. In the case that project´s starting date is before the validation date, CDM consid-	CAR 6	☑

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
		eration should be included into the project´s implementation schedule.		
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?	3	Yes, precise dates for first and last year of the crediting period are provided.	☑	☑
A.4.3.2. Are the figures provided consistent with other data presented in the PDD?	1,2,3 ,11, 12, 14 15, 16, 18, 22, 33, 36, 39, 40, 41, 42, 43, 46, 47	**Corrective Action Request No.7.** 1. For Fazenda Martinelli, number of heads have to be corrected. 2. For Coopermil, number of heads should be corrected to match evidences presented 3. For Cambrasil,, number of heads should be corrected to match evidences presented 4. For Faz. Coqueiros do R. Doce, number of heads should be corrected to match evidences presented 5. For G. Pasqual, please provide evidences for the number of heads. 6. For G. Capim number of heads should be corrected to match evidences presented, environmental license should be presented allowing increasing number of heads, and an load factor of 86% should be used on the license allowed number of heads to reflect past load of barns. 7. For Fazenda R. dos Rochas, number of heads should be corrected in the PDD to match evidences presented. 8. Please provide historical evidence to support the number of heads used in the PDD for farms Chapecozinho, Pompermeier and Pasqual. **Corrective Action Request No.8.**	CAR 7 CAR 8 CR 1 CR 2 CR 3 CR 4	☑ ☑ ☑ ☑ ☑ ☑

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
		1. The figure for total estimated emission reductions is not consistent between A.2. and A.4.3. and B.6.4). Please provide consistent information.		
		2. Please revise Emissions Reductions spreadsheet for possible mistakes causing differences with figures presented on B.6.4 of PDD.		
		Clarification Request No.1.		
		For Fazenda Brandalize, evidences for the number of heads used in the PDD have to be presented.		
		Clarification Request No.2.		
		For Fazenda Brandalize, a document of the Genetics of animals should be presented.		
		Clarification Request No.3.		
		For Fazenda Brandalize, an evidence of a management system for feedstock formulae should be presented.		
		Clarification Request No.4.		
		1. For Faz.Martelli III, please inform what is the software used for control of number of heads, and provide an evidence that the data supplied for validation comes directly from this database and is not treated.		
		2. Please provide historical evidence to support the number of heads used in the PDD for farms Chapecozinho, Pompermeier and Pasqual.		
A.4.3.3. Are the figures consistent with the small-scale criteria for the used Type?	3, 15	Annual emission reductions are below 60.000 t CO2e. Thus, the small-scale criteria of methodology AMS III.D is fulfilled.	☑	☑
A.4.4. *Public funding of the small-scale project activity*				

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
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, 3	No public funding is involved. Information given in the PDD.	☑	☑
A.4.4.2.　　Is all information provided consistent with the details given in remaining chapters of the PDD (in particular annex 2)?	1,3	Information provided in A.4.4. is consistent with that in Annex 2.	☑	☑
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 site of a project activity or an application to register another small-scale CDM project activity: with the following characteristics:	1,3, 15	<table><tr><td>Debundling checklist</td><td>Yes / No</td></tr><tr><td>the same project participants?</td><td>No</td></tr><tr><td>In the same project category and technology/measure?</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 (sites) under consideration?</td><td>No</td></tr></table>	☑	☑
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 activity exceeds the limits of small scale CDM project activities?	---	N.A.	☑	☑

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
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, 3, 15	The PDD clearly indicates the SSC methodology "AMS-III.D "Methane Recovery in agricultural and agro industrial activities" version 13".	☑	☑
B.1.1.2.Is the applied version the most recent one and / or is this version still applicable?	1, 3, 15	At the time of uploading the PDD for the GSP, version 13 has been the most recent version.	☑	☑
B.2. Justification of the choice of the project category				
B.2.1. Is the applied methodology considered the most appropriate one?	1, 3, 15	Yes. The applied methodology is considered to be the most appropriate one.	☑	☑
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";				
B.2.1.1.Criterion 1: Does the project category comprise methane recovery and destruction from manure and wastes from agricultural or agro-industrial activities that would be decaying anaerobically in the absence of the project activity by (a) Installing methane recovery and combustion system to an existing source of methane emissions, or (b) Changing the management practice of a biogenic waste or raw material in order to achieve the controlled anaerobic digestion equipped with methane	1, 3,15	<table><tr><td>Applicability checklist</td><td>Yes / No / NA</td></tr><tr><td>Criterion discussed in the PDD?</td><td>Yes</td></tr><tr><td>Compliance provable?</td><td>Yes</td></tr><tr><td>Compliance verified?</td><td>Yes</td></tr></table>	☑	☑

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PPD in GSP	Final PDD
recovery and combustion system? .					
B.2.1.2. Criterion 2 (a): Does the project activity satisfies the following conditions?: (a) The sludge is handled aerobically, and in case of soil application of the final sludge the proper conditions and procedures (not resulting in methane emissions) are ensured.	1,2,3 ,15	Applicability checklist	Yes / No / NA	☑	☑
		Criterion discussed in the PDD?	Yes		
		Compliance provable?	Yes		
		Compliance verified?	Yes		
B.2.1.3. Criterion 2 (b) (b)The technical measures used ensure that all biogas produced by the digester is used or flared?	1,2,3 ,15	Applicability checklist	Yes / No / NA		
		Criterion discussed in the PDD?	Yes		
		Compliance provable?	Yes		
		Compliance verified?	Yes		
B.2.1.4.Criterion 3: Does the project recover methane from landfills or includes waste water treatment?	---	Not applicable		☑	☑
		Applicability checklist	Yes / No / NA		
		Criterion discussed in the PDD?	NA		
		Compliance provable?	NA		
		Compliance verified?	NA		
B.2.1.5.Criterion 4: Are the measures limited to those that result in emission reductions of less than or equal to 60 kt CO2 equivalent annually?		Applicability checklist	Yes / No / NA	☑	☑
		Criterion discussed in the PDD?	Yes		
		Compliance provable?	Yes		
		Compliance verified?	Yes		

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
.				
B.3. Description of the project boundary				
B.3.1. Does the project boundary include physical, geographical site(s) where the methane recovery facilities are taking place?	1,2,3,15	Yes, it does	☑	☑
B.3.2. Do the spatial and technological boundaries as verified on-site comply with the discussion provided by / indication included to the PDD?	1,2,3,15	Yes, they do.	☑	☑
B.4. Description 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";				
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?	1,2,3,15, 16, 49	Technically feasible baseline scenario alternatives to the project activity have been identified and discussed by the PDD. The list can be considered as complete, as all the alternatives menioned in the IPCC 2006 guidelines, are addressed. See also B.6.3.1.	☑	☑
B.4.2. Does the project identify correctly and excludes those options not in line with regulatory or legal requirements?	1,2,3,15, 49	Yes, section B.4 correctly addresses this issue at the end.	☑	☑
B.4.3. Have applicable regulatory or legal requirements been identified?	1,2,3,15, 49	The alternative "throughing effluents directly to water resources" is not in compliance with the law.	☑	☑

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
B.4.4. Does the PDD identify the most likely baseline scenario? ["…*in the absence of the project activity, biomass and other organic matter are left to decay anaerobically within the project boundary and methane is emitted to the atmosphere.*"]	1,2,3,15, 49	Anaerobic lagoons are identified as the most likely baseline scenario.	☑	☑
B.4.5. Is this identification supported by official and/or verifiable documents (e.g. studies, web pages, certificates, etc?	1,2,3,8,15, 49	Yes. The document "First Brazilian inventory of greenhouse gas emissions (Primeiro Inventario Brasileiro de emissoes antropicas de gases de efeito estufa), Science and Technology ministry, 2006 mentions that anaerobic lagoons and tanks are the predominant scenario in Brazil.	☑	☑
B.4.6. Is the identified baseline scenario in line with regulatory or legal requirements?	1,2,3,8,15,49	There are no regulatory or legal requirements in Brazil regarding manure management. However it is forbidden to through effluents directly to water resources (national law) or to burn the excrements.	☑	☑
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 small-scale CDM project activity:				
Integrate questions concerning the determination of the additionality when applying the "additionality tool";				
B.5.1. In case of applying step 2 / investment analysis of the additionality tool: Is the analysis method identified appropriately (step 2a)?	---	As the additionality tool is not applied, B.5.1.-B.5.12. are not applicable.	☑	☑
B.5.2. In case of Option I (simple cost analysis): Is it demonstrated that the activity produces no economic benefits other than CDM	---	N/A	☑	☑

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CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PPD in GSP	Final PDD
	income?				
B.5.3.	In case of Option II (investment compari-son analysis): Is the most suitable finan-cial indicator clearly identified (IRR, NPV, cost benefit ratio, or (levelized) unit cost)?	---	N/A	☑	☑
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)?	---	N/A	☑	☑
B.5.5.	In case of Option II or Option III: Is the calculation of financial figures for this indi-cator correctly done for all alternatives and the project activity?	----	N/A	☑	☑
B.5.6.	In case of Option II or Option III: Is the analysis presented in a transparent man-ner including publicly available proofs for the utilized data?	---	N/A	☑	☑
B.5.7.	In case of applying step 3 (barrier analy-sis) of the additionality tool: Is a complete list of barriers developed that prevent the different alternatives to occur?	----	N/A	☑	☑
B.5.8.	In case of applying step 3 (barrier analy-sis): Is transparent and documented evi-dence provided on the existence and sig-nificance of these barriers?	----	N/A	☑	☑
B.5.9.	In case of applying step 3 (barrier analy-sis): Is it transparently shown that the execution of at least one of the alterna-	----	N/A	☑	☑

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
tives is not prevented by the identified barriers?				
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)?	----	N/A	☑	☑
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)?	-----	N/A	☑	☑
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)?	-----	N/A	☑	☑
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 decision to proceed with the project activity?	1,2,3 ,14	See A.1.3.	See CAR 1	☑
B.5.14. Is a complete list of barriers developed that prevents the project activity to occur?	1,2,3 ,20, 49	The PDD mentions investment, technological and legal barriers. These barriers prevent the project activity (without the incentives of CDM) to occur.	☑	☑
B.5.15. Does this list include at least one of the following barriers?	1,2,3 ,20,		☑	☑
			Barrier	Discussed?	Verifiable?

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS				PPD in GSP	Final PDD
	49	Investment		yes	Yes		
		Technological		yes	Yes		
		Due to prevailing practice		no	Yes		
		Other		yes	Yes		
B.5.16. Does the discussion sufficiently take into account relevant national and/or sectoral policies?	1,2,3, 49	Yes. There is no specific legislation (nor a forthcoming law to regulate that issue) demanding specific effluent treatment or GHG control.				☑	☑
B.5.17. Is transparent and documented evidence provided on the existence and significance of these barriers?	1,2,3 ,14, 49	The barriers which are mentioned in the PDD are evidenced by literature references in the Bibliography section. **Corrective Action Request No.9.** However, it is contradictionary to mention regarding anaerobic digesters that "this system is easy to operate.." and later on (in Technological barriers) is indicated that "the lack of knowledge to operate anaerobic digesters was a serious barrier to the adoption of such system in Brazil…". Please revise information provided in "Included scenarios".				CAR 9	☑
B.5.18. Is it appropriately explained how the approval of the project activity will help to overcome the identified barriers?	1,2,3, 49	Yes. The PDD appropriately explains how the approval of the project activity as CDM project will help to overcome the identified barriers.				☑	☑
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 pro-	1, 3,	All formulae used to estimate baseline emissions are described in				☑	☑

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
vided in the methodology are applied by the proposed project activity?	16	section B.4 of the PDD. Formulae used to determine project emissions, leakage and emission reductions are described in section B.6.1 of the PDD		
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, 3, 16	Yes, every one is justified and confirmed onsite.	☑	☑
B.6.1.3. Does the project emissions consist of CO_2 emissions from use of fossil fuels or electricity for the operation of the project activity?	1,2,3,15	There is some use of fossil fuel to pump manure out of barns. However,the amount is negligible and does not impact CER calculations.	☑	☑
B.6.1.4.Are the formulae required for the determination of baseline emissions correctly presented, enabling a complete identification of parameters to be used and / or monitored?	1,3,16	See B.6.1.1	☑	☑
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?	1,3,16	See B.6.1.1	☑	☑
B.6.1.6.Are the formulae required for the determination of emission reductions correctly presented?	1, 3,16	See B.6.1.1	☑	☑
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	1,3,15,16	The list of parameters presented in chapter B.6.2. is considered to be complete	☑	☑

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with regard to the requirements of the applied methodology?					
B.6.2.2.Comment on any line answered with "No"					
Parameter 1: amount of the waste or raw material	---	**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		
Parameter 2: most recent IPCC tier 2 (i.e. Vs, Bo, MCF)	1,2,3,15,16	**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		
		Correct value provided?	Yes		
		Has this value been verified?	Yes		
		Choice of data correctly justified?	Yes		
		Measurement method correctly described?	Yes		

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
Parameter 3 (only for Animal WMS):population and type of animals.	1,2,3,15,16	<table><tr><td>Data Checklist</td><td>Yes / No / NA</td></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>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>Yes</td></tr></table>	☑	☑
B.6.3. *Ex-ante calculation of emission reductions*				
B.6.3.1. Does the emission reduction achieved by the project activity was estimated ex-ante in the PDD by the formulae described in the Methodology?	1,2,3,15,16	The emission reduction achieved by the project activity was estimated ex-ante by using the TIER 2 IPCC approach as described in the methodology. Regarding VS, the project participant applies default values and where possible such default values for VS were adjusted for local, site-specific average animal weight to provide more realistic values for the parameter VS. Even though this approach is not within the TIER 2 approach, it is accepted by the validation team, as it has been already applied in other registered CDM projects.	☑	☑
B.6.3.2. Will the actual emissions reduction achieved by the project during the crediting period be calculated using the for-	1,2,3 14,	The formulae described in the methodology are applied to calculate the actual emissions reduction. **Corrective Action Request No.10.**	CAR 10	☑

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
mulae described in the Methodology?	15, 16	Please correct table B.7 to replace the paramenter Biogas flared by Methane flared.		
B.6.3.3.Is the projection based on the same procedures as used for future monitoring?	1,2,3,11, 12, 15, 16, 18,	Yes, it is.	☑	☑
B.6.3.4.Are the GHG calculations documented in a complete and transparent manner?	1,3,14	See A.4.3.2.	See CAR 7 See CAR 8	☑ ☑
B.6.3.5.If there is more than one component of the project activity, then, are emission reduction calculations provided separately for each component?	----	Not applicable, as CER credits are only claimed for the reduction of methane emissions.	☑	☑
B.6.3.6.Is the data provided in this section consistent with data as presented in other chapters of the PDD?	1,2,3,11, 12, 14 15, 16, 18	See A.4.3.2. and CRs 1 to 4	See CAR 7 See CAR 8 See CR 1-4	☑ ☑ ☑

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Date of Completion: 07/03/2009

Number of Pages: 44

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
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?	1,2,3	The project will definitely result in fewer GHG emissions than the baseline scenario.	☑	☑
B.6.4.2.Is the form/table required for the indication of projected emission reductions correctly applied?	3	Yes. Project emissions, baseline emissions, leakage emissions and emission reductions are indicated in the Table of B.6.4.	☑	☑
B.6.4.3.If the project activity involves more than one component, is separate table included for each of the component.	----	Not applicable.	☑	☑
B.6.4.4.Do these values comply with small-scale criteria for every year?	1,2,3 ,15	Yes. Annual emission reductions are below the limit of 60.000 tCO2e.	☑	☑
B.6.4.5.Is the projection in line with the envisioned time schedule for the project's implementation and the indicated crediting period?	1,2,3 ,14	See A.1.3. and A.3.2.	See CAR 1 See CAR 2	☑ ☑
B.6.4.6.Is the data provided in this section in consistency with data as presented in other chapters of the PDD?	1,2,3 ,11, 12, 14 15, 16, 18	See A.4.3.2.	See CAR7 See CAR8 See CR 1-4	☑ ☑ ☑

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
B.7. Application of the monitoring methodology and description of the monitoring plan				
B.7.1. *Data and parameters monitored*				
B.7.1.1. Will the yearly emission reductions be the direct measurement of the amount of methane fuelled or flared?	3,15	The yearly emission reductions will be the direct measurement of the amount of biogas flared.	☑	☑
B.7.1.2. Will the amount of methane recovered and fuelled or flared be monitored ex-post using flow meters?	1,2,3,15	Yes, flow meters will be used, according to PDD.	☑	☑
B.7.1.3. Will the fraction of methane in the biogas be measured with a continuous analyser or, alternatively, with periodical measures at a 95% confidence level.	1,2,3,15	Fraction of Methane will be measured and recorded on a daily basis,according to PDD.	☑	☑
B.7.1.4. If the project activity includes an enclosed flare, one of the two following options shall be used to determine the efficiency of the flaring process: a. to adopt a 90% default value or b. to perform a continuous monitoring of the efficiency.	1,2,3,14,15,23	**Corrective Action Request No.11.** Please provide evidence that contacts and procurement of enclosed flare has already started and that this type of flare is likely to be used in the project. | Enclosed flare checklist	Yes / No / NA | | Option discussed in the PDD? | Yes | | Compliance provable? | no | | Compliance verified? | yes |	CAR 11	☑
B.7.1.5. If option a. is chosen, will a continuous check of compliance with the manufacturer's specification of the flare device be done? Is it included in the PDD?	1,2,3,14,15	See B.7.1.4.	See CAR 11	☑

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
B.7.1.6. If option b. is chosen, will the Methodological Tool to determine project emission from flaring gases containing methane be used? Is it included in the PDD?	---	Not applicable, as option (a) is chosen.	☑	☑
B.7.1.7. If the project activity includes an open flare, will the 50% default value be used? Is it included in the PDD?	-----	Not applicable, as the project uses an enclosed flare.	☑	☑
B.7.1.8.Is the list of parameters presented in chapter B.7.1 considered to be complete with regard to the requirements of the applied methodology?	1,2, 3,15	The list of parameters is considered to be complete.	☑	☑
B.7.1.9.Comment on any line answered with "No"				
Parameter 1: biogas flow	1,2,3 ,15	<table><tr><td>Monitoring Checklist</td><td>Yes / No</td></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>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>Yes</td></tr><tr><td>Correct reference to standards?</td><td>Yes</td></tr><tr><td>Indication of accuracy provided?</td><td>Yes</td></tr><tr><td>QA/QC procedures described?</td><td>Yes</td></tr><tr><td>QA/QC procedures appropriate?</td><td>Yes</td></tr></table>	☑	☑

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PPD in GSP	Final PDD
Parameter 2: biogas temperature	1,2,3,15			☑	☑
		Monitoring Checklist	Yes / No		
		Title in line with methodology?	Yes		
		Data unit correctly expressed?	Yes		
		Appropriate description of parameter?	Yes		
		Source clearly referenced?	Yes		
		Correct value provided for estimation?	Yes		
		Has this value been verified?	Yes		
		Measurement method correctly described?	Yes		
		Correct reference to standards?	Yes		
		Indication of accuracy provided?	Yes		
		QA/QC procedures described?	Yes		
		QA/QC procedures appropriate?	Yes		
Parameter 3: biogas pressure	1,2,3,15			☑	☑
		Monitoring Checklist	Yes / No		
		Title in line with methodology?	Yes		
		Data unit correctly expressed?	Yes		
		Appropriate description of parameter?	Yes		
		Source clearly referenced?	Yes		
		Correct value provided for estimation?	Yes		
		Has this value been verified?	Yes		
		Measurement method correctly described?	Yes		
		Correct reference to standards?	Yes		
		Indication of accuracy provided?	Yes		

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PPD in GSP	Final PDD
		QA/QC procedures described?	Yes		
		QA/QC procedures appropriate?	Yes		
Parameter 4: fraction of CH_4	1,2,3,15			☑	☑
		Monitoring Checklist	Yes / No		
		Title in line with methodology?	Yes		
		Data unit correctly expressed?	Yes		
		Appropriate description of parameter?	Yes		
		Source clearly referenced?	Yes		
		Correct value provided for estimation?	Yes		
		Has this value been verified?	Yes		
		Measurement method correctly described?	Yes		
		Correct reference to standards?	Yes		
		Indication of accuracy provided?	Yes		
		QA/QC procedures described?	Yes		
		QA/QC procedures appropriate?	Yes		
Parameter 5: flare efficiency	1,2,3,15			☑	☑
		Monitoring Checklist	Yes / No		
		Title in line with methodology?	Yes		
		Data unit correctly expressed?	Yes		
		Appropriate description of parameter?	Yes		
		Source clearly referenced?	Yes		
		Correct value provided for estimation?	Yes		
		Has this value been verified?	Yes		

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PPD in GSP	Final PDD
		Measurement method correctly described?	Yes		
		Correct reference to standards?	Yes		
		Indication of accuracy provided?	Yes		
		QA/QC procedures described?	Yes		
		QA/QC procedures appropriate?	Yes		
Parameter 6: combusted gas	1,2,3,15	Monitoring Checklist	Yes / No	☑	☑
		Title in line with methodology?	Yes		
		Data unit correctly expressed?	Yes		
		Appropriate description of parameter?	Yes		
		Source clearly referenced?	Yes		
		Correct value provided for estimation?	Yes		
		Has this value been verified?	Yes		
		Measurement method correctly described?	Yes		
		Correct reference to standards?	Yes		
		Indication of accuracy provided?	Yes		
		QA/QC procedures described?	Yes		
		QA/QC procedures appropriate?	Yes		
Parameter 7: fraction of time in which the gas is combusted in the flare	1,2,3,15	Monitoring Checklist	Yes / No	☑	☑
		Title in line with methodology?	Yes		
		Data unit correctly expressed?	Yes		
		Appropriate description of parameter?	Yes		

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PPD in GSP	Final PDD
		Source clearly referenced?	Yes		
		Correct value provided for estimation?	Yes		
		Has this value been verified?	Yes		
		Measurement method correctly described?	Yes		
		Correct reference to standards?	Yes		
		Indication of accuracy provided?	Yes		
		QA/QC procedures described?	Yes		
		QA/QC procedures appropriate?	Yes		
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?	1,2,3 ,15	Yes, section 7.2 and Annex 4 clearly describes them.		☑	☑
B.7.2.2.Are responsibilities and institutional arrangements for data collection and archiving clearly provided?	1,2,3 ,15	Yes, section 7.2 and Annex 4 clearly describes them.		☑	☑
Full fit the following check lists concerning the data that should be described in the PDD and monitored during he crediting period, and comment on at least every line answered with "No					
B.7.2.3. The method for integration of the terms in equation of the methodology to obtain the results for one year of measurements within the confidence level.	1,2,3 ,15	Monitoring checklist / Described in the PDD? / Will be monitored during the crediting period?	Yes / No / Yes / Yes	☑	☑
B.7.2.4. Methods and instruments used for metering, recording and processing the data obtained.	1,2,3 ,15	Monitoring checklist / Described in the PDD? / Will be monitored during the crediting period?	Yes / No / Yes / Yes	☑	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
B.7.2.5. In case of soil application of the final sludge, is the proper application (not resulting in methane emissions) included in the monitoring plan?	1,2,3 ,15	The item "proper application of the final sludge" is mentioned in B.7.1. and B.7.2. of the PDD.	☑	☑
B.7.2.6. Are on-site inspections for each verification period for each individual farm included in the monitoring plan?	1,2,3 ,15	The information that on-site inspections for each verification period will be realized by AMAZON is mentioned in the PDD.	☑	☑
B.7.2.7.If the project activity is under a programme of activities, are the conditions for use of this methodology in a project activity under a programme of activities applied?	---	Not applicable.	☑	☑
B.7.2.8.Does the monitoring plan provide current good monitoring practice?	1,2,3 ,15	Yes, see B.7.2.3.-B.7.2.6.	☑	☑
B.7.2.9.If applicable: Does annex 4 provide useful information enabling a better understanding of the envisioned monitoring provisions?	1,2,3 ,15	Yes, it does	☑	☑
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?	1,2,3	Yes, it has been determined in 18/02/2008	☑	☑
B.8.1.2.Has dd/mm/yyyy format been used to indicate the date.	3	yes	☑	☑
B.8.1.3.Is this consistent with the time line of the PDD history?	1,2,3 ,14	See A.3.2.	See CAR 2	☑

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
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?	1,2,3	The PDD informs that Amazon Carbon S/S Ltda. has been responsible for the application of the baseline and monitoring methodology. This is consistent with the actual situation.	☑	☑
B.8.1.5. Is information provided whether this person / entity is also considered a project participant?	1,2,3	Yes. Amazon Carbon S/S Ltda. is project participant.	☑	☑
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?	1,2,3 ,14	Starting date is 01/05/2008 and operational lifetime is 25 years, but starting date may change because some contracts between farmers and Amazon Carbon as well as Avesuy and Amazon have still to be submitted. See A.1.3. and A.3.2.	See CAR 1 See CAR 2	☑ ☑
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)?	1,2,3	The crediting period is defined as fixed crediting period of 10 years. It seems to be reasonable.	☑	☑
C.2.2. Has dd/mm/yyyy format been used to indicate the start date of the crediting period.	3	Yes	☑	☑

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
D. Environmental impacts				
D.1. If required by the host Party, documentation on the analysis of the environmental impacts of the project activity:				
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	1,2,3	There is no EIA necessary for this kind of project activity.	☑	☑
D.1.2. Has the analysis of the environmental impacts of the project activity been sufficiently described?	1,2,3	Yes. The analysis of the environmental impacts of the project activity has been sufficiently described. There are only positive environmental impacts.	☑	☑
D.1.3. Will the project create any adverse environmental effects?	1,2,3	There are no adverse environmental effects related due to the project activity.	☑	☑
D.1.4. Were transboundary environmental impacts identified in the analysis?	1,2,3	There are no transboundary environmental impacts related with the project activity, as stated in section D.1.	☑	☑
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?	1,2,3	Yes. Only positive environmental impacts are related with the project activity.	☑	☑
D.2.2. Does the project comply with environ-	1,2,3 ,4,14	**Corrective Action Request No.12.** 1. Granja Brandalize License presented L.A.O. 265/05 valid until	CAR12	☑

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
☑ mental legislation in the host country?	, 24, 25, 31 37, 38, 39, 42	14/06/08. However it allows for only 1500 heads.	CAR13	☑
		2. A new environmental license should be presented, allowing for the higher number of heads, as described in the PDD.	CAR14	☑
		3. Granja Coqueiros do R. Doce, Environmental License 472/2006, valid 17/05/2008. An extension of the license is requested as it is likely that the current one will expire prior to validation of the project as CDM.	CR 5 CR 6 CR 7	☑ ☑ ☑
		4. Granja Capim, please correct dimension of lagoons as **3** lagoons (1849x2/2025x2/2184x2) – area x depth, as measured with GPS		
		Corrective Action Request No.13.		
		Dimensions of the 2nd lagoon of Faz. Martelli should be added into the PDD.		
		Corrective Action Request No.14.		
		Faz. Pompermaier environmental license allows less animals that what is presented in the PDD. Please provide new environmental license or reduce number of heads in the PDD.		
		Clarification Request No.5.		
		State law established that lagoons should be lined or compacted. At Granja Capim neither is done, and no waver to this obligation has been presented to the validation team. Please clarify in what grounds the lagoons comply with legislation.		
		Clarification Request No.6.		
		Please provide copy of Environmental Licenses or equivalent for farms Chapecozinho, Pompermeier and Pasqual.		
		Clarification Request No.7.		

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
		Please provide calculation of anaerobic lagoon system retention times for farms Coopermil, Chapecozinho and Brandalize, as in those farms the system is not sequential and it is not possible to know how much manure flows into each lagoon (PDD is not specific enough).		
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?	1,2,3	**Clarification Request No.8.** Please provide evidence that local stakeholder meetings have happened, or invitations for comments have been sent.	CR 8	☑
E.1.2. Have appropriate media been used to invite comments by local stakeholders?	1,2,3	See E.1.1.	See CR 8	☑
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?	1,2,3	The Brazilian DNA gives guidance how the local stakeholder process has to be conducted. See E.1.1.	See CR 8	☑
E.1.4. Is the undertaken stakeholder process that was carried out described in a complete and transparent manner?	1,2,3	See E.1.1.	See CR 8	☑
E.2.Summary of the comments received				
E.2.1. Is a summary of the received stakeholder comments provided?	1,2,3, 26,	**Clarification Request No.9.** Please provide an example of email with comments received from stakeholders.	CR 9	☑

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
	44, 45, 48			
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?	1,2,3 48	No negative comments were received, according to PDD. An example of written comment is requested. See E.2.1.	See CR 9	☑
F. Annexes 1 - 4				
F.1. Annex 1: Contact Information				
F.1.1. Is the information provided consistent with the one given under section A.3?	1,2,3	The information provided in Annex 1 is consistent with the one given in section A.3.	☑	☑
F.1.2. Is the information on all private participants and directly involved Parties presented?	1,2,3	Yes. Information on all private participants is presented.	☑	☑
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?	1,2,3	No public funding is involved. This information is consistent with the actual situation presented by the project participant.	☑	☑
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?	1,2,3	Not applicable.	☑	☑

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
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 sections of the PDD?	1,2,3 ,11, 12, 14, 16, 18	Yes. The information is consistent with data presented by other sections of the PDD. However, see A.4.3.2.	See CAR7 See CAR8	☑ ☑
F.3.2. Is the data provided verifiable? Has sufficient evidence been provided to the validation team?	1,2,3 ,11, 12, 14, 16, 18	See A.4.3.2.	See CAR7 See CAR8	☑ ☑
F.3.3. Does the additional information substantiate / support statements given in other sections of the PDD?	1,2,3 ,11, 12, 14, 16, 18	The additional information supports statements given in other sections of the PDD. However, see A.4.3.2.	See CAR7 See CAR8	☑ ☑
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 sections of the PDD?	1,2 3,15	Yes. Information is consistent with data presented in other sections of the PDD. See B.7.2.3. through B.7.2.9.	☑	☑

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F.4.2. Is the information provided verifiable? Has sufficient evidence been provided to the validation team?	1,2 3,14, 15	The provided information is verifiable and sufficient evidence has been provided to the validation team. However, see B.7.1.4.	See CAR 11	☑
F.4.3. Do the additional information and / or documented procedures substantiate / support statements given in other sections of the PDD?	1,2 3, 14, 15	The additional information substantiates statements given in other sections of the PDD. However, see B.7.1.4.	See CAR 11	☑

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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
Corrective Action Request			
Corrective Action Request No.1. Starting date of Project Activity should be after the signature of the first contract with farms participating in the project or with Avesuy, whatever comes first. Such signed contract has still to be presented for farms Chapecozinho, Pompermeier and Pasqual. Please correct starting date of project activity according to missing contracts or according to the purchase contract with Avesuy, whatever is first.	A.1.3	Answer 02.04.08: All contracts were presented to the auditing team. The starting date of the project activity is after the last signed contract. Granja Pasqual has been excluded from the project activity. Answer 14.04: The starting date of the Project activity was changed to 01/11/2007, the date of the first signed contract between Amazon Carbon and a participating farm (Fazenda Martelli III). Evidence on this date were sent to the auditing team (contrato Faz Martelli III.pdf	The starting date of the project activity should be the date of the first signed contract with one of the farms or Avesuy, not the last contract signed. Please correct this and inform what is the first contract signed. The starting date has been corrected in the PDD and **CAR 1 is resolved.** ☑
Corrective Action Request No.2. A contract between farms Chapecozinho, Pompermeier, Pasqual and Amazon Carbon dully signed has to be presented to confirm the voluntary participation in the PDD.	A.3.2	Answer 02.04.08: All contracts were presented to the auditing team. Granja Pasqual has been excluded from the project activity.	All contracts have been produced and **CAR 2 is resolved.** ☑
Corrective Action Request No.3. 1. Please update address of Amazon Carbon in the PDD 2. Please correct address of Fazenda Martinelli III to Rodovia MT 338, km 120 +13, caixa postal 04.	A.4.1.1	Answer 02.04.08: 1. The information was updated as requested 2. The information was corrected as requested 3. Faz Brandalize was excluded from the project activity 4. Information was corrected as requested.	4. Coopermil address has to be corrected also on Annex 1 table. 7. Contact details of site Rincao dos Rochas should be added to Annex 1 of the

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3. Faz. Brandalize address should be corrected to Linha Passo Ferraz s/n 4. Granja Coopermil address should be corrected to Linha Lajeado Bonito s/n 5. PDD session 4.1.4 should be corrected for Faz. Martinelli III regarding lagoons. There are 2 lagoons onsite, one measuring 2,5x61x35m, the other 24 (diameter) x 2. 6. Name of Granja Brandalize should be corrected to match license and other docs. 7. Name of site Rincao dos Rocha should be changed to Rincao dos Rochas. 8. Address of Granja Sto. Angelo should be corrected to Estrada Colonia das Almas s/n 9. Description of G. Sto. Angelo should be corrected for number of Barns 21 , 3 more in construction, and 11 lagoons, 10 in operation (depth 2,5 for all, other dimensions 30x27/40x28/41x23/25x22/27x22/46x22/40x30/44x22/28x27/28x30).		5. Information was corrected as requested. 6. Granja Brandalize was excluded from the project activity. 7. Information was corrected as requested. 8. Information was corrected as requested. 9. Information was corrected as requested. Answer 14.04: 4. In Annex I, contact information of Coopermil is related to Coopermil head office. In the Head Office, data and relevant documentation of the farm is stored and processed. 7. Contact details of the farms were added as requested. 8. See item 7, above.	PDD. 8. Contact details of site Faz. Santo Angelo should be added to Annex 1 of the PDD. All corrections were made in the last submitted PDD and **CAR 3 is resolved.** ☑
Corrective Action Request No.4. Please add biodigester GPS coordinates of Fazenda Chapecozinho and Granja Pompemaier, and use biodigester GPS coordinates for all other farms in the PDD.	A.4.1.1	Answer 02.04.08:The information was corrected as requested.	Biodigester GPS coordinates have been used in the last submitted PDD and **CAR 4 is resolved.** ☑
Corrective Action Request No.5. Please provide training schedules for people involved in all sites	A.4.2.9	Information on training schedule was sent to the auditing team.	Training schedules have bee submitted and **CAR 5 is resolved.** ☑
Corrective Action Request No.6.	A.4.2.11	Information on project implementation was sent to the	Implementation schedule has

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Please provide project implementation schedule (biodigester commissioning, etc..) for all participating farms. In the case that project´s starting date is before the validation date, CDM consideration should be included into the project´s implementation schedule.		auditing team. The project starting date is prior to the start of the validation date.	been submitted. The first contract signed between Amazon Carbon and one of the farms on the PDD (F. Martelli III) has been signed prior to validation and it is the reference for the Project Starting Date. Such contract clearly states the CDM intention for the project development. **CAR 6 is resolved.** ☑
Corrective Action Request No.7. 1. For Fazenda Martinelli, number of heads have to be corrected. 2. For Coopermil, number of heads should be corrected to match evidences presented 3. For Cambrasil,, number of heads should be corrected to match evidences presented 4. For Faz. Coqueiros do R. Doce, number of heads should be corrected to match evidences presented 5. For G. Pasqual, please provide evidences for the number of heads. 6. For G. Capim number of heads should be corrected to match evidences presented, environmental license should be presented allowing increasing number of heads, and an load factor of 86% should be used on the license allowed number of heads to reflect	A.4.3.2	Answer 02.04.08: 1.The information was corrected as requested. 2. The information was corrected as requested. 3. The information was corrected as requested. 4. The information was corrected as requested. 5. Granja Pasqual has been excluded from the project activity. 6. The information was corrected as requested.The environmental licenses allowing the increase on animal population was sent to the auditing team. Load factors have been used accordingly. 7. The information was corrected as requested. 8. Evidences were sent to the auditing team. Granja Pasqual was excluded from the project activity. Answer 14.04: 6. Information was corrected as requested.	6. On PDD table B.1, for Granja Capim, total livestock less than population in nursery. Please correct this discrepancy. 8. For farm Chapecozinho, please provide evidence that average days in confinement is 110. For Pompermaier, please provide copy of expiring License as evidence for historical number of heads. Validation Team 18.04: 8. Protocol 22099 of request

past load of barns. 7. For Fazenda R. dos Rochas, number of heads should be corrected in the PDD to match evidences presented. 8. Please provide historical evidence to support the number of heads used in the PDD for farms Chapecozinho, Pompermeier and Pasqual.		8. A declaration from COOPER ALFA on the average days in confinement was sent to the auditing team (declaração Faz Chapecozinho.pdf).COOPER ALFAis the responsible for providing piglets and receiving finishers from Faz Chapecózinho. COOPER ALFA is also responsible for monitoring the number of animals for Faz Chapecózinho. The number of days indicated by COOPER ALFA (110 days)is in accordance to Good practice guidance for Finishing Units in Brazil (see Boas práticas EMBRAPA.pdf, item 6.8, page 17 - 18). Residence time of animals in FU is usually 90 – 120 days, depending on the desired final weight of finishers . This value is also similar to the residence time in Fazenda Coqueiros do Rio Doce (112 days), also a Finishing Unit. The environmental license for the installation of Granja Pompermaier was sent to the auditing team (Licença Instalação Pompermaier.pdf), This license allows for 2000 animals, as the farm only used to receive one lot of 1 100 animals. The farm has submitted on 14/02/2008 a license to encompass the complete livestock. Answer 22.04: Documents on the area owned by Mr. Pompermaier and leasing contracts were sent to the auditing team (Dados Granja Pompermaier.pdf). In such documents, it is possible to determine that the areas leased consist exclusively of cropping areas. Hence, the area owned by Mr. Pompermaier includes the barns and the lagoons,	for License for Installation of F. Pompermaier, on page 3, it is stated that 34% of the farm is leased. Please provide details of leasing contract (expiry date, whether area leased includes barns and/or lagoons). Evidences for number of heads have been submitted for all farms, calculations were checked and **CAR 7 is resolved for Validation.** ☑ **However, for the First Verification, the exact location of Biodigester to be built will be checked to see whether it is on leased land.**
Corrective Action Request No.8.	A.4.3.2	Answer 02.04: 1. Consistent information is now de-	1. OK

1. The figure for total estimated emission reductions is not consistent between A.2. and A.4.3. and B.6.4). Please provide consistent information. 2. Please revise Emissions Reductions spreadsheet for possible mistakes causing differences with figures presented on B.6.4 of PDD.		scribed in the PDD. 2. Information was corrected as requested. Answer 14.04: Spreadsheets are correct. Evidences on the number of days in confinement for Fazenda Chapecózinho were sent to the auditing team (as described in CAR 7). The number of animals in the calculation spreadsheet of Granja Capim was correct. This value was corrected on Table B.6.1.	2. spreadsheets should be corrected according to adjustments on CAR 7. Emissions figures were corrected on the last submitted PDD, new calculation submitted and **CAR 8 is resolved.** ☑
Corrective Action Request No.9. However, it is contradictionary to mention regarding anaerobic digesters that "this system is easy to operate.." and later on (in Technological barriers) is indicated that "the lack of knowledge to operate anaerobic digesters was a serious barrier to the adoption of such system in Brazil…". Please revise information provided in "Included scenarios".	B.5.1.7	Answer 02.04: The sentence "this system is easy to operate" was excluded from 'included scenarios' since it is not accurate.	Argument has been clarified and **CAR 9 is resolved.** ☑
Corrective Action Request No.10. Please correct table B.7 to replace the paramenter Biogas flared by Methane flared.	B.6.3.2	Answer 02.04: The information was corrected as requested.	Parameter has been corrected in the last submitted PDD and **CAR 10 is resolved.** ☑
Corrective Action Request No.11. Please provide evidence that contacts and procurement of enclosed flare has already started and that this type of flare is likely to be used in the project.	B.7.1.4	Answer 02.04: The requested information was sent to the auditing team .	A declaration of the flare supplier has been submitted, showing procurement has been done. **CAR 11 is resolved.** ☑
Corrective Action Request No.12. 1. Granja Brandalize License presented L.A.O. 265/05 valid until 14/06/08. However it	D.2.2	Answer 02.04: 1. Granja Brandalize has been excluded from the project activity.	Licenses have been submitted, corrections of lagoons systems were done in the last

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allows for only 1500 heads. 2. A new environmental license should be presented, allowing for the higher number of heads, as described in the PDD. 3. Granja Coqueiros do R. Doce, Environmental License 472/2006, valid 17/05/2008. An extension of the license is requested as it is likely that the current one will expire prior to validation of the project as CDM. 4. Granja Capim, please correct dimension of lagoons as **3** lagoons (1849x2/2025x2/2184x2) – area x depth, as measured with GPS.		2. Granja Brandalize has been excluded from the project activity. 3. Evidence on the extension of the license was sent to the auditing team 4. The information was corrected as requested.	submitted PDD and **CAR 12 is resolved.** ☑
Corrective Action Request No.13. Dimensions of the 2nd lagoon of Faz. Martelli should be added into the PDD.	D.2.2	Answer 04.02: The information was added as requested.	Correction of lagoon has been made and **CAR 13 is resolved.** ☑
Corrective Action Request No.14. Faz. Pompermaier environmental license allows less animals that what is presented in the PDD. Please provide new environmental license or reduce number of heads in the PDD.	D.2.2	Answer 04.02: Please see License protocol submitted (licença pompermaier.pdf) Answer 14.04: The environmental license for Granja Pompermaier was sent to the auditing team, as explained in CAR 7.	Please provide copy of expiring License. License protocol has been submitted and **CAR 14 is resolved.** ☑
Clarification Requests			
Clarification Request No.1. For Fazenda Brandalize, evidences for the number of heads used in the PDD have to be presented	A.4.3.2	Answer 02.04: Granja Brandalize has been excluded from the project activity.	Farm has been excluded from the last submitted PDD and **CR 1 is resolved.** ☑

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Clarification Request No.2. For Fazenda Brandalize, a document of the Genetics of animals should be presented.	A.4.3.2	Answer 02.04: Granja Brandalize has been excluded from the project activity.	Farm has been excluded from the last submitted PDD and **CR 2 is resolved.** ☑
Clarification Request No.3. For Fazenda Brandalize, an evidence of a management system for feedstock formulae should be presented.	A.4.3.2	Answer 02.04: Granja Brandalize has been excluded from the project activity.	Farm has been excluded from the last submitted PDD and **CR 3 is resolved.** ☑
Clarification Request No.4. 1. For Faz.Martelli III, please inform what is the software used for control of number of heads, and provide an evidence that the data supplied for validation comes directly from this database and is not treated. 2. Please provide historical evidence to support the number of heads used in the PDD for farms Chapecozinho, Pompermeier and Pasqual.	A.4.3.2	Answer 04.02: In Fazenda Martelli, a software called *Pigmaster*, made by the Brazilian company *Agrimaster is used.* Data supplied during the onsite visit was ttaken directly from this software. Please note 'monitor.rpt' on the botton right corner of data provided. Answer 14.04: In the evidence provided, the name 'Granja Martelli', is clearly displayed on the upper part . Granja Martelli is how the farm personnel refer to Fazenda Martelli III. This report was printed by Mr. Wilson Martelli (Faz. Martelli III manager) during the onsite visit and presented directly to the auditor. Historical evidence on the number of head for Granja Pompermaier was provided to the auditing team, as described on CAR 7 (dados pompermaier.pdf). Answer 22.04: A declaration from Mr. Martelli was sent to the auditing team, clarifying this issue (Declaração Martelli.pdf).	1. In the evidence provided, one cannot find any information indicating that such evidence is related to Faz. Martelli III. Please provide a clearer evidence. Validation Team 18.04.08: Please provide evidence that the name G. Martelli, as appears in the form presented, refers to F. Martelli III, and not to another farm of the same owner. 2. See CAR 7. Evidence for number of

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				heads and details of animals control have been submitted and **CR 4 is resolved.** ☑
Clarification Request No.5. State law established that lagoons should be lined or compacted. At Granja Capim neither is done, and no waver to this obligation has been presented to the validation team. Please clarify in what grounds the lagoons comply with legislation.	D.2.2		Answer 04.02: Alibem has obtained a license for the increase on installed capacity of Granja Capim on 12/03/2008. In this license, the conditions and restrictions for the operation of the farm are defined. No Compactation of the lagoons was requested by FEPAM (the environmental authority in Rio Grande do Sul), probably due to the natural imperability of the soil.	Argumentation of natural impermeability of the lagoon soil has been used by the environmental agency and can be accepted by the validation team. **CR 5 is resolved.** ☑
Clarification Request No.6. Please provide copy of Environmental Licenses or equivalent for farms Chapecozinho, Pompermeier and Pasqual.	D.2.2		Answer 02.04: Granja Pasqual was excluded from the project activity. Documents related to the Environmental licenses of Fazenda Chapecózinho and Granja Pompermaier have been sent to the auditing team.

Answer 14.04: Expiring license was submitted to the auditing team, as described on CAR 7 (licenças pompermaier.pdf). | Only the Request for new License of Pompermaier has beed submitted. As the farm is operating for some time already, please provide expiring License. G. Pasqual has been excluded from the last submitted PDD and licenses for other farms have been submitted. **CR 6 is resolved.** ☑ |
| **Clarification Request No.7.** Please provide calculation of anaerobic lagoon system retention times for farms Coopermil, Chapecozinho and Brandalize, as in those farms the system is not sequential and it is not possible to know how much manure | D.2.2 | | Answer 02.04: A calculation sheet was sent to the auditing team. The description of this item was altered in the PDD. Granja Brandalize was excluded from the project activity. | Spreadsheet calculations of lagoons retention times have been submitted. Calculations show that even when using conservative assumptions for non sequential lagoons are |

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flows into each lagoon (PDD is not specific enough). ☑			used, retention time is within required limits. **CR 7 is resolved.** ☑
Clarification Request No.8. Please provide evidence that local stakeholder meetings have happened, or invitations for comments have been sent.	E.1.1	Answer 02.04: evidence that local stake holders were invited for commenting was sent to the auditing team	Proofs of mail delivery of invitations have been submitted and **CR 8 is resolved.** ☑
Clarification Request No.9. Please provide example of email with comments received from stakeholders.	E.2.1	Answer 02.04: No e-mails commenting the project activity were received. Answer 14.04: Copy of letter sent to stakeholder was sent to the auditing team (stakeholder invitation.pdf). Answer 22.04: An e-mail message sent by the auditing team as a test was replyed on 22.04.2008.	Please provide a copy of the letter sent to stakeholders, inviting them to comment the project. Validation team 18.04.08 Copies of letters were received, and they make reference to the company website for stakeholders to get access to the Project design, and send comments by email. Please react to the test made on the website by the validation team. Invitation letter has been submitted to the validation team. Website system for sending comments about the project has been tested and works. **CR 9 is resolved.** ☑

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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
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Annex 2: Information Reference List

Reference No.	Document or Type of Information
1	On-site interview at "ALIBEM" by auditing team of TÜV SÜD **Validation team:** 　　Johann Thaler　　　　　　　　　　TÜV SÜD Industrie Service GmbH **Interviewed persons:** 　　Date: 10.3.2008 　　Representatives of ALIBEM: 　　Arno Tyllmann – Engineer 　　Laides Hoffmann – Environmental Consultant 　　Pietro F. Pelizzaro – Veterinary 　　Representatives of **Amazon**: 　　Thiago Othero, Project Director
2	On-site interviews at the farms (05 to 12.03.2008): Granja Cambrasil – Roberto Gelsolail, Marcos Schneider- Supervisors Granja Santo Angelo – Claudio Flech - manager Granja Brandalize – Ivair Brandalize - owner Granja Coopermil – Gabriel Weber, Milton Aliegg – manager Faz. Martelli III – Wilson Martelli – manager, Flavio Cavallari – Amazon Carbon Field Manager Faz. Coqueiros do R. Doce - Odvar Pessenti – manager, Flavio Cavallari, Amazon Carbon Field Manager
3	Project Design Document "Amazon Carbon Swine Waste Management System ", version 01, 19.02.2008

Reference No.	Document or Type of Information
4	Environmental licenses (presented during the on-site visits): - Brandalize – License L.A.O. 265/05 valid until 14.6.08 - Coopermil – Fepam license 6116/2007-DL - Coqueiro do R. Doce – License 472/2006 valid 17.05.08 - Cambrasil – Protocol 3779/2007 of 07.08.06 valid 4.10.09 - Capim, Rincao dos Rochas and Santo Angelo, all with same Fepam license protocol 021288056706-02 - Martelli III - Protocol dated 07-08-06
5	Land registers of the farm sites, paper-copies, presented at Alibem and other farms visits.
6	Signed Contracts between farms and Amazon Carbon establishing benefits and obligations for voluntary participation. Contracts presented during onsite visits, and Alibem contract for R. Rochas, S. Angelo, Capim and Cambrasil sent by email on 28.03.08. Contract for G. Chapecozinho and Pompermaier sent by email on the beginning of April 08.
7	Feedstock formulas presented during onsite visits
8	First Brazilian inventory of greenhouse gas emissions (Primeiro Inventario Brasileiro de emissoes antropicas de gases de efeito estufa), Science and Technology ministry, 2006, paper-copy, submitted during the on-site visits.
9	Certificates of Genetic origin of animals, presented during onsite visits.
10	Schedule for implementation of biodigesters, training schedule and declaration sent by Avesuy on the 7th of April 2008., pdf files "Declaraçao Equipamentos", "Declaraçao Avesuy Cronograma e Biodigestores", "Declaracao Avesuy treinamento e flare". Submitted by email on 8/4/08 to the validation team.
11	Records of number of heads of the farms, paper-copies , presented during onsite visits and or later by email.
12	On-site questionnaires for the farms, filled out during the on-site audit.
13	Technical plans about the biodigesters, paper-copies, presented during the on-site visits.
14	PDD version 2, dated 07/04/2008.

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Reference No.	Document or Type of Information
15	Methodology AMS III-D: methane recovery in agricultural and agro industrial activities, version 13.
16	IPCC: Revised 2006 Guidelines for National Greenhouse Gas Inventories
17	IPCC: 2000, Good Practice Guidance
18	Emission reductions calculation excel-sheets, first versions submitted on February 2008.
19	Measurement of GPS coordinates during the on-site audits in March/2008.
20	Attachment A to Appendix B of the simplified modalities and procedures for small-scal CDM project activities.
21	Validation and Verification Manual, IETA/World Bank (PCF), http://www.vvmanual.info
22	Emission reductions calculation excel-sheets, last versions submitted on 01/07/2008.
23	Declaration signed on the 7/04/2008 by the supplier Avesuy stating that the flares to be installed on each farm will be enclosed. Pdf file "declaracao Avesuy treinamento e flare", submitted 8/4/08 by email to the validation team
24	Copy of Installation License of Granja Capim, issued on the 12/03/2008. pdf file "LI de ampliacao Capim" sent by email to the validation team on 31/3/08
25	Spreadsheet calculation provided by Amazon Carbon in April 08, showing calculation of retention time for Coopermil and Chapecozinho. Exel file "Retention time" submitted by email on 3/4/08 by email to the validation team.
26	Copy of mail receipts, provided by Amazon Carbon as evidences that invitations were sent to local stakeholders. Jpg files "Aviso de Recebimento" submitted on 3/4/08 by email to the validation team.
27	Technical specifications, Pressure Transmitter LD301, pdf-file, submitted during the on-site visits.
28	Technical specifications, Roots Meter, pdf-file, submitted during the on-site visits.
29	National Standards, INMETRO, N° 114 from 16.10.1997, pdf-file, submitted during the on-site visits.
30	International Recommendation, OIML R 32, 1989, International Organization of legal metrology, pdf-file, submitted during the on-site visits.
31	Fepam License nr. 227/2008-DL allowing the increase in nr. of heads at nursery by 8000 animals. pdf file "LI de ampliacao – Capim" sent

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Reference No.	Document or Type of Information
	on 31/3/08 by email.
32	First Brazilian Inventory of anthropogenic greenhouse gas emissions, Background reports, EMBRAPA, MST, 2002, pdf-file, submitted during the on-site visit.
33	EMBRAPA Solids Separator1, pdf-file, submitted on April 22, 2008.
34	EMBRAPA Anaerobic lagoon1, pdf-file, submitted on April 22, 2008.
35	EMBRAPA Anaerobic digester1, pdf-file, submitted on April 22, 2008.
36	Fepam License 1062/2007-DL allowing a complete cycle activity with 3850 piglets and 1000 sows, pdf file "lincenca de instalacao de ampliacao – Granja Santo Angelo" sent on 31/3/08 by email.
37	SEMARH Receipt for request of new Operation License for Faz. Coqueiro do Rio Doce. Jpg files "licence renovacao coqueiros rio doce" submitted on 4/4/08 by email to the validation team.
38	Request for new Operating License of G. Pompermaier, dated 14/02/2008. pdf file "Licenca Pompermaier", submitted on 14/4/08 by email to the validation team.
39	Revised PDD, version 3 of 18th of April 2008, word file submitted by email to the validation team.
40	Declaration of Cooperalfa, dated 15/04/2008, that the average days in confinement for Faz. Chapecozinho is 110 days. Pdf file "declaracao faz. Chapecozinho" submitted on 15/4/08 by email to the validation team.
41	Pdf file "Embrapa Guidance to Good Practice for finishing units", item 6.8, page 17-18, submitted on the 15/04/2008 by email to the validation team
42	Environmental License for Installation of F. Pompermaier, LAI 031/07, pdf file "licencas Pompermaier" submitted on 17/4/08 by email to the validation team.
43	Protocol 22099 of request for License for Installation of F. Pompermaier. pdf file "licencas Pompermaier" submitted on 17/4/08 by email to the validation team.
44	Amazon Carbon Website www.amazoncarbon.com.br
45	Copies of Letters sent for comments of local Stakeholder (stakeholder invitation.pdf), sent by email on 15/4/08 to the validation team.

Reference No.	Document or Type of Information
46	Leasing Contracts for F. Pompermaier. Pdf file "dados granja pompermaier" sent by email on 22/4/08 to the validation team.
47	Declaration by F. Martelli III owner stating that the name on the control of number of heads refers to F. Martelli III. Pdf file "declaracao Martelli" sent on 22/4/08 by email.
48	Reply to email sent on 22/4/08 through Amazon Carbon website, on the link available for stakeholder comments on the PDD.
49	Article "Biodigestores: Avanços e Retrocessos, by Airton Kunz, C. C. Perdomo, P. Armando de Oliveira, published in 2004, pdf file submitted on 06/05/08 in Portuguese and English language.
50	Evidence for CDM consideration: Contract between Amazon Carbon and G. Martelli III submitted to the validation team on the 18/04/08 in Portuguese and part of the contract in English language.
51	Final Project Design Document, version 08.1, dated 03/03/2009, submitted in March 2009.
52	Declaration given by Avesuy about costs of biodigesters, pdf-file, submitted on 07/05/08.
53	Manufacturer´s specifications of flare, submitted per Email on 03/03/2009.
54	Tool to calculate project or leakage CO2 emissions from fossil fuel combustion, version 2.
55	Tool to calculate the emissions factor for an electricity system, version 01.1.

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