



Industrie Service

Choose certainty.
Add value.

Validation Report

**SITRADE
Ivory Coast**

VALIDATION OF THE CDM-PROJECT:

**ABIDJAN MUNICIPAL SOLID WASTE-TO-ENERGY
PROJECT**

REPORT NO. 1130181

June 15, 2008

TÜV SÜD Industrie Service GmbH
Carbon Management Service
Westendstr. 199 - 80686 Munich – GERMANY

Report No.	Date of first issue	Revision No.	Date of this revision	Certificate No.
1130181	17-02-2008	03	15-06-2009	-

Subject: Validation of a CDM Project			
Accredited TÜV SÜD Unit: TÜV SÜD Industrie Service GmbH Certification Body "climate and energy" Westendstr. 199 – 80686 Munich Federal Republic of Germany		TÜV SÜD Contract Partner: -	
Client: SITRADE 01 BP 4574 Abidjan 01 Les Acacias – 1st floor Republic of Ivory Coast		Project Site(s): City of Bingerville – AKAKRO road – Industrial zone District of Abidjan Republic of Ivory Coast	
Project Title: Abidjan Municipal Solid Waste-To-Energy Project			
Applied Methodology / Version:		AM0025 / version 10	Scopes: 1, 13
First PDD Version: Date of issuance: 2008-02-12 Version No.: 01 Starting Date of GSP 2008-02-20		Final PDD version: Date of issuance: 2009-05-29 Version No.: 05	
Estimated Annual Emission Reduction:		71.760 tons CO ₂ e	
Assessment Team Leader: Thomas Kleiser		Further Assessment Team Members: Robert Mitterwallner Robert Köhn	
Summary of the Validation Opinion: <ul style="list-style-type: none"> <input checked="" type="checkbox"/> 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 or the applied methodology version respectively. <input type="checkbox"/> 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

AM	Approved Methodology
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
COP/MOP	Conference of the Parties/Meetings of the Parties
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)
GSP	Global Stakeholder Process
KP	Kyoto Protocol
MP	Monitoring Plan
NGO	Non Governmental Organisation
PDD	Project Design Document
PP	Project Participant
QA/QC	Quality Assurance/Quality Control
TÜV SÜD	TÜV SÜD Industrie Service GmbH
UNFCCC	United Nations Framework Convention on Climate Change
VVM	Validation and Verification Manual

Table of Contents		Page
1	INTRODUCTION	4
1.1	Objective	4
1.2	Scope	4
2	METHODOLOGY	5
2.1	Appointment of the Assessment Team	6
2.2	Review of Documents	7
2.3	Follow-up Interviews	7
2.4	Resolution of Clarification and Corrective Action Requests	9
2.5	Internal Quality Control	9
3	SUMMARY OF FINDINGS	9
4	REQUEST FOR REVIEW	11
5	COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS	13
6	VALIDATION OPINION	14

Annex 1: Validation Protocol

Annex 2: Information Reference List

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:
Abidjan Municipal Solid Waste-To-Energy Project.

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 Methodology (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.

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 (for further information see <http://ieta.org/ieta/www/pages/index.php?IdSitePage=392>) 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
<i>The checklist is organised in sections following the arrangement of the applied PDD version. Each section is then further subdivided. The lowest level constitutes a checklist question / criterion.</i>	<i>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.</i>	<i>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</i>	<i>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.</i>	<i>Conclusions are presented in the same manner based on the assessment of the final PDD version.</i>

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
<i>If the conclusions from table 1 are either a Corrective Action Request or a Clarification Request, these should be listed in this section.</i>	<i>Reference to the checklist question number in Table 1 where the Corrective Action Request or Clarification Request is explained.</i>	<i>The responses given by the client or other project participants during the communications with the validation team should be summarised in this section.</i>	<i>This section should summarise the validation team's responses and final conclusions. The conclusions should also be included in Table 1, under "Final PDD".</i>

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
<i>If the final conclusions from table 2 results in a denial the referenced request should be listed in this section.</i>	<i>Identifier of the Request.</i>	<i>This section should present a detail explanation, why the project is finally considered not to be in compliance with a criterion.</i>

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 is written in bold letters):

Name	Qualification	Coverage of technical scope	Coverage of sectoral expertise	Host country experience
Thomas Kleiser	ATL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Robert Mitterwallner	A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Robert Köhn	T	<input checked="" type="checkbox"/>		

Thomas Kleiser is a lead auditor for CDM and JI projects at TÜV SÜD Industrie Service GmbH and head of CDM/JI division within TÜV SÜD. In this position he is responsible for the implementation of validation and certification processes for GHG mitigation projects. He has participated in more than 90 CDM and JI project assessments.

Robert Mitterwallner is a GHG-Auditor with a background as auditor for environmental management systems (according to ISO 14001), as expert in environmental permit procedures for industrial plants and as expert for environmental impact studies assessment. He is located at TUV SÜD Industrie Service in Munich since 1990. He has received training in the JI determination as well as CDM validation process and applied successfully as GHG Auditor for the scopes energy industries, manufacturing industries, chemical industries, transport, mining/mineral production, metal production, solvent use and waste handling / disposal.

Robert Köhn is electrical engineer and holds a master in management. As an expert for the energy and manufacturing industries, as well as for ISO 9000 and ISO 14000 systems, he collected 17 years engineering and management experiences in several Asian countries. Located in the TÜV SÜD Hamburg office, he takes responsibility for the regional management in North-East Asia within our Carbon Management Service department. Being a trainee for qualifying as GHG-auditor he has already been involved in several CDM and JI activities

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

On February 26, 2008 to February 28, 2008 TÜV SÜD performed gingerly various interviews on the spot with project stakeholders and checked on-site conditions 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 these on-site visits and interviews.

Name	Organisation
Madam Hevivet	President (1st Lady) of Ivory Coast
Mr. Tayoro Gbotta	Chief of Staff, Presidential Office of Ivory Coast
Mr. Georges Tai Benson	Advisor of the President of Ivory Coast in charge of environmental
Mr. Seka Joseph	Director, ANDE (DNA of Ivory Coast)

Dr. Cissi Mamadou	Director Planning, ANDE (DNA of Ivory Coast)
Ms. Rachel Boti	Managing Director of CDM Projects, ANDE (DNA of Ivory Coast)
Mr. Pierre Djokoi	Public Relation Manager, ANDE (DNA of Ivory Coast)
Mr. Diabate Ousmane	President, SITRADE (Societe Ivoirienne de Traitement des Dechets)
Madam Doho	Assistante of President, SITRADE
Prof. Kabi Gnahowa	Conseiller, SITRADE
Mr. Kouadio Yao Leonard	Director General, SITRADE
Mr. Katier Pierre-Clayer	Engineer, SITRADE
Mr. Beyli Niamien A	Engineer, SITRADE
Mr. N'cho N'guessan Pacome	Engineer, SITRADE
Mr. Fabrice le Saché	Managing Partner, ECOSUR
Mr. Luici Paleari	Representative, PROMECO SPA. (Technology supplier from Italy)
Mr. Rebai Paolo	Representative, PROMECO SPA. (Technology supplier from Italy)
Mr. Beugre Djoman	Major of Bingerville
Mr. Koffi Celeslin	Office of Major, Bingerville
Mr. N'gbo Bekoe	Office of Major, Bingerville
Mr. Paul Aamloba	Speaker for Chief of Village (Notable) in Bingerville
Mr. N'Kredji Nicolas	Notable, Village in Bingerville
Mr. Gbaloué Grégoire	Landowner of project site
Mr. Ayaké Germain	Member of the urban planning committee of Bingerville Adjamé village
Mr Mobio Grégoire	Member of the financial office of Bingerville Adjamé village
Mr Ghe Serge O'Neal	Police representative of Bingerville Adjamé village
Mr Yankou Danho Bernard	Representative of the neighborhood's families
Mr. Anté Agoua	Representative of landowner
Mr. N'ChoN'Guessan Pacome	Representative, Electricity Board Ivory Coast
Mr. Ouattaro Diarrassouba	Representative of Farmer
Mr. Gohoua Yoga Félicien	Environmental & Quality Engineer, Consultant
Ms. Aurelie Lépage	Ecosur, Paris
Mr. Abbas Badreddine	Managing Director, Plastica Fabrication plant

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 an 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 re-requesting registration by the EB or not.

3 SUMMARY OF FINDINGS

History of the validation process

The PP of the host country SITRADE ordered the Certification Body "Climate and Energy" of TÜV SÜD Industrie Service GmbH to validate the CDM project *Abidjan Municipal Solid Waste-To-Energy Project*.

The audit team has been provided with the first version of the PDD in February 2008. Based on this documentation a gingerly 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, CRs and OIs indicated in the audit process. The final PDD version submitted on 29 May 2009 serves as the basis for the assessment presented herewith. Additional documents that are necessary for registration have been submitted like MoC, LoA of Ivory Coast and LoA of Switzerland (IRL-No. 44, 45 and 46). 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 following description of the project as per the PDD could be verified during the on-site audit.

The proposed project is located in the industrial zone of the City of Bingerville, District of Abidjan, Republic of Ivory Coast. The project will manage 200,000 tons of municipal solid waste per year (80,000 tons the first year of operation). After sorting, the organic share of the waste will be treated through anaerobic fermentation. The treatment plant will be equipped with two digesters the first year. Three additional units will be installed the second year of operation. The biogas derived from the waste will be used as fuel to produce annually 25 GWh of renewable electricity. About 80% of the generated power will be sold to the state-owned company Société d'Opération Ivoirienne d'Électricité (SOPIE). The rest of generated power will be used to cover the consumption need of the plant. After the anaerobic fermentation, residual waste will be transformed into compost through aerobic treatment. The compost will be sold to local farmers; the other sorted valuable waste will be sold on the local market, if possible.

The project aims to achieve emission reductions from avoiding methane emissions from dumping waste and from displacing fossil fuel based power of the power grid of Ivory Coast, which is dominated by natural gas fired thermal power plants according to the Ministry of Ivory Coast for Miners and Energy (see below for grid factor calculation). Therefore, the net generation of the project will displace same amount of electricity of the grid and a certain amount of greenhouse gas (GHG) emissions will be consequently reduced as well. The average annual emission reductions are expected to be 71.760 tCO₂e.

Findings

As informed above all findings are summarized in table 2 of the attached validation protocol. In total the assessment team expressed 22 Corrective Action Requests and 33 Clarification Requests.

Inconsistencies in the PDD regarding the project participants have been resolved.

It has been demonstrated in the revised PDD that there will be no Waste Water Treatment in the plant (CR 2).

A letter of support of the Energy Ministry is now available (CR 3, IRL-No. 56).

More evidence for the estimation of the specific gas leakage rate of the elastic cover of the gasholder has been given finally (CR 4).

The methodology AMS.I.D has been withdrawn since cogeneration, used for the project, is excluded in this methodology (CR 6, OI 6).

The steps of the methodology to discuss the applicability of each alternative and finally the applicable combination finally have been consequently applied, e.g. M1 to M3, P1 to P6 and H1 to H7 (CAR 7).

DOE Questions regarding the data and parameter that are available at validation (CAR 12, CR 17) as well as inconsistencies in the field of monitoring parameters and the MP (CAR 14 to CAR 17 and CR 21 to CR 25) have been solved by the revised PDD.

A flare will be installed in order to burn biogas in case of engine failure or overpressure. Hence, it cannot be excluded that the flare contributes to project emissions and the tool to determine project emissions from flaring gases containing Methane has to be applied (CR 28). Since it has been demonstrated that the flare shall be used only in emergency situations ex-ante calculation of the corresponding project emissions is not needed.

Baseline calculation

As result of the approach described in the approved methodology AM0025, version 10, the baseline *disposal of the waste in a landfill site without capturing landfill gas* has been selected. The baseline calculation has been done according to the tool to determine methane emissions avoided from dumping waste at a solid waste disposal site –Version 02 (methane emission avoidance) and by the tool to calculate the emission factor for an electricity system – Version 01.1, EB35 Annex 12. The resulting value for the CM Emission Factor of the Power Grid of Ivory Coast is 0.7291 t CO₂/MWh. This grid factor is estimated ex-ante assuming that additional future forecasted power plant units will be mainly fossil fuel based. Therefore, SITRADE has chosen the more conservative approach. This value will be updated at the beginning of each new crediting period. Hence, conservative emission factors have been used.

Additionality

According to the PDD the starting date of the project activity (= point of no return) was on February 25, 2008. Evidence is available by the agreement between the equipment supplier PROMECO and SITRADE, dated on the same day (IRL-No. 17). Since the validation of the project activity started earlier (GSP start on February 20, 2008), there is no need to prove CDM consideration.

The additionality has been demonstrated by barrier analysis. It has been demonstrated in the revised PDD that this project activity is first-of-its-kind in the host country. Evidence from the energy ministry (IRL-No. 58) that will be uploaded to EB together with this validation report is available and has been checked. According to this evidence and the information gathered during the on-site mission the Audit team concluded that the project activity is additional.

Besides further minor corrections, these were the main findings. After closing all the open questions the PDD is in compliance with the CDM requirements.

4 REQUEST FOR REVIEW

Question 1

The PP/DOE are requested to clarify how the estimation of project emissions from anaerobic digestion stacks ($PE_{a,s,y}$) meets the requirements of the applicable methodology.

Response by DOE

In version 10.1 of the AM0025 it is stated on page 12 that: "The final stack emissions (either from flaring or energy generation process) are monitored from the final stack and estimated as follows."

$$PE_{a,s,y} = SG_{a,y} * MC_{N2O,a,y} * GWP_{N2O} + SG_{a,y} * MC_{CH4,a,y} * GWP_{CH4} \quad (10)$$

Where:

$PE_{a,s,y}$ = Is the total emissions of N_2O and CH_4 from stacks of the anaerobic digestion process in year y (tCO_2e)

$SG_{a,y}$ = Is the total volume of stack gas from the anaerobic digestion in year y (m^3/yr)

$MC_{N2O,a,y}$ = Is the monitored content of nitrous oxide in the stack gas from anaerobic digestion in year y (tN_2O/m^3)

GWP_{N2O} = Is the Global Warming Potential of nitrous oxide (tCO_2e / tN_2O)

$MC_{CH4,a,y}$ = Is the monitored content of methane in the stack gas from anaerobic digestion in year y (tCH_4/m^3)

GWP_{CH4} = Is the Global Warming Potential of methane (tCO_2e / tCH_4)

The estimation of project emissions according to the above indicated formula (10) of the AM0025 and as required by the methodology is only possible by utilisation of measured stack gas volume

flow rate and CH₄ and N₂O concentrations in the stack gas of similar plants. Such information is not available.

The ex-ante calculation that has been presented by the PP to the DOE considers the maximum biogas volume generated and emission factors of IPCC 2006 guideline. The calculations are deemed to be conservative taking into account that the effective biogas generation during the crediting period is most likely less than the installed biogas generation capacity. The operation of both, engine and flare is covered by this approach since it is not likely that both facilities run simultaneously. Furthermore, the chosen emission factors are the most conservative for tier 1 approach according to IPCC 2006 guideline. Country specific or technology specific emission factors are not available.

It can be concluded that the PP estimation of the project emissions from anaerobic digestion stacks is transparent, reliable and conservative.

Question 2

The PP/DOE are requested to clarify how the relevant parameters for determination of project emissions from anaerobic digestion stacks (PE_{a,s,y}) have been monitored in compliance with the applicable methodology.

Response by DOE

The above described PP procedure to monitor the project emissions of N₂O and CH₄ is in compliance with the AM0025. In the revised PDD later on it has to be ensured that the quoted gas concentrations has to be measure as for the requirements of the AM0025 in the stacks of the engine as well as in the stack of the flare.

Question 3

The PP/DOE are requested to clarify how the estimation of project emissions from anaerobic digestion stacks (PE_{a,s,y}) meets the requirements of the applicable methodology, since instead of following the provisions of the applicable methodology, the PP/DOE have followed "Tool to determine project emissions from flaring gases containing methane", which does not have a provision for estimating the nitrous oxide content in the stack.

Response by DOE

The DOE answer to request 1 is applicable as well for this request 3.

5 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/Guide2_1.aspx?ID=4373&Ebene1_ID=26&Ebene2_ID=1342&mode=1	
Starting date of the global stakeholder consultation process: 2008-02-20	
Comment submitted by: -	Issues raised: -
Response by TÜV SÜD: -	

6 VALIDATION OPINION

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

Abidjan Municipal Solid Waste-To-Energy Project.

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

An analysis as provided by the applied methodology demonstrates that the proposed project activity is not a likely baseline scenario. Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity. Given that the project is implemented as designed, the project is likely to achieve the estimated amount of emission reductions as specified within the final PDD version.

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

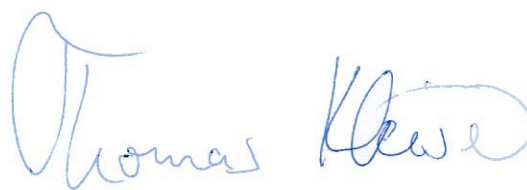
Munich, 2009-06-15

Munich, 2009-06-15



Rachel Zhang

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



Thomas Kleiser

Assessment Team Leader



Annex 1: Validation Protocol

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PPD in GSP	Final PDD
A. General description of project activity					
A.1. Title of the project activity					
A.1.1.	Does the used project title clearly enable to identify the unique CDM activity?	1	Yes, the project title "Abidjan Municipal Solid Waste-To-Energy Project" indicates clearly the unique CDM activity.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.1.2.	Are there any indication concerning the revision number and the date of the revision?	1	Revision number 1 and date of February 12, 2008 of PDD uploaded for GSP are indicated correctly.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.1.3.	Is this consistent with the time line of the project's history?	1, 2, 3, 4, 5, 6, 7, 8, 9, 10	<p>A project timeline as part of the PDD mentions as first date in February 2008 the site preparation which is consistent with the date of the PDD version 1.</p> <p><u>Corrective Action Request No.1.</u></p> <p>The title of the last column of the table for the project timeline obviously refers to the installed capacity of the biogas combustion engine(s), this should be indicated in the title of the column.</p>	CAR 1	<input checked="" type="checkbox"/>
A.2. Description of the project activity					
A.2.1.	Is the description delivering a transparent overview of the project activities?	1	<p>The description includes the purpose of the project and explains sufficiently how the proposed project activity reduces greenhouse gas emissions. Furthermore, it is demonstrated how the project contributes to the sustainable development in Ivory Coast.</p> <p>The company SITRADE (Société Ivoirienne de Traitement des Déchets) that developed the project is project participant and responsible for the operation of the project plant.</p>		<input checked="" type="checkbox"/>

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PPD in GSP	Final PDD
			<p><u>Clarification Request No. 1.</u></p> <p>Please clarify how the supply of municipal waste can be ensured during the crediting period.</p> <p><u>Corrective Action Request No.2.</u></p> <p>It should be explained in the PDD how the project will reduce soil and water pollution in Akouédo's neighborhood.</p>	CR 1	
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, 6, 7, 8, 9, 10	<p>According to the information gathered during the on-site Audit the municipal waste is actually filled in wholes of the existing landfill of Akouédo without any methane capture or protection barrier against water and soil pollutions.</p> <p>Construction work on project site did not start in these days but the project area of about 5 ha have been cleared and stubbed already. Power lines are close to the area that can be reached by a supply street not yet fortified.</p> <p>A waste delivery contract between SITRADE and a subcontractor is envisaged.</p>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.2.3.	Is the information provided by these proofs consistent with the information provided by the PDD?	1	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.2.4.	Is all information presented consistent with details provided by further chapters of the PDD?	1	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PPD in GSP	Final PDD
A.3. Project participants					
A.3.1.	Is the form required for the indication of project participants correctly applied?	1	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.3.2.	Is the participation of the listed entities or Parties confirmed by each one of them?	1, 45, 46	<p>The LoA of the host country has been submitted.</p> <p>Open Issue</p> <p>The letter of Modalities of Communication MOC is still missing. Please provide an MOC with printed names of all signatories in English. It would also be appreciated if a separate specimen signature of the nominated focal point could be provided, if different from the signatories on the MOC document.</p> <p>Since the buyer of the credits actually not has been defined the LoA of the buyer country is still missing.</p>	OI	<input checked="" type="checkbox"/>
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	Yes, the information of project participants in chapter A and Annex 1 is consistent.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4. Technical description of the project activity					
<i>A.4.1. Location of the project activity</i>					
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, 3, 4, 5, 34	<p><u>Corrective Action Request No.3.</u></p> <p>The site location is not exactly identified in the PDD, hence, there is a need to provide a better map of the industrial ozone in the PDD covering as well the neighbourhood and Bingerville which is located between the project site and Abidjan.</p>	CAR 3	<input checked="" type="checkbox"/>

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final 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.)?	11, 12, 13, 14	<p>Following evidences are available demonstrating that the project proponent SITRADE can implement the project on site:</p> <ul style="list-style-type: none"> • Letter of support of ministry of city and health • Letter of support of municipality of Bingerville • Contract of SITRADE for ownership of project site • Construction permit of SITRADE. 	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.2. Category(ies) of project activity				
A.4.2.1. To which category(ies) does the project activity belonging to? Is the category correctly identified and indicated?		The project belongs to scope 1 (energy industry) and scope 13 (waste handling and disposal).	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.3. Technology to be employed by the project activity				
A.4.3.1. Does the technical design of the project activity reflect current good practices?	15, 16, 17, 18	<p>In the project phase I from October 2008 to October 2009 about 80.000 t/a of solid municipality waste with about 65 % of organic waste fraction shall be treated on project site instead of being disposed on the existing landfill. In phase II up from October 2009 the quantity shall be raised to 200.000 t/a.</p> <p>The project plant consists mainly of pre-treatment facilities, a buffertank for biomass, two digester (5 in phase II), gasholder, a post digestion recipient, flare and cogeneration combustion engine(s) as well as power generator(s).</p> <p>The assumptions for biogas energy recovery calculation are plausible according to DOE experience in this field.</p> <p>A contract between the equipment supplier Promeco/Italy and</p>		<input checked="" type="checkbox"/>

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
		<p>SITRADE has been submitted to DOE.</p> <p>As stated by a representative of the energy department of the ministry electricity there are no electricity imports to the power grid, only exports.</p> <p><u>Clarification Request No. 2.</u></p> <p>During on-site interviews it was not clear whether a waste water treatment installation shall be installed on site, this has to be clarified. Furthermore, there is a need to indicate the waste water path in the process flow diagram in the PDD</p> <p><u>Clarification Request No. 3.</u></p> <p>The Power Purchase Agreement with the grid operator energy department of the ministry is still missing. However, the request for this document has already been submitted to the grid operator SOPIE.</p>	<p>CR 2</p> <p>CR 3</p>	
A.4.3.2. Does the description of the technology to be applied provide sufficient and transparent input/ information to evaluate its impact on the greenhouse gas balance?	1, 2, 47	<p><u>Corrective Action Request No.4.</u></p> <p>There is a need to indicate technical data and supplier information about the equipment, e.g. digester, recipients, flare, gasholder and engine(s).</p> <p><u>Clarification Request No. 4.</u></p> <p>Please give evidence for the specific gas leakage rate of the elas-</p>	<p>CAR4</p> <p>CR 4</p>	<input checked="" type="checkbox"/>

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
		<p>tic cover of the gasholder.</p> <p><u>Corrective Action Request No.5.</u></p> <p>As information was gathered during on-site interview with Promeco fossil fuel should be used for engine ignition. The type and quantity of this fuel has to be indicated in the PDD.</p>	CAR 5	
A.4.3.3. Does the implementation of the project activity require any technology transfer from annex-I-countries to the host country(ies)?	1, 2	Yes, the technology transfer from Italy to Ivory Coast is necessary because such technology is not known in Ivory Coast.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.3.4. Is the technology implemented by the project activity environmentally safe?	1, 2, 17	<p>The buffertank for biomass as well as the digesters and the post digestion recipient shall be constructed in a closed manner as it has been explained by Promeco.</p> <p>A security zone is planned around the flare.</p> <p>The compost shall be produced by aerobical intensive and post piling. The process is monitored continuously.</p>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.3.5. Is the information provided in compliance with actual situation or planning?	1, 2	Yes, see comment to A.2.2.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.3.6. Does the project use state of the art technology and / or does the technology result in a significantly better performance than	1, 2, 9, 17	Yes, it has been evidenced by interviews on site that the project is the first of this art in the host country.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
any commonly used technologies in the host country?		A reference list of Promeco is available proving that similar plants have been built in Bergamo/Italy and Munich/ Germany.		
A.4.3.7. Is the project technology likely to be substituted by other or more efficient technologies within the project period?	1, 2	No, see comment to A.4.3.6.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.3.8. Does the project require extensive initial training and maintenance efforts in order to be carried out as scheduled during the project period?	1, 2, 9	Yes, the advanced technology requires extensive training and maintenance.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.3.9. Is information available on the demand and requirements for training and maintenance?	2, 17	<p>As it has been explained by Promeco and confirmed by SITRADE engineers of SITRADE will perform training in Italy. During the implementation of the project and even after starting of the operation Promeco will assist the responsible staff of SITRADE.</p> <p><u>Clarification Request No. 5.</u></p> <p>Please demonstrate how the need for maintenance is covered during the crediting period.</p>	CR5	<input checked="" type="checkbox"/>
A.4.3.10. Is a schedule available for the implementation of the project and are there any risks for delays?	1, 2, 21	Yes a schedule with project implementation milestones is available in PDD. Since the project dossier and the PIN for CDM (issuance, April 11, 2007) including financial information has been sent to the national bank BNI in January 2008 and the BNI re-	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
		sponse to SITRADE in February 2008 has been evidenced, actually there are no risks for delay of the schedule, starting with site preparation works (clearing and stubbing of trees) in February 2008.		
A.4.4. Estimated amount of emission reductions over the chosen crediting period				
A.4.4.1. Is the form required for the indication of projected emission reductions correctly applied?	1	Yes the form is correctly applied regarding the guideline PDD of EB.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.4.2. Are the figures provided consistent with other data presented in the PDD?	1	See B.6 (need to recalculate the emission reduction units)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.5. Public funding of the project activity				
A.4.5.1. Is the information provided on public funding provided in compliance with the actual situation or planning as available by the project participants?	1, 2, 3, 4, 5	Yes, it has been confirmed by stakeholders that the project is not publicly funded.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.5.2. Is all information provided consistent with the details given in remaining chapters of the PDD (in particular annex 2)?	1	yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B. Application of a baseline and monitoring methodology				
B.1. Title and reference of the approved baseline and monitoring methodology				
B.1.1.1. Are reference number, version number, and title of the baseline and monitoring methodology clearly indicated?	1	The title and version 10 of methodology AM0025 is clearly indicated. For the application of the tool to determine project emissions from flaring gases containing Methane see CR 28.	See CR 28	<input checked="" type="checkbox"/>

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
		<p><u>Clarification Request No. 6.</u></p> <p>Please demonstrate why AMS.I.D is applicable here since co-generation, used for the project, is excluded in this methodology.</p> <p>For calculation of emission reduction of electrical and thermal output of the engines see CAR 7.</p> <p><u>Clarification Request No. 7.</u></p> <p>There is a need to discuss how the emissions of fossil fuel during project (ignition fuel for engine) will be calculated, e.g. by the tool to calculate project or leakage CO2 emissions from fossil fuel combustion (version 01).</p>	<p>CR6</p> <p>CR7</p>	
B.1.1.2. Is the applied version the most recent one and / or is this version still applicable?	1, 9	<p>Yes, the applied version 10 is the most recent one.</p> <p>Apart from the methodology AM0025 the following tools have been applied here:</p> <ul style="list-style-type: none"> • Tool for the demonstration and assessment of additionality (version 04) • Tool to calculate the emission factor for an electricity system (version 01) • Tool do determine methane emissions avoided from dumping waste at a solid waste disposal site (version 02) • Tool to calculate project or leakage CO2 emissions from fossil fuel consumption (version 01) • Tool to determine project emissions from flaring gases containing methane (version 01) 	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD								
B.2. Justification of the choice of the methodology and why it is applicable to the project activity												
B.2.1.1. Is the applied methodology considered the most appropriate one?		AM0025 is the most appropriate methodology.	☑	☑								
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. Criterion 1: The project activity involves one or a combination of the following waste treatment options for the fresh waste that in a given year would have otherwise been disposed of in a landfill: - a composting process in aerobic conditions - gasification to produce syngas and its use - anaerobic digestion with biogas collection and flaring and/or its use - mechanical/thermal treatment process to produce refuse-derived fuel (RDF)/stabilized biomass (SB) and its use - incineration of fresh waste for energy generation, electricity and/or heat	1, 9	The project mainly consists of anaerobic digestion with biogas collection and combustion or flaring. <table><tr><td>Applicability checklist</td><td>Yes / No</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>	Applicability checklist	Yes / No	Criterion discussed in the PDD?	Yes	Compliance provable?	Yes	Compliance verified?	Yes	☑	☑
Applicability checklist	Yes / No											
Criterion discussed in the PDD?	Yes											
Compliance provable?	Yes											
Compliance verified?	Yes											
B.2.2. Criterion 2: In case of anaerobic digestion, gasification or RDF processing of waste, the residual waste from these processes is aerobically composted and/or delivered to a landfill.		Residual solid project waste is composted aerobically. <table><tr><td>Applicability checklist</td><td>Yes / No</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>	Applicability checklist	Yes / No	Criterion discussed in the PDD?	Yes	Compliance provable?	Yes	Compliance verified?	Yes	☑	☑
Applicability checklist	Yes / No											
Criterion discussed in the PDD?	Yes											
Compliance provable?	Yes											
Compliance verified?	Yes											

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD								
B.2.3. Criterion 3: In case of composting, the produced compost is either used as soil conditioner or disposed of in landfills.	1, 7	<p>The produces compost shall be used as soil fertilizer. Farmers are very much interested because of quality and low prize.</p> <table><tr><th>Applicability checklist</th><th>Yes / No</th></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>	Applicability checklist	Yes / No	Criterion discussed in the PDD?	Yes	Compliance provable?	Yes	Compliance verified?	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Applicability checklist	Yes / No											
Criterion discussed in the PDD?	Yes											
Compliance provable?	Yes											
Compliance verified?	Yes											
B.2.4. Criterion 4: In case of RDF/stabilized bio-mass processing, the produced RDF/stabilized biomass should not be stored in a manner that may result in an-aerobic conditions before its use.		<p>This criterion is not applicable here.</p> <table><tr><th>Applicability checklist</th><th>Yes / No</th></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>	Applicability checklist	Yes / No	Criterion discussed in the PDD?	Yes	Compliance provable?	Yes	Compliance verified?	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Applicability checklist	Yes / No											
Criterion discussed in the PDD?	Yes											
Compliance provable?	Yes											
Compliance verified?	Yes											
B.2.5. Criterion 5: If RDF/SB is disposed of in a landfill, project proponent shall provide degradability analysis on an annual basis to demonstrate that the methane generation, , in the life-cycle of the SB is below 1% of related emissions. It has to be demonstrated regularly that the characteristics of the produced RDF/SB should not allow for re-absorption of moisture of more		<p>This criterion is not applicable here.</p> <table><tr><th>Applicability checklist</th><th>Yes / No</th></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>	Applicability checklist	Yes / No	Criterion discussed in the PDD?	Yes	Compliance provable?	Yes	Compliance verified?	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Applicability checklist	Yes / No											
Criterion discussed in the PDD?	Yes											
Compliance provable?	Yes											
Compliance verified?	Yes											

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD								
than 3%. Otherwise, monitoring the fate of the produced RDF/SB is necessary to ensure that it is not subject to anaerobic conditions in its lifecycle.												
B.2.6. Criterion 6: In case of incineration: waste storage not longer than 10 days, and no anaerobic decomposition	1	<div>This criterion is not applicable here.</div> <table><tr><td>Applicability checklist</td><td>Yes / No</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>	Applicability checklist	Yes / No	Criterion discussed in the PDD?	Yes	Compliance provable?	Yes	Compliance verified?	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Applicability checklist	Yes / No											
Criterion discussed in the PDD?	Yes											
Compliance provable?	Yes											
Compliance verified?	Yes											
B.2.7. Criterion 7: The proportions and characteristics of different types of organic waste processed in the project can be determined in order to apply a multiphase landfill gas generation model to estimate the quantity of landfill gas that would have been generated in the absence of the project activity.	1, 20	<div>An analysis of different types of waste has been done by a study of BNETD (see also footnote 26 of PDD). In Abidjan the degree of organic waste in the solid waste is 67% which is identical with the figure presented by SITRADE.</div> <table><tr><td>Applicability checklist</td><td>Yes / No</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>	Applicability checklist	Yes / No	Criterion discussed in the PDD?	Yes	Compliance provable?	Yes	Compliance verified?	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Applicability checklist	Yes / No											
Criterion discussed in the PDD?	Yes											
Compliance provable?	Yes											
Compliance verified?	Yes											
B.2.8. Criterion 8: The project activity may include electricity generation and/or thermal energy generation from the biogas, syngas captured, RDF/stabilized biomass produced, combustion heat generated in	1	<table><tr><td>Applicability checklist</td><td>Yes / No</td></tr><tr><td>Criterion discussed in the PDD?</td><td>Yes</td></tr><tr><td>Compliance provable?</td><td>Yes</td></tr></table>	Applicability checklist	Yes / No	Criterion discussed in the PDD?	Yes	Compliance provable?	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Applicability checklist	Yes / No											
Criterion discussed in the PDD?	Yes											
Compliance provable?	Yes											

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PPD in GSP	Final PDD								
the incineration process, respectively, from the anaerobic digester, the gasifier, RDF/stabilized biomass combustor, and waste incinerator. The electricity can be exported to the grid and/or used internally at the project site. In the case of RDF produced, the emission reductions can be claimed only for the cases where the RDF used for electricity and/or thermal energy generation can be monitored.		<table><tr><td>Compliance verified?</td><td>Yes</td></tr></table>		Compliance verified?	Yes								
Compliance verified?	Yes												
B.2.9. Criterion 9: Waste handling in the baseline shows a continuation of current practice of disposing the waste in a landfill despite environmental regulation that mandates the treatment of the waste, if any, using any of the project activity treatment options mentioned above;	1, 11	<table><tr><td>Applicability checklist</td><td>Yes / No</td></tr><tr><td>Criterion discussed in the PDD?</td><td></td></tr><tr><td>Compliance provable?</td><td></td></tr><tr><td>Compliance verified?</td><td></td></tr></table> <p>Clarification Request No. 8.</p> <p>There is a need to submit the environmental code of Ivory Coast to confirm the fact that no environmental legislation requires waste treatment.</p>		Applicability checklist	Yes / No	Criterion discussed in the PDD?		Compliance provable?		Compliance verified?		CR 8	<input checked="" type="checkbox"/>
Applicability checklist	Yes / No												
Criterion discussed in the PDD?													
Compliance provable?													
Compliance verified?													
B.2.10. Criterion 10: In case of incineration: residual waste does not contain more than 1% residual carbon.	1	<p>This criterion is not applicable here.</p> <table><tr><td>Applicability checklist</td><td>Yes / No</td></tr><tr><td>Criterion discussed in the PDD?</td><td>Yes</td></tr><tr><td>Compliance provable?</td><td>Yes</td></tr></table>		Applicability checklist	Yes / No	Criterion discussed in the PDD?	Yes	Compliance provable?	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Applicability checklist	Yes / No												
Criterion discussed in the PDD?	Yes												
Compliance provable?	Yes												

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PPD in GSP	Final PDD								
		<table><tr><td>Compliance verified?</td><td>Yes</td></tr></table>		Compliance verified?	Yes								
Compliance verified?	Yes												
B.2.11. Criterion 11: Compliance rate of the environmental regulations during (part of) the crediting period is below 50%; if monitored compliance with the MSW rules exceeds 50%, the project activity shall receive no further credit, since the assumption that the policy is not enforced is no longer tenable;	1	<table><tr><td>Applicability checklist</td><td>Yes / No</td></tr><tr><td>Criterion discussed in the PDD?</td><td>No</td></tr><tr><td>Compliance provable?</td><td>No</td></tr><tr><td>Compliance verified?</td><td>No</td></tr></table> <p><u>Corrective Action Request No.6.</u></p> <p>The compliance rate has been considered later on in the PDD but not in chapter B.2, hence, this criterion has still to be discussed.</p>		Applicability checklist	Yes / No	Criterion discussed in the PDD?	No	Compliance provable?	No	Compliance verified?	No	CAR 6	☑
Applicability checklist	Yes / No												
Criterion discussed in the PDD?	No												
Compliance provable?	No												
Compliance verified?	No												
B.2.12. Criterion 12: Local regulations do not constrain the establishment of RDF production plants/thermal treatment plants nor the use of RDF/stabilized biomass as fuel or raw material.	1	<p>See CR 8</p> <table><tr><td>Applicability checklist</td><td>Yes / No</td></tr><tr><td>Criterion discussed in the PDD?</td><td></td></tr><tr><td>Compliance provable?</td><td></td></tr><tr><td>Compliance verified?</td><td></td></tr></table>		Applicability checklist	Yes / No	Criterion discussed in the PDD?		Compliance provable?		Compliance verified?		See CR 8	☑
Applicability checklist	Yes / No												
Criterion discussed in the PDD?													
Compliance provable?													
Compliance verified?													
B.2.13. Criterion 13: In case of RDF/SB, project proponent shall provide evidences that no GHG emissions occur, other than biogenic CO ₂ , due to chemical reactions during the thermal treatment process (such as Chimney Gas Analysis report)	1	<p>This criterion is not applicable here.</p> <table><tr><td>Applicability checklist</td><td>Yes / No</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>		Applicability checklist	Yes / No	Criterion discussed in the PDD?	Yes	Compliance provable?	Yes	Compliance verified?	Yes	☑	☑
Applicability checklist	Yes / No												
Criterion discussed in the PDD?	Yes												
Compliance provable?	Yes												
Compliance verified?	Yes												

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD								
B.2.14. Criterion 14: The project does not involve thermal treatment process of neither industrial nor hospital waste	1	<div>The aim is not to treat industrial nor hospital waste.</div> <table><tr><td>Applicability checklist</td><td>Yes / No</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> <div>Clarification Request No. 9. Please demonstrate how can be ensured during project operation that neither industrial nor hospital waste can be treated in the project plant, e.g. by spot check of input material.</div>	Applicability checklist	Yes / No	Criterion discussed in the PDD?	Yes	Compliance provable?	Yes	Compliance verified?	Yes	CR 9	<input checked="" type="checkbox"/>
Applicability checklist	Yes / No											
Criterion discussed in the PDD?	Yes											
Compliance provable?	Yes											
Compliance verified?	Yes											
B.2.15. Criterion 15: The project activity does not involve capture and flaring of methane from <u>existing</u> waste in the landfill.	1	<div>This criterion is not applicable here.</div> <table><tr><td>Applicability checklist</td><td>Yes / No</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>	Applicability checklist	Yes / No	Criterion discussed in the PDD?	Yes	Compliance provable?	Yes	Compliance verified?	Yes		<input checked="" type="checkbox"/>
Applicability checklist	Yes / No											
Criterion discussed in the PDD?	Yes											
Compliance provable?	Yes											
Compliance verified?	Yes											
B.3. Description of the sources and gases included in the project boundary												
Integrate the required amount of sub-checklists for sources and gases as given by the methodology applied and comment on at least every line answered with “No”	1	<div>Clarification Request No. 10.</div> <div>The sources B.3.2, B.3.4 and B.3.7 need to be discussed.</div>	CR 10	<input checked="" type="checkbox"/>								
B.3.1. Source: On-site fossil fuel consumption due to the project activity other than for electricity generation	1		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>								

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PPD in GSP	Final PDD
Gas(es): CO ₂ Type: Project Emissions		Boundary checklist	Yes / No		
		Source and gas(es) discussed in the PDD?	Yes		
		Inclusion / exclusion justified?	Yes		
		Explanation / Justification sufficient?	Yes		
		Consistency with monitoring plan?			
B.3.2. Source: Emissions from on-site electricity use Gas(es): CO ₂ Type: Project Emissions	1	See CR 10		See CR 10	☑
		Boundary checklist	Yes / No		
		Source and gas(es) discussed in the PDD?	No		
		Inclusion / exclusion justified?	No		
		Explanation / Justification sufficient?	No		
		Consistency with monitoring plan?			
B.3.3. Source: Direct emissions from the waste treatment processes. Gas(es): N ₂ O, CO ₂ , CH ₄ Type: Project Emissions	1	Boundary checklist	Yes / No	☑	☑
		Source and gas(es) discussed in the PDD?	Yes		
		Inclusion / exclusion justified?	Yes		
		Explanation / Justification sufficient?	Yes		
		Consistency with monitoring plan?			
B.3.4. Source: Emissions from waste water treatment Gas(es): CH ₄	1	See CR 10		See CR 10	☑
		Boundary checklist	Yes / No		
		Source and gas(es) discussed in the PDD?	No		

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PPD in GSP	Final PDD
Type: Project Emissions		Inclusion / exclusion justified?	No		
		Explanation / Justification sufficient?	No		
		Consistency with monitoring plan?			
B.3.5. Source: : Emissions from decomposition of waste at the landfill site Gas(es): CH ₄ Type: Baseline Emissions	1	Boundary checklist	Yes / No	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Source and gas(es) discussed in the PDD?	Yes		
		Inclusion / exclusion justified?	Yes		
		Explanation / Justification sufficient?	Yes		
		Consistency with monitoring plan?			
B.3.6. Source: Emissions from electricity consumption Gas(es): CO ₂ Type: Baseline Emissions	1	Boundary checklist	Yes / No	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Source and gas(es) discussed in the PDD?	Yes		
		Inclusion / exclusion justified?	Yes		
		Explanation / Justification sufficient?	Yes		
		Consistency with monitoring plan?			
B.3.7. Source: Emissions from thermal energy generation Gas(es): CO ₂ Type: Baseline Emissions	1	See CR 10		See CR 10	<input checked="" type="checkbox"/>
		Boundary checklist	Yes / No		
		Source and gas(es) discussed in the PDD?	No		
		Inclusion / exclusion justified?	No		
		Explanation / Justification sufficient?	No		

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
		Consistency with monitoring plan?		
B.3.8. Do the spatial and technological boundaries as verified on-site comply with the discussion provided by / indication included to the PDD?	1	See CR 10	See CR 10	<input checked="" type="checkbox"/>
B.4. Description of how the baseline scenario is identified and description of the identified baseline scenario				
According to AM0025, the baseline determination is a 4-step process. In the section below, the compliance with this 4-step process is assessed.	1	<u>Corrective Action Request No.7.</u> The steps of the methodology are not consequently applied, e.g. M1 to M3, P1 to P6 and H1 to H7; there is a need to discuss the applicability of each alternative and finally the applicable combination (table 1 of the methodology).	CAR 7	<input checked="" type="checkbox"/>
B.4.1. Step 1: Identification of alternative scenarios. Is this provided in the PDD?	1	Yes, alternative scenarios have been presented.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.4.2. 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	The list of the feasible baseline scenarios can be considered to be complete according to the methodology.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.4.3. Does the project identify correctly and excludes those options not in line with regulatory or legal requirements?	1	All options are in line with regular of legal requirements.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.4.4. Have all applicable regulatory or legal requirements, policies and circumstances related to the management of landfills	1, 11	No, regulatory or legal requirements are not discussed here.		<input checked="" type="checkbox"/>

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
been identified and will they be monitored at the beginning of each crediting period?		<u>Corrective Action Request No.8.</u> Regulatory or legal requirements as the environmental code of Ivory Coast have to be identified and discussed.	CAR 8	
B.4.5. Are there other alternatives than the project in compliance with all regulations?	1	No, other options not in compliance with all identified regulations are not indicated.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.4.6. Step 2: Identification of the baseline fuel taking into account the national and/or sectoral policies. Has this been done?	1	<u>Corrective Action Request No.9.</u> Baseline fuel taking into account the national or sectoral policies has to be discussed and identified if applicable.	CAR 9	<input checked="" type="checkbox"/>
B.4.7. Step 3: Use steps 2 and/or step 3 of the latest version of the Additionality Tool to assess which of these alternatives should be excluded from further consideration. Has this been done?	1	<u>Corrective Action Request No.10.</u> There is a need to use step 2 and 3 of the additionality tool version 4 to assess the baseline alternatives that should be excluded.	CAR 10	<input checked="" type="checkbox"/>
Project participants should use steps 2 and/or step 3 of the latest version of the Additionality Tool to assess which of these alternatives should be excluded from further consideration.	1			
B.4.8. In case of applying step 2 / investment analysis of the additionality tool: Is the analysis method identified appropriately (step 2a)?	1	See CAR 10	See CAR 10	<input checked="" type="checkbox"/>
B.4.9. In case of Option I (simple cost analysis): Is it demonstrated that the activity produces no economic benefits other than CDM income?	1	See CAR 10	See CAR 10	<input checked="" type="checkbox"/>

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
B.4.10. In case of Option II (investment comparison analysis): Is the most suitable financial indicator clearly identified (IRR, NPV, cost benefit ratio, or (levelized) unit cost)?	1	See CAR 10	See CAR 10	<input checked="" type="checkbox"/>
B.4.11. In case of Option III (benchmark analysis): Is the most suitable financial indicator clearly identified (IRR, NPV, cost benefit ratio, or (levelized) unit cost)?	1	See CAR 10	See CAR 10	<input checked="" type="checkbox"/>
B.4.12. In case of Option II or Option III: Is the calculation of financial figures for this indicator correctly done for all alternatives and the project activity?	1	See CAR 10	See CAR 10	<input checked="" type="checkbox"/>
B.4.13. In case of Option II or Option III: Is the analysis presented in a transparent manner including publicly available proofs for the utilized data?	1	See CAR 10	See CAR 10	<input checked="" type="checkbox"/>
B.4.14. In case of Option II or Option III: Is the conclusion regarding the financial attractiveness robust to reasonable variations in the critical assumptions?	1	See CAR 10	See CAR 10	<input checked="" type="checkbox"/>
B.4.15. In case of applying step 3 (barrier analysis) of the additionality tool: Is a complete list of barriers developed that prevent the different alternatives to occur?	1	See CAR 10	See CAR 10	<input checked="" type="checkbox"/>
B.4.16. In case of applying step 3 (barrier analysis): Is transparent and documented evidence provided on the existence and significance of these barriers?	1	See CAR 10	See CAR 10	<input checked="" type="checkbox"/>

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
B.4.17. Step 4: In case there are more than one credible alternatives: Has the baseline scenario that results in the lowest baseline emissions been used as the most likely baseline scenario?	1	See CAR 10	See CAR 10	<input checked="" type="checkbox"/>
B.4.18. Is the most plausible baseline scenario for waste treatment the disposal of waste in a landfill without capture of landfill gas (M3) or the disposal of waste in a landfill where the landfill gas is partially captured and subsequently flared (M2)?	1	See CAR 10	See CAR 10	<input checked="" type="checkbox"/>
B.4.19. Is the most plausible baseline scenario for the energy component P4 or P6 in combination with H4 or P2 in combination with H2?	1	See CAR 10	See CAR 10	<input checked="" type="checkbox"/>
B.5. Description of how the anthropogenic emissions of GHG by sources are reduced below those that would have occurred in the absence of the registered CDM project activity (assessment and demonstration of additionality):				
The additionality shall be demonstrated using the latest version of the Additionality Tool.				
B.5.1. Is evidence provided, that CDM has been considered seriously in the decision to proceed with the project activity (CDM decision before project start)?	1, 12, 15, 17	Yes, the CDM decision came at the very beginning of the project planning, see also comments to A.4.3.10.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.5.2. Have realistic and credible alternatives been identified providing comparable outputs or services? (step 1a)	1	See comments to B.4	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.5.3. Is the project activity without CDM included in these alternatives? (step 1a)	1	See comments to B.4	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
B.5.4. Is a discussion provided for all identified alternatives concerning the compliance with applicable laws and regulations? (step 1b)	1	See comments to B.4	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.5.5. In case the PDD argues that specific laws are not enforced in the country or region: Is evidence available concerning that statement? (step 1b)	1	See comments to B.4	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.5.6. In case of applying step 2 / investment analysis of the additionality tool: Is the analysis method identified appropriately (step 2a)?		Not applicable here	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.5.7. In case of Option I (simple cost analysis): Is it demonstrated that the activity produces no economic benefits other than CDM income?		Not applicable here	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.5.8. In case of Option II (investment comparison analysis): Is the most suitable financial indicator clearly identified (IRR, NPV, cost benefit ratio, or (levelized) unit cost)?		Not applicable here	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.5.9. In case of Option III (benchmark analysis): Is the most suitable financial indicator clearly identified (IRR, NPV, cost benefit ratio, or (levelized) unit cost)?		Not applicable here	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.5.10. In case of Option II or Option III: Is the calculation of financial figures for this indicator correctly done for all alternatives and the project activity?		Not applicable here	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
B.5.11. In case of Option II or Option III: Is the analysis presented in a transparent manner including publicly available proofs for the utilized data?		Not applicable here	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.5.12. In case of Option II or Option III: Is the conclusion regarding the financial attractiveness robust to reasonable variations in the critical assumptions?		Not applicable here	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.5.13. In case of applying step 3 (barrier analysis) of the additionality tool: Is a complete list of barriers developed that prevent the different alternatives to occur?	1	Yes, the investment barrier, technological barrier and prevailing practice barrier have been discussed.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.5.14. In case of applying step 3 (investment barrier analysis): Is the lowest tipping fee option correctly identified?	1, 23, 25, 32, 39, 58	<p>Actually an evidence for the loan of the BNI banc is not available. But negotiations by SITRADE with BNI started and a confirmation evidence that SITRADE president takes the financial risks for the project has been submitted.</p> <p>An Excel sheet calculation is available for phase I and II, including the CERs, investment and operating costs of the project as well as prizes for electricity, compost and recycled materials.</p> <p>A figure for the tipping fee has been used for the IRR excel sheet calculation.</p> <p><u>Clarification Request No. 11.</u></p> <p>Evidence for BNI agreement for banc loan to SITRADE is strongly recommended to prove the financial assurance of the project.</p> <p><u>Clarification Request No. 12.</u></p> <p>The excel sheet calculation needs to be calculated as well for the</p>	<p>CR 11</p> <p>CR 12</p>	<input checked="" type="checkbox"/>

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
		<p>option without CERs. Furthermore an IRR benchmark has to be defined by help of the DNA.</p> <p><u>Corrective Action Request No.11.</u></p> <p>Anyway, the calculation of the lowest tipping fee has to be demonstrated in the PDD.</p> <p>Furthermore, Annex X does not exist; please amend the footnote X in the PDD.</p> <p><u>Clarification Request No. 13.</u></p> <p>Please give evidence for the operating costs and the paper prizes as well as the envisaged valorization of the recycled paper.</p>	<p>CAR 11</p> <p>CR 13</p>	
B.5.15. In case of applying step 3 (technological barrier analysis): Is evidence provided of the state of development of the project technology in the country and is evidence of barriers to the implementation of more the project technology documented?	1, 2, 3, 4, 5	Yes, it is obvious that the applied technology of Promeco has not been developed or used in the host country.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.5.16. Is evidence provided on the early stage of development of the project activity?	1	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.5.17. Is an analysis of waste management practices provided? Have other activities in the	1, 20	Yes, an analysis of waste management practice from BNETD is available. Other similar activities have not yet been identified in	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
host country / region similar to the project activity been identified and are these activities appropriately analyzed by the PDD (step 4a)?		the host country which has been stated by the DNA.		
B.5.18. 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)?	1	Not applicable since to similar activities are identified in the host country.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.5.19. Is it appropriately explained how the approval of the project activity will help to overcome the economic and financial hurdles or other identified barriers?	1, 58	See CR 12	See CR 12	<input checked="" type="checkbox"/>
B.5.20. For RDF/stabilized biomass production projects: is an evaluation of the stabilized biomass price included (another evaluation should be carried out at the end of each crediting period in case of renewable crediting period).	1	Not applicable here	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.6. Emissions reductions				
Integrate questions concerning methodological choices and selection of options, if necessary				
B.6.1. Explanation of methodological choices				
B.6.1.1. Is it explained how the procedures provided in the methodology are applied by the proposed project activity?	1	Clarification Request No. 14. Please check all footnotes with links to webpages if those are accessible, e.g. footnote 19 does not link to the webpage.	CR 14	<input checked="" type="checkbox"/>

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final 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	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.6.1.3. Are the formulae required for the determination of project emissions correctly presented, enabling a complete identification of parameter to be used and / or monitored?	1, 47	<u>Clarification Request No. 15.</u> Methane emissions from leakage of gasholder needs to be identified and, if applicable, option 2 of methodology with IPCC physical leakage default factor has to be applied (see CR 4).	CR 15	<input checked="" type="checkbox"/>
B.6.1.4. Are the formulae required for the determination of baseline emissions correctly presented, enabling a complete identification of parameter to be used and / or monitored?	1	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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, 47	<u>Clarification Request No. 16.</u> Please clarify that there are no leakage emissions by the treatment of recycled paper in the project, assuming that paper is not sorted out in the baseline. Furthermore, leakages in the project by gasholder leakages as well as the combustion of fossil fuel for engine ignition has to be considered here. The formula for the emissions from transportation is not indicated in the PDD.	CR 16	<input checked="" type="checkbox"/>
B.6.1.6. Are the formulae required for the determination of emission reductions correctly presented?	1	yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.6.2. Data and parameters that are available at				

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD																		
validation																						
B.6.2.1. Is the list of parameters presented in chapter B.6.2 considered to be complete with regard to the requirements of the applied methodology?	1	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																		
Integrate the required amount of sub-checklists for parameters not to be monitored but remaining fixed throughout the crediting period and available at validation. Comment on any line answered with “No”																						
B.6.2.2. Parameter Title: EF _{c,N2O} Emission factor for N ₂ O emissions from the composting process (tN2O/tonnes of compost)	1	<p><u>Corrective Action Request No.12.</u></p> <p>The data unit for the parameter EF_{c,N2O} needs to be expressed correctly.</p> <table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>No</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided?</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>NA</td></tr></table>	Data Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	No	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?	NA	CAR 12	<input checked="" type="checkbox"/>
Data Checklist	Yes / No																					
Title in line with methodology?	Yes																					
Data unit correctly expressed?	No																					
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?	NA																					
B.6.2.3. Parameter Title: B _o Maximum methane producing capacity (tCH ₄ /t COD)	1	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr></table>	Data Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>												
Data Checklist	Yes / No																					
Title in line with methodology?	NA																					
Data unit correctly expressed?	NA																					

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PPD in GSP	Final PDD
		Appropriate description of parameter?	NA		
		Source clearly referenced?	NA		
		Correct value provided?	NA		
		Has this value been verified?	NA		
		Choice of data correctly justified?	NA		
		Measurement method correctly described?	NA		
B.6.2.4. Parameter Title: MCF _p Methane conversion factor (fraction) (%)		Not applicable here		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Data Checklist	Yes / No		
		Title in line with methodology?	NA		
		Data unit correctly expressed?	NA		
		Appropriate description of parameter?	NA		
		Source clearly referenced?	NA		
		Correct value provided?	NA		
		Has this value been verified?	NA		
		Choice of data correctly justified?	NA		
		Measurement method correctly described?	NA		
In case the project activity includes waste water re-lease, the wastewater is treated anaerobically and resulting methane is flared the AM0025 methodology requires the use of the “Tool to determine project emissions from flaring gases containing Methane” to estimate methane emissions. Please see chapter G of	1	This has still to be clarified, see CR 2		See CR 2	<input checked="" type="checkbox"/>

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD																		
the Validation Protocol.																						
B.6.2.5. Parameter Title: ϵ_{boiler} Energy efficiency of boilers used for thermal energy generation in the absence of project activity (%)		<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr><tr><td>Choice of data correctly justified?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr></table>	Data Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	NA	Source clearly referenced?	NA	Correct value provided?	NA	Has this value been verified?	NA	Choice of data correctly justified?	NA	Measurement method correctly described?	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Data Checklist	Yes / No																					
Title in line with methodology?	NA																					
Data unit correctly expressed?	NA																					
Appropriate description of parameter?	NA																					
Source clearly referenced?	NA																					
Correct value provided?	NA																					
Has this value been verified?	NA																					
Choice of data correctly justified?	NA																					
Measurement method correctly described?	NA																					
B.6.2.6. Parameter Title: $\epsilon_{\text{gen,b}}$ Energy efficiency of power plant that would have generated electricity in the absence of project activity (%)		<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr><tr><td>Choice of data correctly justified?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr></table>	Data Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	NA	Source clearly referenced?	NA	Correct value provided?	NA	Has this value been verified?	NA	Choice of data correctly justified?	NA	Measurement method correctly described?	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Data Checklist	Yes / No																					
Title in line with methodology?	NA																					
Data unit correctly expressed?	NA																					
Appropriate description of parameter?	NA																					
Source clearly referenced?	NA																					
Correct value provided?	NA																					
Has this value been verified?	NA																					
Choice of data correctly justified?	NA																					
Measurement method correctly described?	NA																					
B.6.2.7. Parameter Title: η_{cogen} Efficiency of cogeneration plant that would		<table><tr><th>Data Checklist</th><th>Yes / No</th></tr></table>	Data Checklist	Yes / No	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																
Data Checklist	Yes / No																					

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PPD in GSP	Final PDD
have been used in the absence of project activity (%)		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		
B.6.2.8. Parameter Title: EF _{fuel,b} Emission factor of baseline fossil fuel used in the boiler, as identified in the baseline scenario identification (t CO ₂ /MJ)				☑	☑
		Data Checklist	Yes / No		
		Title in line with methodology?	NA		
		Data unit correctly expressed?	NA		
		Appropriate description of parameter?	NA		
		Source clearly referenced?	NA		
		Correct value provided?	NA		
		Has this value been verified?	NA		
		Choice of data correctly justified?	NA		
		Measurement method correctly described?	NA		
B.6.2.9. Parameter Title: EF _{fuel,c} Emission factor of baseline fossil fuel used in the cogeneration plant, as identified in the baseline scenario identification (t CO ₂ /MJ)				☑	☑
		Data Checklist	Yes / No		
		Title in line with methodology?	NA		
		Data unit correctly expressed?	NA		
		Appropriate description of parameter?	NA		
		Source clearly referenced?	NA		

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PPD in GSP	Final PDD																		
		Correct value provided?	NA																				
		Has this value been verified?	NA																				
		Choice of data correctly justified?	NA																				
		Measurement method correctly described?	NA																				
B.6.2.10. Parameter Title: GWP _{N2O} Global Warming Potential of nitrous oxide, (tCO _{2e} /tN ₂ O)		<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr><tr><td>Choice of data correctly justified?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr></table>		Data Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	NA	Source clearly referenced?	NA	Correct value provided?	NA	Has this value been verified?	NA	Choice of data correctly justified?	NA	Measurement method correctly described?	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Data Checklist	Yes / No																						
Title in line with methodology?	NA																						
Data unit correctly expressed?	NA																						
Appropriate description of parameter?	NA																						
Source clearly referenced?	NA																						
Correct value provided?	NA																						
Has this value been verified?	NA																						
Choice of data correctly justified?	NA																						
Measurement method correctly described?	NA																						
B.6.2.11. Parameter Title: CEF _{elec} Carbon emission factor for the production of electricity in the project activity, (tCO _{2e} /MWh) – if calculated ex-ante.	1, 2	The CEF has been calculated in chapter B.6.3 of the PDD. <table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided?</td><td>Yes</td></tr></table>		Data 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?	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
Data 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?	Yes																						

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS			PPD in GSP	Final PDD																		
		Has this value been verified?	Yes																					
		Choice of data correctly justified?	Yes																					
		Measurement method correctly described?	Yes																					
The following questions should be completed if electricity is purchased from the grid (CEF _{elec} should be calculated according to AMS I.D. and/or ACM 0002):																								
B.6.2.12. In case electricity is purchased from the grid Parameter Title: Emission factor of the grid (CEF)	1	<div>Clarification Request No. 17. Please clarify if power needs to be purchased from the grid during the running phase and in emergency cases. Estimate the quantity needed, if applicable. Anyway, the power imports to the plant needs to be monitored.</div> <table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>No</td></tr><tr><td>Data unit correctly expressed?</td><td>No</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>Source clearly referenced?</td><td>No</td></tr><tr><td>Correct value provided?</td><td>No</td></tr><tr><td>Has this value been verified?</td><td>No</td></tr><tr><td>Choice of data correctly justified?</td><td>No</td></tr><tr><td>Measurement method correctly described?</td><td>No</td></tr></table>			Data Checklist	Yes / No	Title in line with methodology?	No	Data unit correctly expressed?	No	Appropriate description of parameter?	No	Source clearly referenced?	No	Correct value provided?	No	Has this value been verified?	No	Choice of data correctly justified?	No	Measurement method correctly described?	No	CR 17	<input checked="" type="checkbox"/>
Data Checklist	Yes / No																							
Title in line with methodology?	No																							
Data unit correctly expressed?	No																							
Appropriate description of parameter?	No																							
Source clearly referenced?	No																							
Correct value provided?	No																							
Has this value been verified?	No																							
Choice of data correctly justified?	No																							
Measurement method correctly described?	No																							
B.6.2.13. In case electricity is purchased from the	1				See	<input checked="" type="checkbox"/>																		

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PPD in GSP	Final PDD
grid Parameter Title: Operating margin (OM) emission factor of the grid		Data Checklist	Yes / No	CR 17	
		Title in line with methodology?	No		
		Data unit correctly expressed?	No		
		Appropriate description of parameter?	No		
		Source clearly referenced?	No		
		Correct value provided?	No		
		Has this value been verified?	No		
		Choice of data correctly justified?	No		
		Measurement method correctly described?	No		
B.6.2.14. In case electricity is purchased from the grid Parameter Title: Build margin (BM) emission factor of the grid	1	Data Checklist	Yes / No	See CR 17	☑
		Title in line with methodology?	No		
		Data unit correctly expressed?	No		
		Appropriate description of parameter?	No		
		Source clearly referenced?	No		
		Correct value provided?	No		
		Has this value been verified?	No		
		Choice of data correctly justified?	No		
		Measurement method correctly described?	No		

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD																		
B.6.2.15. In case electricity is purchased from the grid Parameter Title: Fuel consumption of each power source	1	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>No</td></tr><tr><td>Data unit correctly expressed?</td><td>No</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>Source clearly referenced?</td><td>No</td></tr><tr><td>Correct value provided?</td><td>No</td></tr><tr><td>Has this value been verified?</td><td>No</td></tr><tr><td>Choice of data correctly justified?</td><td>No</td></tr><tr><td>Measurement method correctly described?</td><td>No</td></tr></table>	Data Checklist	Yes / No	Title in line with methodology?	No	Data unit correctly expressed?	No	Appropriate description of parameter?	No	Source clearly referenced?	No	Correct value provided?	No	Has this value been verified?	No	Choice of data correctly justified?	No	Measurement method correctly described?	No	See CR 17	<input checked="" type="checkbox"/>
Data Checklist	Yes / No																					
Title in line with methodology?	No																					
Data unit correctly expressed?	No																					
Appropriate description of parameter?	No																					
Source clearly referenced?	No																					
Correct value provided?	No																					
Has this value been verified?	No																					
Choice of data correctly justified?	No																					
Measurement method correctly described?	No																					
B.6.2.16. In case electricity is purchased from the grid Parameter Title: Emission coefficient of each fuel	1	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>No</td></tr><tr><td>Data unit correctly expressed?</td><td>No</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>Source clearly referenced?</td><td>No</td></tr><tr><td>Correct value provided?</td><td>No</td></tr><tr><td>Has this value been verified?</td><td>No</td></tr></table>	Data Checklist	Yes / No	Title in line with methodology?	No	Data unit correctly expressed?	No	Appropriate description of parameter?	No	Source clearly referenced?	No	Correct value provided?	No	Has this value been verified?	No	See CR 17	<input checked="" type="checkbox"/>				
Data Checklist	Yes / No																					
Title in line with methodology?	No																					
Data unit correctly expressed?	No																					
Appropriate description of parameter?	No																					
Source clearly referenced?	No																					
Correct value provided?	No																					
Has this value been verified?	No																					

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PPD in GSP	Final PDD																		
		Choice of data correctly justified?	No																				
		Measurement method correctly described?	No																				
B.6.2.17. In case electricity is purchased from the grid Parameter Title: Electricity generation of each power source	1	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>No</td></tr><tr><td>Data unit correctly expressed?</td><td>No</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>Source clearly referenced?</td><td>No</td></tr><tr><td>Correct value provided?</td><td>No</td></tr><tr><td>Has this value been verified?</td><td>No</td></tr><tr><td>Choice of data correctly justified?</td><td>No</td></tr><tr><td>Measurement method correctly described?</td><td>No</td></tr></table>		Data Checklist	Yes / No	Title in line with methodology?	No	Data unit correctly expressed?	No	Appropriate description of parameter?	No	Source clearly referenced?	No	Correct value provided?	No	Has this value been verified?	No	Choice of data correctly justified?	No	Measurement method correctly described?	No	See CR 17	<input checked="" type="checkbox"/>
Data Checklist	Yes / No																						
Title in line with methodology?	No																						
Data unit correctly expressed?	No																						
Appropriate description of parameter?	No																						
Source clearly referenced?	No																						
Correct value provided?	No																						
Has this value been verified?	No																						
Choice of data correctly justified?	No																						
Measurement method correctly described?	No																						
B.6.2.18. In case electricity is purchased from the grid Parameter Title: Fraction of time with low costs /must run plant at the margin (for simple adjusted OM only)	1	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>No</td></tr><tr><td>Data unit correctly expressed?</td><td>No</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr></table>		Data Checklist	Yes / No	Title in line with methodology?	No	Data unit correctly expressed?	No	Appropriate description of parameter?	No	See CR 17	<input checked="" type="checkbox"/>										
Data Checklist	Yes / No																						
Title in line with methodology?	No																						
Data unit correctly expressed?	No																						
Appropriate description of parameter?	No																						

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PPD in GSP	Final PDD
		Source clearly referenced?	No		
		Correct value provided?	No		
		Has this value been verified?	No		
		Choice of data correctly justified?	No		
		Measurement method correctly described?	No		
B.6.2.19. In case electricity is purchased from the grid Parameter Title: Electricity imports	1	See CR 17		See CR 17	<input checked="" type="checkbox"/>
		Data Checklist	Yes / No		
		Title in line with methodology?	No		
		Data unit correctly expressed?	No		
		Appropriate description of parameter?	No		
		Source clearly referenced?	No		
		Correct value provided?	No		
		Has this value been verified?	No		
		Choice of data correctly justified?	No		
		Measurement method correctly described?	No		
The AM0025 methodology requires the use of the “Tool to determine methane emissions avoided from					

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD																		
dumping waste at solid waste disposal site” to calculate baseline methane emissions avoided from preventing waste disposal at the solid waste disposal site.																						
B.6.2.20. Parameter Title: φ Model correction factor to account for model uncertainties	1	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided?</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>NA</td></tr></table>	Data 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?	Yes	Has this value been verified?	Yes	Choice of data correctly justified?	Yes	Measurement method correctly described?	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Data 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?	Yes																					
Has this value been verified?	Yes																					
Choice of data correctly justified?	Yes																					
Measurement method correctly described?	NA																					
B.6.2.21. Parameter Title: OX Oxidation factor (reflecting the amount of methane from SWDS that is oxidised in the soil or other material covering the waste)	1	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided?</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>NA</td></tr></table>	Data 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?	Yes	Has this value been verified?	Yes	Choice of data correctly justified?	Yes	Measurement method correctly described?	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Data 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?	Yes																					
Has this value been verified?	Yes																					
Choice of data correctly justified?	Yes																					
Measurement method correctly described?	NA																					

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD																		
B.6.2.22. Parameter Title: F Fraction of methane in the SWDS gas (volume fraction)	1	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided?</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>NA</td></tr></table>	Data 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?	Yes	Has this value been verified?	Yes	Choice of data correctly justified?	Yes	Measurement method correctly described?	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Data 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?	Yes																					
Has this value been verified?	Yes																					
Choice of data correctly justified?	Yes																					
Measurement method correctly described?	NA																					
B.6.2.23. Parameter Title: DOC _f Fraction of degradable organic carbon (DOC) that can decompose	1	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided?</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>NA</td></tr></table>	Data 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?	Yes	Has this value been verified?	Yes	Choice of data correctly justified?	Yes	Measurement method correctly described?	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Data 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?	Yes																					
Has this value been verified?	Yes																					
Choice of data correctly justified?	Yes																					
Measurement method correctly described?	NA																					
B.6.2.24. Parameter Title: MCF Methane correction factor	1	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr></table>	Data Checklist	Yes / No	Title in line with methodology?	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>														
Data Checklist	Yes / No																					
Title in line with methodology?	Yes																					

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PPD in GSP	Final PDD																		
		<table><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>NA</td></tr></table>	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?	NA							
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?	NA																						
B.6.2.25. Parameter Title: DOC _j Fraction of degradable organic carbon (by weight) for each waste type	1	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided?</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>NA</td></tr></table>	Data 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?	Yes	Has this value been verified?	Yes	Choice of data correctly justified?	Yes	Measurement method correctly described?	NA		☑	☑
Data 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?	Yes																						
Has this value been verified?	Yes																						
Choice of data correctly justified?	Yes																						
Measurement method correctly described?	NA																						
B.6.2.26. Parameter Title: k _j Decay rate for each waste type	1	Parameter has been selected in an appropriate manner. <table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr></table>	Data Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes		☑	☑								
Data Checklist	Yes / No																						
Title in line with methodology?	Yes																						
Data unit correctly expressed?	Yes																						
Appropriate description of parameter?	Yes																						
Source clearly referenced?	Yes																						

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PPD in GSP	Final PDD
		Correct value provided?	Yes		
		Has this value been verified?	Yes		
		Choice of data correctly justified?	Yes		
		Measurement method correctly described?	NA		
B.6.3. Ex-ante calculation of emission reductions					
B.6.3.1. Is the projection based on the same procedures as used for future monitoring?	1	Yes		☑	☑
B.6.3.2. Are the GHG calculations documented in a complete and transparent manner?	1, 28	<p>The ex-ante calculation of the baseline emissions from generation of energy displaced by the project activity quote power plant of Ivory Coast. According to the information gathered during the meeting with the representative of the energy grid operator no power imports to IC exist, only power exports.</p> <p><u>Clarification Request No. 18.</u></p> <p>The input data of the power plants in Ivory Coast which are from the power grid operators needs to be submitted to DOE.</p> <p><u>Clarification Request No. 19.</u></p> <p>The fuel density for the calculation of the project emissions (0,84) is not consistent with the figure used in the table in page 35 of PDD (0,81), please clarify.</p> <p><u>Clarification Request No. 20.</u></p> <p>The results of the first table on page 44 for the leakage emissions of annual consumption are not transparent regarding the given figures in the other columns, please clarify.</p>		CR 18 CR 19 CR 20	☑

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
B.6.3.3. Is the data provided in this section consistent with data as presented in other chapters of the PDD?	1	The BM emission factor is lower than the OM emission factor. This is conservative since it has been explained during on-site Audit by a representative of the energy department that more gas plants are planned causing a lower BM emission factor.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.6.4.2. Is the form/table required for the indication of projected emission reductions correctly applied?	1	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.6.4.3. Is the projection in line with the envisioned time schedule for the project's implementation and the indicated crediting period?	1	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.6.4.4. Is the data provided in this section in consistency with data as presented in other chapters of the PDD?	1	<u>Corrective Action Request No.13.</u> Regarding the CRs and CARs for project and leakage emissions, if applicable, the figures in table B.6.4 needs to be revised.	CAR 13	<input checked="" type="checkbox"/>
B.7. Application of the monitoring methodology and description of the monitoring plan				
B.7.1. Data and parameters monitored				
B.7.1.1. Is the list of parameters presented in chapter B.7.1 considered to be complete with regard to the requirements of the applied methodology?	1	See below	See below	<input checked="" type="checkbox"/>

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD														
Integrate the required amount of sub-checklists for monitoring parameter and comment on any line answered with “No”		<p><u>Corrective Action Request No.14.</u> The methodology of monitoring as well as compliance with National Standard, meter accuracy and calibration should be indicated.</p> <p><u>Corrective Action Request No.15.</u> There is a need to discuss the procedure in case of failure of monitoring equipment.</p> <p><u>Corrective Action Request No.16.</u> It should be discussed in more detail how monitoring data is gathered, archived and recorded. The whole way from data monitoring to the issuance of the monitoring report should be defined in the monitoring plan.</p> <p><u>Clarification Request No. 21.</u> Please clarify whether the maturity of the produced compost needs to be monitored during the project in order not to generate leakage emissions after selling a non-mature compost to local farmers for soil fertilizing.</p>	<p>CAR 14</p> <p>CAR 15</p> <p>CAR 16</p> <p>CR 21</p>	<p>☑</p>														
B.7.1.2. Parameter Title: Electricity generated in an on-site fossil fuel fired power plant or consumed from the grid (EG _{PJ,FF,y})		<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided for estimation?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	NA	Source clearly referenced?	NA	Correct value provided for estimation?	NA	Has this value been verified?	NA	<p>☑</p>	<p>☑</p>
Monitoring Checklist	Yes / No																	
Title in line with methodology?	NA																	
Data unit correctly expressed?	NA																	
Appropriate description of parameter?	NA																	
Source clearly referenced?	NA																	
Correct value provided for estimation?	NA																	
Has this value been verified?	NA																	

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PPD in GSP	Final PDD
		Measurement method correctly described?	NA		
		Correct reference to standards?	NA		
		Indication of accuracy provided?	NA		
		QA/QC procedures described?	NA		
		QA/QC procedures appropriate?	NA		
B.7.1.3. Parameter Title: Emission factor for the production of electricity in the project activity, (CEF _{elec}) – if calculated annually	1, 28	<u>Clarification Request No. 22.</u> Since large modifications of the BM emission factor are expected in the next years it needs to be discussed why it is suitable to calculate CEF _{elec} ex-ante and not to calculate it annually during project.		CR 22	☑
		Monitoring Checklist	Yes / No		
		Title in line with methodology?	No		
		Data unit correctly expressed?	No		
		Appropriate description of parameter?	No		
		Source clearly referenced?	No		
		Correct value provided for estimation?	No		
		Has this value been verified?	No		
		Measurement method correctly described?	No		
		Correct reference to standards?	No		
		Indication of accuracy provided?	No		
		QA/QC procedures described?	No		

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PPD in GSP	Final PDD
		QA/QC procedures appropriate?	No		
B.7.1.4. Parameter Title: Fuel consumption on-site ($F_{\text{cons},y}$)	1	See CAR 5		See CAR 5	<input checked="" type="checkbox"/>
		Monitoring Checklist	Yes / No		
		Title in line with methodology?	No		
		Data unit correctly expressed?	No		
		Appropriate description of parameter?	No		
		Source clearly referenced?	No		
		Correct value provided for estimation?	No		
		Has this value been verified?	No		
		Measurement method correctly described?	No		
		Correct reference to standards?	No		
		Indication of accuracy provided?	No		
		QA/QC procedures described?	No		
		QA/QC procedures appropriate?	No		
B.7.1.5. Parameter Title: Net calorific value of fuel of the fuel (NCV_{fuel})	1	See CAR 5		See CAR 5	<input checked="" type="checkbox"/>
		Monitoring Checklist	Yes / No		

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PPD in GSP	Final PDD
		Title in line with methodology?	No		
		Data unit correctly expressed?	No		
		Appropriate description of parameter?	No		
		Source clearly referenced?	No		
		Correct value provided for estimation?	No		
		Has this value been verified?	No		
		Measurement method correctly described?	No		
		Correct reference to standards?	No		
		Indication of accuracy provided?	No		
		QA/QC procedures described?	No		
		QA/QC procedures appropriate?	No		
B.7.1.6. Parameter Title: Emission factor of the fuel (EF_{fuel})	1	See CAR 5		See CAR 5	☑
		Monitoring Checklist	Yes / No		
		Title in line with methodology?	No		
		Data unit correctly expressed?	No		
		Appropriate description of parameter?	No		
		Source clearly referenced?	No		
		Correct value provided for estimation?	No		

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PPD in GSP	Final PDD
		Has this value been verified?	No		
		Measurement method correctly described?	No		
		Correct reference to standards?	No		
		Indication of accuracy provided?	No		
		QA/QC procedures described?	No		
		QA/QC procedures appropriate?	No		
B.7.1.7. Parameter Title: Total quantity of compost produced ($M_{com-post,y}$)	1	See CAR 14		See CAR 14	☑
		Monitoring Checklist	Yes / No		
		Title in line with methodology?	Yes		
		Data unit correctly expressed?	Yes		
		Appropriate description of parameter?	No		
		Source clearly referenced?	No		
		Correct value provided for estimation?	No		
		Has this value been verified?	No		
		Measurement method correctly described?	No		
		Correct reference to standards?	No		
		Indication of accuracy provided?	No		
		QA/QC procedures described?	No		
		QA/QC procedures appropriate?	No		

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD																								
B.7.1.8. Parameter Title: Leakage of methane emissions from an-aerobic digester (P _i)		<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided for estimation?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr><tr><td>Correct reference to standards?</td><td>NA</td></tr><tr><td>Indication of accuracy provided?</td><td>NA</td></tr><tr><td>QA/QC procedures described?</td><td>NA</td></tr><tr><td>QA/QC procedures appropriate?</td><td>NA</td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	NA	Source clearly referenced?	NA	Correct value provided for estimation?	NA	Has this value been verified?	NA	Measurement method correctly described?	NA	Correct reference to standards?	NA	Indication of accuracy provided?	NA	QA/QC procedures described?	NA	QA/QC procedures appropriate?	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Monitoring Checklist	Yes / No																											
Title in line with methodology?	NA																											
Data unit correctly expressed?	NA																											
Appropriate description of parameter?	NA																											
Source clearly referenced?	NA																											
Correct value provided for estimation?	NA																											
Has this value been verified?	NA																											
Measurement method correctly described?	NA																											
Correct reference to standards?	NA																											
Indication of accuracy provided?	NA																											
QA/QC procedures described?	NA																											
QA/QC procedures appropriate?	NA																											
B.7.1.9. Parameter Title: Total methane produced from anaerobic digester (M _{a,y})		<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided for estimation?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr><tr><td>Correct reference to standards?</td><td>NA</td></tr><tr><td>Indication of accuracy provided?</td><td>NA</td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	NA	Source clearly referenced?	NA	Correct value provided for estimation?	NA	Has this value been verified?	NA	Measurement method correctly described?	NA	Correct reference to standards?	NA	Indication of accuracy provided?	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				
Monitoring Checklist	Yes / No																											
Title in line with methodology?	NA																											
Data unit correctly expressed?	NA																											
Appropriate description of parameter?	NA																											
Source clearly referenced?	NA																											
Correct value provided for estimation?	NA																											
Has this value been verified?	NA																											
Measurement method correctly described?	NA																											
Correct reference to standards?	NA																											
Indication of accuracy provided?	NA																											

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PPD in GSP	Final PDD																								
		QA/QC procedures described?	NA																										
		QA/QC procedures appropriate?	NA																										
B.7.1.10. Parameter Title: Stack gas volume flow rate (SG _{a,y})		<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided for estimation?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr><tr><td>Correct reference to standards?</td><td>NA</td></tr><tr><td>Indication of accuracy provided?</td><td>NA</td></tr><tr><td>QA/QC procedures described?</td><td>NA</td></tr><tr><td>QA/QC procedures appropriate?</td><td>NA</td></tr></table>		Monitoring Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	NA	Source clearly referenced?	NA	Correct value provided for estimation?	NA	Has this value been verified?	NA	Measurement method correctly described?	NA	Correct reference to standards?	NA	Indication of accuracy provided?	NA	QA/QC procedures described?	NA	QA/QC procedures appropriate?	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Monitoring Checklist	Yes / No																												
Title in line with methodology?	NA																												
Data unit correctly expressed?	NA																												
Appropriate description of parameter?	NA																												
Source clearly referenced?	NA																												
Correct value provided for estimation?	NA																												
Has this value been verified?	NA																												
Measurement method correctly described?	NA																												
Correct reference to standards?	NA																												
Indication of accuracy provided?	NA																												
QA/QC procedures described?	NA																												
QA/QC procedures appropriate?	NA																												
B.7.1.11. Parameter Title: Concentration of N ₂ O in stack gas (MC _{N₂O,a,y})		<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided for estimation?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr></table>		Monitoring Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	NA	Source clearly referenced?	NA	Correct value provided for estimation?	NA	Has this value been verified?	NA	Measurement method correctly described?	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>								
Monitoring Checklist	Yes / No																												
Title in line with methodology?	NA																												
Data unit correctly expressed?	NA																												
Appropriate description of parameter?	NA																												
Source clearly referenced?	NA																												
Correct value provided for estimation?	NA																												
Has this value been verified?	NA																												
Measurement method correctly described?	NA																												

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PPD in GSP	Final PDD																								
		Correct reference to standards?	NA																										
		Indication of accuracy provided?	NA																										
		QA/QC procedures described?	NA																										
		QA/QC procedures appropriate?	NA																										
B.7.1.12. Parameter Title: Concentration of CH ₄ in stack gas (MC _{CH4,a,y})		<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided for estimation?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr><tr><td>Correct reference to standards?</td><td>NA</td></tr><tr><td>Indication of accuracy provided?</td><td>NA</td></tr><tr><td>QA/QC procedures described?</td><td>NA</td></tr><tr><td>QA/QC procedures appropriate?</td><td>NA</td></tr></table>		Monitoring Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	NA	Source clearly referenced?	NA	Correct value provided for estimation?	NA	Has this value been verified?	NA	Measurement method correctly described?	NA	Correct reference to standards?	NA	Indication of accuracy provided?	NA	QA/QC procedures described?	NA	QA/QC procedures appropriate?	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Monitoring Checklist	Yes / No																												
Title in line with methodology?	NA																												
Data unit correctly expressed?	NA																												
Appropriate description of parameter?	NA																												
Source clearly referenced?	NA																												
Correct value provided for estimation?	NA																												
Has this value been verified?	NA																												
Measurement method correctly described?	NA																												
Correct reference to standards?	NA																												
Indication of accuracy provided?	NA																												
QA/QC procedures described?	NA																												
QA/QC procedures appropriate?	NA																												
B.7.1.13. Parameter Title: Amount of each waste type i fed into the gasifier or RDF/stabilized biomass com- bustor or waste incineration plant (A _i)		<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided for estimation?</td><td>NA</td></tr></table>		Monitoring Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	NA	Source clearly referenced?	NA	Correct value provided for estimation?	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>												
Monitoring Checklist	Yes / No																												
Title in line with methodology?	NA																												
Data unit correctly expressed?	NA																												
Appropriate description of parameter?	NA																												
Source clearly referenced?	NA																												
Correct value provided for estimation?	NA																												

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PPD in GSP	Final PDD																								
		Has this value been verified?	NA																										
		Measurement method correctly described?	NA																										
		Correct reference to standards?	NA																										
		Indication of accuracy provided?	NA																										
		QA/QC procedures described?	NA																										
		QA/QC procedures appropriate?	NA																										
B.7.1.14. Parameter Title: Fraction of carbon content in each waste type i (CCW _i)		<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided for estimation?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr><tr><td>Correct reference to standards?</td><td>NA</td></tr><tr><td>Indication of accuracy provided?</td><td>NA</td></tr><tr><td>QA/QC procedures described?</td><td>NA</td></tr><tr><td>QA/QC procedures appropriate?</td><td>NA</td></tr></table>		Monitoring Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	NA	Source clearly referenced?	NA	Correct value provided for estimation?	NA	Has this value been verified?	NA	Measurement method correctly described?	NA	Correct reference to standards?	NA	Indication of accuracy provided?	NA	QA/QC procedures described?	NA	QA/QC procedures appropriate?	NA	☑	☑
Monitoring Checklist	Yes / No																												
Title in line with methodology?	NA																												
Data unit correctly expressed?	NA																												
Appropriate description of parameter?	NA																												
Source clearly referenced?	NA																												
Correct value provided for estimation?	NA																												
Has this value been verified?	NA																												
Measurement method correctly described?	NA																												
Correct reference to standards?	NA																												
Indication of accuracy provided?	NA																												
QA/QC procedures described?	NA																												
QA/QC procedures appropriate?	NA																												
B.7.1.15. Parameter Title: Fraction of fossil carbon in each waste type (FCF _i)		<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr></table>		Monitoring Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	NA	☑	☑																
Monitoring Checklist	Yes / No																												
Title in line with methodology?	NA																												
Data unit correctly expressed?	NA																												
Appropriate description of parameter?	NA																												

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PPD in GSP	Final PDD																								
		Source clearly referenced?	NA																										
		Correct value provided for estimation?	NA																										
		Has this value been verified?	NA																										
		Measurement method correctly described?	NA																										
		Correct reference to standards?	NA																										
		Indication of accuracy provided?	NA																										
		QA/QC procedures described?	NA																										
		QA/QC procedures appropriate?	NA																										
B.7.1.16. Parameter Title: Combustion efficiency for each waste type (EF _i)		<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided for estimation?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr><tr><td>Correct reference to standards?</td><td>NA</td></tr><tr><td>Indication of accuracy provided?</td><td>NA</td></tr><tr><td>QA/QC procedures described?</td><td>NA</td></tr><tr><td>QA/QC procedures appropriate?</td><td>NA</td></tr></table>		Monitoring Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	NA	Source clearly referenced?	NA	Correct value provided for estimation?	NA	Has this value been verified?	NA	Measurement method correctly described?	NA	Correct reference to standards?	NA	Indication of accuracy provided?	NA	QA/QC procedures described?	NA	QA/QC procedures appropriate?	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Monitoring Checklist	Yes / No																												
Title in line with methodology?	NA																												
Data unit correctly expressed?	NA																												
Appropriate description of parameter?	NA																												
Source clearly referenced?	NA																												
Correct value provided for estimation?	NA																												
Has this value been verified?	NA																												
Measurement method correctly described?	NA																												
Correct reference to standards?	NA																												
Indication of accuracy provided?	NA																												
QA/QC procedures described?	NA																												
QA/QC procedures appropriate?	NA																												
B.7.1.17. Parameter Title: Total volume of stack gas from gasification/incineration/RDF/stabilized biomass		<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr></table>		Monitoring Checklist	Yes / No	Title in line with methodology?	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																				
Monitoring Checklist	Yes / No																												
Title in line with methodology?	NA																												

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PPD in GSP	Final PDD	
combustion (SG _{g/r/i,y})		Data unit correctly expressed?	NA			
		Appropriate description of parameter?	NA			
		Source clearly referenced?	NA			
		Correct value provided for estimation?	NA			
		Has this value been verified?	NA			
		Measurement method correctly described?	NA			
		Correct reference to standards?	NA			
		Indication of accuracy provided?	NA			
		QA/QC procedures described?	NA			
		QA/QC procedures appropriate?	NA			
B.7.1.18. Parameter Title: Monitored content of nitrous oxide in the stack gas from gasification/incineration/RDF combustion (MC _{N2O,g/r/i,y})				☑	☑	
		Monitoring Checklist				Yes / No
		Title in line with methodology?	NA			
		Data unit correctly expressed?	NA			
		Appropriate description of parameter?	NA			
		Source clearly referenced?	NA			
		Correct value provided for estimation?	NA			
		Has this value been verified?	NA			
		Measurement method correctly described?	NA			
		Correct reference to standards?	NA			
		Indication of accuracy provided?	NA			
		QA/QC procedures described?	NA			
		QA/QC procedures appropriate?	NA			
B.7.1.19. Parameter Title:				☑	☑	

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PPD in GSP	Final PDD
Monitored content of methane in the stack gas from gasification/incineration/ RDF/stabilized combustion (MC _{CH4,g/r/i,y})		Monitoring Checklist	Yes / No		
		Title in line with methodology?	NA		
		Data unit correctly expressed?	NA		
		Appropriate description of parameter?	NA		
		Source clearly referenced?	NA		
		Correct value provided for estimation?	NA		
		Has this value been verified?	NA		
		Measurement method correctly described?	NA		
		Correct reference to standards?	NA		
		Indication of accuracy provided?	NA		
		QA/QC procedures described?	NA		
		QA/QC procedures appropriate?	NA		
B.7.1.20. Parameter Title: Methane produced in the landfill in the absence of the project (MB _y)		Monitoring Checklist	Yes / No	☑	☑
		Title in line with methodology?	NA		
		Data unit correctly expressed?	NA		
		Appropriate description of parameter?	NA		
		Source clearly referenced?	NA		
		Correct value provided for estimation?	NA		
		Has this value been verified?	NA		
		Measurement method correctly described?	NA		
		Correct reference to standards?	NA		
		Indication of accuracy provided?	NA		
		QA/QC procedures described?	NA		
		QA/QC procedures appropriate?	NA		

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD																								
B.7.1.21. Parameter Title: Methane destroyed due to regulatory or other requirements (AF)	1	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided for estimation?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr><tr><td>Correct reference to standards?</td><td>NA</td></tr><tr><td>Indication of accuracy provided?</td><td>NA</td></tr><tr><td>QA/QC procedures described?</td><td>Yes</td></tr><tr><td>QA/QC procedures appropriate?</td><td>Yes</td></tr></table>	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?	NA	Correct reference to standards?	NA	Indication of accuracy provided?	NA	QA/QC procedures described?	Yes	QA/QC procedures appropriate?	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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?	NA																											
Correct reference to standards?	NA																											
Indication of accuracy provided?	NA																											
QA/QC procedures described?	Yes																											
QA/QC procedures appropriate?	Yes																											
B.7.1.22. Parameter Title: Amount of electricity generated utilizing the biogas/syngas collected/RDF/SB/combustion heat from incineration in the project activity displacing electricity in the baseline (EG _{d,y})		<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided for estimation?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr><tr><td>Correct reference to standards?</td><td>NA</td></tr><tr><td>Indication of accuracy provided?</td><td>NA</td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	NA	Source clearly referenced?	NA	Correct value provided for estimation?	NA	Has this value been verified?	NA	Measurement method correctly described?	NA	Correct reference to standards?	NA	Indication of accuracy provided?	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				
Monitoring Checklist	Yes / No																											
Title in line with methodology?	NA																											
Data unit correctly expressed?	NA																											
Appropriate description of parameter?	NA																											
Source clearly referenced?	NA																											
Correct value provided for estimation?	NA																											
Has this value been verified?	NA																											
Measurement method correctly described?	NA																											
Correct reference to standards?	NA																											
Indication of accuracy provided?	NA																											

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PPD in GSP	Final PDD
		QA/QC procedures described?	NA		
		QA/QC procedures appropriate?	NA		
B.7.1.23. Parameter Title: Emission factor of displaced electricity by the project activity (CEF _d)	1	See CR 22		See CR 22	<input checked="" type="checkbox"/>
		Monitoring Checklist	Yes / No		
		Title in line with methodology?	No		
		Data unit correctly expressed?	No		
		Appropriate description of parameter?	No		
		Source clearly referenced?	No		
		Correct value provided for estimation?	No		
		Has this value been verified?	No		
		Measurement method correctly described?	No		
		Correct reference to standards?	No		
		Indication of accuracy provided?	No		
		QA/QC procedures described?	No		
		QA/QC procedures appropriate?	No		
The following questions should be completed if the generated electricity from bio-gas/syngas/RDF/stabilized biomass/combustion heat					

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD																		
from incineration displaces grid electricity and CEF _d will be calculated according to AMS I.D. and/or ACM 0002:																						
B.7.1.24. In case electricity is purchased from the grid Parameter Title: Emission factor of the grid (CEF)		<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr><tr><td>Choice of data correctly justified?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr></table>	Data Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	NA	Source clearly referenced?	NA	Correct value provided?	NA	Has this value been verified?	NA	Choice of data correctly justified?	NA	Measurement method correctly described?	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Data Checklist	Yes / No																					
Title in line with methodology?	NA																					
Data unit correctly expressed?	NA																					
Appropriate description of parameter?	NA																					
Source clearly referenced?	NA																					
Correct value provided?	NA																					
Has this value been verified?	NA																					
Choice of data correctly justified?	NA																					
Measurement method correctly described?	NA																					
B.7.1.25. In case electricity is purchased from the grid Parameter Title: Operating margin (OM) emission factor of the grid		<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr><tr><td>Choice of data correctly justified?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr></table>	Data Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	NA	Source clearly referenced?	NA	Correct value provided?	NA	Has this value been verified?	NA	Choice of data correctly justified?	NA	Measurement method correctly described?	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Data Checklist	Yes / No																					
Title in line with methodology?	NA																					
Data unit correctly expressed?	NA																					
Appropriate description of parameter?	NA																					
Source clearly referenced?	NA																					
Correct value provided?	NA																					
Has this value been verified?	NA																					
Choice of data correctly justified?	NA																					
Measurement method correctly described?	NA																					
B.7.1.26. In case electricity is purchased from the			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																		

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PPD in GSP	Final PDD
grid Parameter Title: Build margin (BM) emission factor of the grid		Data Checklist	Yes / No		
		Title in line with methodology?	NA		
		Data unit correctly expressed?	NA		
		Appropriate description of parameter?	NA		
		Source clearly referenced?	NA		
		Correct value provided?	NA		
		Has this value been verified?	NA		
		Choice of data correctly justified?	NA		
		Measurement method correctly described?	NA		
B.7.1.27. In case electricity is purchased from the grid Parameter Title: Fuel consumption of each power source		Data Checklist	Yes / No	☑	☑
		Title in line with methodology?	NA		
		Data unit correctly expressed?	NA		
		Appropriate description of parameter?	NA		
		Source clearly referenced?	NA		
		Correct value provided?	NA		
		Has this value been verified?	NA		
		Choice of data correctly justified?	NA		
		Measurement method correctly described?	NA		
B.7.1.28. In case electricity is purchased from the grid Parameter Title: Emission coefficient of each fuel		Data Checklist	Yes / No	☑	☑
		Title in line with methodology?	NA		
		Data unit correctly expressed?	NA		
		Appropriate description of parameter?	NA		

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PPD in GSP	Final PDD																		
		<table><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr><tr><td>Choice of data correctly justified?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr></table>		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										
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																						
B.7.1.29. In case electricity is purchased from the grid Parameter Title: Electricity generation of each power source		<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr><tr><td>Choice of data correctly justified?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr></table>		Data Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	NA	Source clearly referenced?	NA	Correct value provided?	NA	Has this value been verified?	NA	Choice of data correctly justified?	NA	Measurement method correctly described?	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Data Checklist	Yes / No																						
Title in line with methodology?	NA																						
Data unit correctly expressed?	NA																						
Appropriate description of parameter?	NA																						
Source clearly referenced?	NA																						
Correct value provided?	NA																						
Has this value been verified?	NA																						
Choice of data correctly justified?	NA																						
Measurement method correctly described?	NA																						
B.7.1.30. In case electricity is purchased from the grid Parameter Title: Fraction of time with low costs /must run plant at the margin (for simple adjusted OM only)		<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr><tr><td>Choice of data correctly justified?</td><td>NA</td></tr></table>		Data Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	NA	Source clearly referenced?	NA	Correct value provided?	NA	Has this value been verified?	NA	Choice of data correctly justified?	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Data Checklist	Yes / No																						
Title in line with methodology?	NA																						
Data unit correctly expressed?	NA																						
Appropriate description of parameter?	NA																						
Source clearly referenced?	NA																						
Correct value provided?	NA																						
Has this value been verified?	NA																						
Choice of data correctly justified?	NA																						

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PPD in GSP	Final PDD																								
		<table><tr><td>Measurement method correctly described?</td><td>NA</td></tr></table>		Measurement method correctly described?	NA																								
Measurement method correctly described?	NA																												
B.7.1.31. In case electricity is purchased from the grid Parameter Title: Electricity imports		<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr><tr><td>Choice of data correctly justified?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr></table>		Data Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	NA	Source clearly referenced?	NA	Correct value provided?	NA	Has this value been verified?	NA	Choice of data correctly justified?	NA	Measurement method correctly described?	NA	☑	☑						
Data Checklist	Yes / No																												
Title in line with methodology?	NA																												
Data unit correctly expressed?	NA																												
Appropriate description of parameter?	NA																												
Source clearly referenced?	NA																												
Correct value provided?	NA																												
Has this value been verified?	NA																												
Choice of data correctly justified?	NA																												
Measurement method correctly described?	NA																												
B.7.1.32. Parameter Title: State-level compliance rate of the MSW Management Rules (RATE ^{compliance_y})	1	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided for estimation?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr><tr><td>Correct reference to standards?</td><td>NA</td></tr><tr><td>Indication of accuracy provided?</td><td>NA</td></tr><tr><td>QA/QC procedures described?</td><td>NA</td></tr><tr><td>QA/QC procedures appropriate?</td><td>NA</td></tr></table>		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?	NA	Correct reference to standards?	NA	Indication of accuracy provided?	NA	QA/QC procedures described?	NA	QA/QC procedures appropriate?	NA	☑	☑
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?	NA																												
Correct reference to standards?	NA																												
Indication of accuracy provided?	NA																												
QA/QC procedures described?	NA																												
QA/QC procedures appropriate?	NA																												

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD																								
B.7.1.33. Parameter Title: Vehicles per carrying capacity (NO _{vehicles,i,y})	1	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided for estimation?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr><tr><td>Correct reference to standards?</td><td>NA</td></tr><tr><td>Indication of accuracy provided?</td><td>NA</td></tr><tr><td>QA/QC procedures described?</td><td>NA</td></tr><tr><td>QA/QC procedures appropriate?</td><td>NA</td></tr></table>	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?	NA	Correct reference to standards?	NA	Indication of accuracy provided?	NA	QA/QC procedures described?	NA	QA/QC procedures appropriate?	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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?	NA																											
Correct reference to standards?	NA																											
Indication of accuracy provided?	NA																											
QA/QC procedures described?	NA																											
QA/QC procedures appropriate?	NA																											
B.7.1.34. Parameter Title: Average additional distance travelled by each vehicle type compared to the base-line (DT _{i,y})	1	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided for estimation?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr><tr><td>Correct reference to standards?</td><td>NA</td></tr></table>	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?	NA	Correct reference to standards?	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
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?	NA																											
Correct reference to standards?	NA																											

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PPD in GSP	Final PDD																								
		Indication of accuracy provided?	NA																										
		QA/QC procedures described?	NA																										
		QA/QC procedures appropriate?	NA																										
B.7.1.35. Parameter Title: Vehicle fuel consumption (VF _{cons})	1	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided for estimation?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr><tr><td>Correct reference to standards?</td><td>NA</td></tr><tr><td>Indication of accuracy provided?</td><td>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>		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?	NA	Correct reference to standards?	NA	Indication of accuracy provided?	Yes	QA/QC procedures described?	Yes	QA/QC procedures appropriate?	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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?	NA																												
Correct reference to standards?	NA																												
Indication of accuracy provided?	Yes																												
QA/QC procedures described?	Yes																												
QA/QC procedures appropriate?	Yes																												
B.7.1.36. Parameter Title: Density of fuel (D _{fuel})	1	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>No</td></tr><tr><td>Data unit correctly expressed?</td><td>No</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>Source clearly referenced?</td><td>No</td></tr><tr><td>Correct value provided for estimation?</td><td>No</td></tr></table>		Monitoring Checklist	Yes / No	Title in line with methodology?	No	Data unit correctly expressed?	No	Appropriate description of parameter?	No	Source clearly referenced?	No	Correct value provided for estimation?	No	CR 23	<input checked="" type="checkbox"/>												
Monitoring Checklist	Yes / No																												
Title in line with methodology?	No																												
Data unit correctly expressed?	No																												
Appropriate description of parameter?	No																												
Source clearly referenced?	No																												
Correct value provided for estimation?	No																												

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PPD in GSP	Final PDD																								
		<table><tr><td>Has this value been verified?</td><td>No</td></tr><tr><td>Measurement method correctly described?</td><td>No</td></tr><tr><td>Correct reference to standards?</td><td>No</td></tr><tr><td>Indication of accuracy provided?</td><td>No</td></tr><tr><td>QA/QC procedures described?</td><td>No</td></tr><tr><td>QA/QC procedures appropriate?</td><td>No</td></tr></table> <p><u>Clarification Request No. 23.</u></p> <p>The parameter of density of fuel is missing, please clarify.</p>	Has this value been verified?	No	Measurement method correctly described?	No	Correct reference to standards?	No	Indication of accuracy provided?	No	QA/QC procedures described?	No	QA/QC procedures appropriate?	No															
Has this value been verified?	No																												
Measurement method correctly described?	No																												
Correct reference to standards?	No																												
Indication of accuracy provided?	No																												
QA/QC procedures described?	No																												
QA/QC procedures appropriate?	No																												
B.7.1.37. Parameter Title: Amount of waste gasified,incinerated or RDF/stabilized biomass combusted ($Q_{bio-mass}$) – ($PE_{g/r/i,s,y}$ option 2)		<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided for estimation?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr><tr><td>Correct reference to standards?</td><td>NA</td></tr><tr><td>Indication of accuracy provided?</td><td>NA</td></tr><tr><td>QA/QC procedures described?</td><td>NA</td></tr><tr><td>QA/QC procedures appropriate?</td><td>NA</td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	NA	Source clearly referenced?	NA	Correct value provided for estimation?	NA	Has this value been verified?	NA	Measurement method correctly described?	NA	Correct reference to standards?	NA	Indication of accuracy provided?	NA	QA/QC procedures described?	NA	QA/QC procedures appropriate?	NA		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Monitoring Checklist	Yes / No																												
Title in line with methodology?	NA																												
Data unit correctly expressed?	NA																												
Appropriate description of parameter?	NA																												
Source clearly referenced?	NA																												
Correct value provided for estimation?	NA																												
Has this value been verified?	NA																												
Measurement method correctly described?	NA																												
Correct reference to standards?	NA																												
Indication of accuracy provided?	NA																												
QA/QC procedures described?	NA																												
QA/QC procedures appropriate?	NA																												
B.7.1.38. Parameter Title: Aggregate N ₂ O emission factor for waste incineration (EF_{N_2O})		<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																		
Monitoring Checklist	Yes / No																												
Title in line with methodology?	NA																												
Data unit correctly expressed?	NA																												

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PPD in GSP	Final PDD																								
		<table><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided for estimation?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr><tr><td>Correct reference to standards?</td><td>NA</td></tr><tr><td>Indication of accuracy provided?</td><td>NA</td></tr><tr><td>QA/QC procedures described?</td><td>NA</td></tr><tr><td>QA/QC procedures appropriate?</td><td>NA</td></tr></table>		Appropriate description of parameter?	NA	Source clearly referenced?	NA	Correct value provided for estimation?	NA	Has this value been verified?	NA	Measurement method correctly described?	NA	Correct reference to standards?	NA	Indication of accuracy provided?	NA	QA/QC procedures described?	NA	QA/QC procedures appropriate?	NA								
Appropriate description of parameter?	NA																												
Source clearly referenced?	NA																												
Correct value provided for estimation?	NA																												
Has this value been verified?	NA																												
Measurement method correctly described?	NA																												
Correct reference to standards?	NA																												
Indication of accuracy provided?	NA																												
QA/QC procedures described?	NA																												
QA/QC procedures appropriate?	NA																												
B.7.1.39. Parameter Title: Aggregate CH ₄ emission factor for waste incineration (EF _{CH4})		<table><tr><td>Monitoring Checklist</td><td>Yes / No</td></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided for estimation?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr><tr><td>Correct reference to standards?</td><td>NA</td></tr><tr><td>Indication of accuracy provided?</td><td>NA</td></tr><tr><td>QA/QC procedures described?</td><td>NA</td></tr><tr><td>QA/QC procedures appropriate?</td><td>NA</td></tr></table>		Monitoring Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	NA	Source clearly referenced?	NA	Correct value provided for estimation?	NA	Has this value been verified?	NA	Measurement method correctly described?	NA	Correct reference to standards?	NA	Indication of accuracy provided?	NA	QA/QC procedures described?	NA	QA/QC procedures appropriate?	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Monitoring Checklist	Yes / No																												
Title in line with methodology?	NA																												
Data unit correctly expressed?	NA																												
Appropriate description of parameter?	NA																												
Source clearly referenced?	NA																												
Correct value provided for estimation?	NA																												
Has this value been verified?	NA																												
Measurement method correctly described?	NA																												
Correct reference to standards?	NA																												
Indication of accuracy provided?	NA																												
QA/QC procedures described?	NA																												
QA/QC procedures appropriate?	NA																												
B.7.1.40. Parameter Title: Share of the waste that degrades under	1	<table><tr><td>Monitoring Checklist</td><td>Yes / No</td></tr></table>		Monitoring Checklist	Yes / No	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																						
Monitoring Checklist	Yes / No																												

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PPD in GSP	Final PDD	
anaerobic conditions in the composting plant ($S_{a,y}$)		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			
B.7.1.41. Parameter Title: Number of samples with oxygen deficiency (emissions from composting) ($S_{OD,y}$)	1			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
		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					

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD																								
B.7.1.42. Parameter Title: Total number of samples (emissions from composting) ($S_{total,y}$)	1	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided for estimation?</td><td>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>	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	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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																											
B.7.1.43. Parameter Title: Share of samples anaerobic (emissions from residual waste in case aerobically treated) (S_{LE})		<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided for estimation?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr><tr><td>Correct reference to standards?</td><td>NA</td></tr><tr><td>Indication of accuracy provided?</td><td>NA</td></tr><tr><td>QA/QC procedures described?</td><td>NA</td></tr><tr><td>QA/QC procedures appropriate?</td><td>NA</td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	NA	Source clearly referenced?	NA	Correct value provided for estimation?	NA	Has this value been verified?	NA	Measurement method correctly described?	NA	Correct reference to standards?	NA	Indication of accuracy provided?	NA	QA/QC procedures described?	NA	QA/QC procedures appropriate?	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Monitoring Checklist	Yes / No																											
Title in line with methodology?	NA																											
Data unit correctly expressed?	NA																											
Appropriate description of parameter?	NA																											
Source clearly referenced?	NA																											
Correct value provided for estimation?	NA																											
Has this value been verified?	NA																											
Measurement method correctly described?	NA																											
Correct reference to standards?	NA																											
Indication of accuracy provided?	NA																											
QA/QC procedures described?	NA																											
QA/QC procedures appropriate?	NA																											

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD																								
B.7.1.44. Parameter Title: Number of samples with oxygen deficiency (emissions from residual waste in case aerobically treated) ($S_{OD,LE}$)		<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided for estimation?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr><tr><td>Correct reference to standards?</td><td>NA</td></tr><tr><td>Indication of accuracy provided?</td><td>NA</td></tr><tr><td>QA/QC procedures described?</td><td>NA</td></tr><tr><td>QA/QC procedures appropriate?</td><td>NA</td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	NA	Source clearly referenced?	NA	Correct value provided for estimation?	NA	Has this value been verified?	NA	Measurement method correctly described?	NA	Correct reference to standards?	NA	Indication of accuracy provided?	NA	QA/QC procedures described?	NA	QA/QC procedures appropriate?	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Monitoring Checklist	Yes / No																											
Title in line with methodology?	NA																											
Data unit correctly expressed?	NA																											
Appropriate description of parameter?	NA																											
Source clearly referenced?	NA																											
Correct value provided for estimation?	NA																											
Has this value been verified?	NA																											
Measurement method correctly described?	NA																											
Correct reference to standards?	NA																											
Indication of accuracy provided?	NA																											
QA/QC procedures described?	NA																											
QA/QC procedures appropriate?	NA																											
B.7.1.45. Parameter Title: Total number of samples (emissions from residual waste in case aerobically treated) ($S_{LE,total}$)		<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided for estimation?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr><tr><td>Correct reference to standards?</td><td>NA</td></tr><tr><td>Indication of accuracy provided?</td><td>NA</td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	NA	Source clearly referenced?	NA	Correct value provided for estimation?	NA	Has this value been verified?	NA	Measurement method correctly described?	NA	Correct reference to standards?	NA	Indication of accuracy provided?	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				
Monitoring Checklist	Yes / No																											
Title in line with methodology?	NA																											
Data unit correctly expressed?	NA																											
Appropriate description of parameter?	NA																											
Source clearly referenced?	NA																											
Correct value provided for estimation?	NA																											
Has this value been verified?	NA																											
Measurement method correctly described?	NA																											
Correct reference to standards?	NA																											
Indication of accuracy provided?	NA																											

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PPD in GSP	Final PDD																								
		<table><tr><td>QA/QC procedures described?</td><td>NA</td></tr><tr><td>QA/QC procedures appropriate?</td><td>NA</td></tr></table>		QA/QC procedures described?	NA	QA/QC procedures appropriate?	NA																						
QA/QC procedures described?	NA																												
QA/QC procedures appropriate?	NA																												
B.7.1.46. Parameter Title: Degradability analysis (stabilised bio-mass)		<table><tr><td>Monitoring Checklist</td><td>Yes / No</td></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided for estimation?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr><tr><td>Correct reference to standards?</td><td>NA</td></tr><tr><td>Indication of accuracy provided?</td><td>NA</td></tr><tr><td>QA/QC procedures described?</td><td>NA</td></tr><tr><td>QA/QC procedures appropriate?</td><td>NA</td></tr></table>		Monitoring Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	NA	Source clearly referenced?	NA	Correct value provided for estimation?	NA	Has this value been verified?	NA	Measurement method correctly described?	NA	Correct reference to standards?	NA	Indication of accuracy provided?	NA	QA/QC procedures described?	NA	QA/QC procedures appropriate?	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Monitoring Checklist	Yes / No																												
Title in line with methodology?	NA																												
Data unit correctly expressed?	NA																												
Appropriate description of parameter?	NA																												
Source clearly referenced?	NA																												
Correct value provided for estimation?	NA																												
Has this value been verified?	NA																												
Measurement method correctly described?	NA																												
Correct reference to standards?	NA																												
Indication of accuracy provided?	NA																												
QA/QC procedures described?	NA																												
QA/QC procedures appropriate?	NA																												
B.7.1.47. Parameter Title: Amount of RDF/stabilized biomass used outside the project boundary		<table><tr><td>Monitoring Checklist</td><td>Yes / No</td></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided for estimation?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr></table>		Monitoring Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	NA	Source clearly referenced?	NA	Correct value provided for estimation?	NA	Has this value been verified?	NA	Measurement method correctly described?	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>								
Monitoring Checklist	Yes / No																												
Title in line with methodology?	NA																												
Data unit correctly expressed?	NA																												
Appropriate description of parameter?	NA																												
Source clearly referenced?	NA																												
Correct value provided for estimation?	NA																												
Has this value been verified?	NA																												
Measurement method correctly described?	NA																												

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PPD in GSP	Final PDD
		Correct reference to standards?	NA		
		Indication of accuracy provided?	NA		
		QA/QC procedures described?	NA		
		QA/QC procedures appropriate?	NA		
B.7.1.48. Parameter Title: Temperature of the thermal treatment process		Monitoring Checklist	Yes / No	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Title in line with methodology?	NA		
		Data unit correctly expressed?	NA		
		Appropriate description of parameter?	NA		
		Source clearly referenced?	NA		
		Correct value provided for estimation?	NA		
		Has this value been verified?	NA		
		Measurement method correctly described?	NA		
		Correct reference to standards?	NA		
		Indication of accuracy provided?	NA		
		QA/QC procedures described?	NA		
		QA/QC procedures appropriate?	NA		
B.7.1.49. Parameter Title: Amount of organic waste type prevented from disposal in the landfill (A _{j,x})		Monitoring Checklist	Yes / No	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Title in line with methodology?	NA		
		Data unit correctly expressed?	NA		
		Appropriate description of parameter?	NA		
		Source clearly referenced?	NA		
		Correct value provided for estimation?	NA		

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PPD in GSP	Final PDD																								
		Has this value been verified?	NA																										
		Measurement method correctly described?	NA																										
		Correct reference to standards?	NA																										
		Indication of accuracy provided?	NA																										
		QA/QC procedures described?	NA																										
		QA/QC procedures appropriate?	NA																										
B.7.1.50. Parameter Title: Amount of residual waste type 'ci' from anaerobic digestion, gasifier or processing/combustion of RDF and stabilized biomass ($A_{ci,x}$)		<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided for estimation?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr><tr><td>Correct reference to standards?</td><td>NA</td></tr><tr><td>Indication of accuracy provided?</td><td>NA</td></tr><tr><td>QA/QC procedures described?</td><td>NA</td></tr><tr><td>QA/QC procedures appropriate?</td><td>NA</td></tr></table>		Monitoring Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	NA	Source clearly referenced?	NA	Correct value provided for estimation?	NA	Has this value been verified?	NA	Measurement method correctly described?	NA	Correct reference to standards?	NA	Indication of accuracy provided?	NA	QA/QC procedures described?	NA	QA/QC procedures appropriate?	NA	☑	☑
Monitoring Checklist	Yes / No																												
Title in line with methodology?	NA																												
Data unit correctly expressed?	NA																												
Appropriate description of parameter?	NA																												
Source clearly referenced?	NA																												
Correct value provided for estimation?	NA																												
Has this value been verified?	NA																												
Measurement method correctly described?	NA																												
Correct reference to standards?	NA																												
Indication of accuracy provided?	NA																												
QA/QC procedures described?	NA																												
QA/QC procedures appropriate?	NA																												
B.7.1.51. Parameter Title: Weight of RDF/stabilized biomass sold offsite for which no sale invoices can be provided (R_n) (leakage emissions $L_{s,y}$)		<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr></table>		Monitoring Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	NA	☑	☑																
Monitoring Checklist	Yes / No																												
Title in line with methodology?	NA																												
Data unit correctly expressed?	NA																												
Appropriate description of parameter?	NA																												

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PPD in GSP	Final PDD																								
		<table><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided for estimation?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr><tr><td>Correct reference to standards?</td><td>NA</td></tr><tr><td>Indication of accuracy provided?</td><td>NA</td></tr><tr><td>QA/QC procedures described?</td><td>NA</td></tr><tr><td>QA/QC procedures appropriate?</td><td>NA</td></tr></table>		Source clearly referenced?	NA	Correct value provided for estimation?	NA	Has this value been verified?	NA	Measurement method correctly described?	NA	Correct reference to standards?	NA	Indication of accuracy provided?	NA	QA/QC procedures described?	NA	QA/QC procedures appropriate?	NA										
Source clearly referenced?	NA																												
Correct value provided for estimation?	NA																												
Has this value been verified?	NA																												
Measurement method correctly described?	NA																												
Correct reference to standards?	NA																												
Indication of accuracy provided?	NA																												
QA/QC procedures described?	NA																												
QA/QC procedures appropriate?	NA																												
B.7.1.52. Parameter Title: Total weight of RDF/stabilized biomass produced (R _t) (leakage emissions L _{s,y})		<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided for estimation?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr><tr><td>Correct reference to standards?</td><td>NA</td></tr><tr><td>Indication of accuracy provided?</td><td>NA</td></tr><tr><td>QA/QC procedures described?</td><td>NA</td></tr><tr><td>QA/QC procedures appropriate?</td><td>NA</td></tr></table>		Monitoring Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	NA	Source clearly referenced?	NA	Correct value provided for estimation?	NA	Has this value been verified?	NA	Measurement method correctly described?	NA	Correct reference to standards?	NA	Indication of accuracy provided?	NA	QA/QC procedures described?	NA	QA/QC procedures appropriate?	NA	☑	☑
Monitoring Checklist	Yes / No																												
Title in line with methodology?	NA																												
Data unit correctly expressed?	NA																												
Appropriate description of parameter?	NA																												
Source clearly referenced?	NA																												
Correct value provided for estimation?	NA																												
Has this value been verified?	NA																												
Measurement method correctly described?	NA																												
Correct reference to standards?	NA																												
Indication of accuracy provided?	NA																												
QA/QC procedures described?	NA																												
QA/QC procedures appropriate?	NA																												
B.7.1.53. Parameter Title: Amount of wastewater treated anaerobically or released untreated from the pro-	1	See CR 2 <table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr></table>		Monitoring Checklist	Yes / No	See CR 2	☑																						
Monitoring Checklist	Yes / No																												

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
ject activity ($Q_{COD,y}$)		Title in line with methodology?	No	
		Data unit correctly expressed?	No	
		Appropriate description of parameter?	No	
		Source clearly referenced?	No	
		Correct value provided for estimation?	No	
		Has this value been verified?	No	
		Measurement method correctly described?	No	
		Correct reference to standards?	No	
		Indication of accuracy provided?	No	
		QA/QC procedures described?	No	
		QA/QC procedures appropriate?	No	
B.7.1.54. Parameter Title: Chemical Oxygen Demand of wastewater ($P_{COD,y}$)	1	See CR 2		See CR 2
		Monitoring Checklist	Yes / No	
		Title in line with methodology?	No	
		Data unit correctly expressed?	No	
		Appropriate description of parameter?	No	
		Source clearly referenced?	No	
		Correct value provided for estimation?	No	
				<input checked="" type="checkbox"/>

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PPD in GSP	Final PDD
		Has this value been verified?	No		
		Measurement method correctly described?	No		
		Correct reference to standards?	No		
		Indication of accuracy provided?	No		
		QA/QC procedures described?	No		
		QA/QC procedures appropriate?	No		
In case the project activity includes waste water release, the wastewater is treated anaerobically and resulting methane is flared the AM0025 methodology requires the use of the “Tool to determine project emissions from flaring gases containing Methane” to estimate methane emissions. Please see chapter G of the Validation Protocol.	1	See CR 2		See CR 2	☑
B.7.1.55. Parameter Title: Fraction of waste diverted from the landfill to all project activities:composting/gasification/anaerobic digestion/RDF/SB/incineration ($f_{c/g/d/r/i}$)		Not Applicable		☑	☑

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PPD in GSP	Final PDD
		Measurement method correctly described?	NA		
		Correct reference to standards?	NA		
		Indication of accuracy provided?	NA		
		QA/QC procedures described?	NA		
		QA/QC procedures appropriate?	NA		
The AM0025 methodology requires the use of the "Tool to determine methane emissions avoided from dumping waste at solid waste disposal site" to calculate baseline methane emissions avoided from preventing waste disposal at the solid waste disposal site. Following parameters are required to be monitored:					
B.7.1.56. Parameter Title: Fraction of methane captured at the SWDS and flared, combusted or used in another manner (f)	1	<u>Clarification Request No. 24.</u> Please demonstrate why it is unlikely that methane at the existing SWDS will be flared or combusted during the crediting period.		CR 24	<input checked="" type="checkbox"/>
		Monitoring Checklist	Yes / No		
		Title in line with methodology?	No		
		Data unit correctly expressed?	No		
		Appropriate description of parameter?	No		
		Source clearly referenced?	No		
		Correct value provided for estimation?	No		

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PPD in GSP	Final PDD																								
		Has this value been verified?	No																										
		Measurement method correctly described?	No																										
		Correct reference to standards?	No																										
		Indication of accuracy provided?	No																										
		QA/QC procedures described?	No																										
		QA/QC procedures appropriate?	No																										
B.7.1.57. Parameter Title: Global warming potential of methane (GWP _{CH4})		<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided for estimation?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr><tr><td>Correct reference to standards?</td><td>NA</td></tr><tr><td>Indication of accuracy provided?</td><td>NA</td></tr><tr><td>QA/QC procedures described?</td><td>NA</td></tr><tr><td>QA/QC procedures appropriate?</td><td>NA</td></tr></table>		Monitoring Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	NA	Source clearly referenced?	NA	Correct value provided for estimation?	NA	Has this value been verified?	NA	Measurement method correctly described?	NA	Correct reference to standards?	NA	Indication of accuracy provided?	NA	QA/QC procedures described?	NA	QA/QC procedures appropriate?	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Monitoring Checklist	Yes / No																												
Title in line with methodology?	NA																												
Data unit correctly expressed?	NA																												
Appropriate description of parameter?	NA																												
Source clearly referenced?	NA																												
Correct value provided for estimation?	NA																												
Has this value been verified?	NA																												
Measurement method correctly described?	NA																												
Correct reference to standards?	NA																												
Indication of accuracy provided?	NA																												
QA/QC procedures described?	NA																												
QA/QC procedures appropriate?	NA																												
B.7.1.58. Parameter Title: Total amount of organic waste prevented		<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr></table>		Monitoring Checklist	Yes / No	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																						
Monitoring Checklist	Yes / No																												

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PPD in GSP	Final PDD																								
from disposal (A_x) (determination of $A_{j,x}$)		<table><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided for estimation?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr><tr><td>Correct reference to standards?</td><td>NA</td></tr><tr><td>Indication of accuracy provided?</td><td>NA</td></tr><tr><td>QA/QC procedures described?</td><td>NA</td></tr><tr><td>QA/QC procedures appropriate?</td><td>NA</td></tr></table>		Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	NA	Source clearly referenced?	NA	Correct value provided for estimation?	NA	Has this value been verified?	NA	Measurement method correctly described?	NA	Correct reference to standards?	NA	Indication of accuracy provided?	NA	QA/QC procedures described?	NA	QA/QC procedures appropriate?	NA				
Title in line with methodology?	NA																												
Data unit correctly expressed?	NA																												
Appropriate description of parameter?	NA																												
Source clearly referenced?	NA																												
Correct value provided for estimation?	NA																												
Has this value been verified?	NA																												
Measurement method correctly described?	NA																												
Correct reference to standards?	NA																												
Indication of accuracy provided?	NA																												
QA/QC procedures described?	NA																												
QA/QC procedures appropriate?	NA																												
B.7.1.59. Parameter Title: Weight fraction of the waste type j in the sample n ($P_{n,j,x}$) - (determination of $A_{j,x}$)	1	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided for estimation?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr><tr><td>Correct reference to standards?</td><td>NA</td></tr><tr><td>Indication of accuracy provided?</td><td>NA</td></tr><tr><td>QA/QC procedures described?</td><td>NA</td></tr><tr><td>QA/QC procedures appropriate?</td><td>NA</td></tr></table> <p>Clarification Request No. 25. It is not clear why this parameter of waste fraction of the waste</p>		Monitoring Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	NA	Source clearly referenced?	NA	Correct value provided for estimation?	NA	Has this value been verified?	NA	Measurement method correctly described?	NA	Correct reference to standards?	NA	Indication of accuracy provided?	NA	QA/QC procedures described?	NA	QA/QC procedures appropriate?	NA	CR 25	<input checked="" type="checkbox"/>
Monitoring Checklist	Yes / No																												
Title in line with methodology?	NA																												
Data unit correctly expressed?	NA																												
Appropriate description of parameter?	NA																												
Source clearly referenced?	NA																												
Correct value provided for estimation?	NA																												
Has this value been verified?	NA																												
Measurement method correctly described?	NA																												
Correct reference to standards?	NA																												
Indication of accuracy provided?	NA																												
QA/QC procedures described?	NA																												
QA/QC procedures appropriate?	NA																												

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD																								
		type has been used in the PDD																										
B.7.1.60. Parameter Title: Number of waste samples (z) - (determination of A _{j,x})	1	Not applicable, but see CR 25. <table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided for estimation?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr><tr><td>Correct reference to standards?</td><td>NA</td></tr><tr><td>Indication of accuracy provided?</td><td>NA</td></tr><tr><td>QA/QC procedures described?</td><td>NA</td></tr><tr><td>QA/QC procedures appropriate?</td><td>NA</td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	NA	Source clearly referenced?	NA	Correct value provided for estimation?	NA	Has this value been verified?	NA	Measurement method correctly described?	NA	Correct reference to standards?	NA	Indication of accuracy provided?	NA	QA/QC procedures described?	NA	QA/QC procedures appropriate?	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Monitoring Checklist	Yes / No																											
Title in line with methodology?	NA																											
Data unit correctly expressed?	NA																											
Appropriate description of parameter?	NA																											
Source clearly referenced?	NA																											
Correct value provided for estimation?	NA																											
Has this value been verified?	NA																											
Measurement method correctly described?	NA																											
Correct reference to standards?	NA																											
Indication of accuracy provided?	NA																											
QA/QC procedures described?	NA																											
QA/QC procedures appropriate?	NA																											
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	<u>Corrective Action Request No.17.</u> An operational chart has to be added to the PDD. Responsibilities for data collection and archiving needs to be allocated.	CAR 17	<input checked="" type="checkbox"/>																								

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
B.7.2.2. Are responsibilities and institutional arrangements for data collection and archiving clearly provided?	1	See CAR 17	See CAR 17	<input checked="" type="checkbox"/>
B.7.2.3. Does the monitoring plan provide current good monitoring practice?	1, 30	<u>Corrective Action Request No.18.</u> A meter scheme with indication of all meter points and consideration of meter for power imports and exports as well as backup meter needs to be added to the PDD.	CAR 18	<input checked="" type="checkbox"/>
B.7.2.4. If applicable: Does annex 4 provide useful information enabling a better understanding of the envisioned monitoring provisions	1	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.8.1.2. Is this consistent with the time line of the PDD history?	1	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.8.1.3. Is the information on the person(s) / entity(ies) responsible for the application of the baseline and monitoring methodology provided consistent with the actual situa-	1	<u>Corrective Action Request No.19.</u> The telephone number indicated is not allocated to the corresponding person, please check.	CAR 19	<input checked="" type="checkbox"/>

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
tion?				
B.8.1.4. Is information provided whether this person / entity is also considered a project participant?	1	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
C. Duration of the project activity / crediting period				
C.1. Duration of the project activity				
C.1.1.1. Are the project's starting date and operational lifetime clearly defined and reasonable?:	1	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
C.2. Choice of the crediting period and related information				
C.2.1.1. Is the assumed crediting time clearly defined and reasonable (renewable crediting period of max 7 years with potential for 2 renewals or fixed crediting period of max. 10 years)?	1	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
D. Environmental impacts				
D.1. Documentation on the analysis of the environmental impacts, including transboundary impacts				
D.1.1. Has the analysis of the environmental impacts of the project activity been sufficiently described?	1	<p>The PDD describes not detailed enough the main environmental impacts.</p> <p><u>Clarification Request No. 26.</u></p> <p>The conclusions with the measures (mitigation plan) to be verified during project operation needs to be stated in the PDD.</p> <p>The statement in the PDD that the mitigation plan has been estab-</p>	CR 26	<input checked="" type="checkbox"/>

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
		<p>lished to overcome the negative impact identified needs to be revised, if applicable.</p> <p>However, the engine emissions of NOx, SOx, CO and VOC needs to be discussed in the PDD as well as noise from the installation equipment and explosion risks (emergency preparedness).</p>		
D.1.2. Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, has an EIA been approved?	1, 50	<p>Yes, the national requirements have been considered in the EIA study carried out by a consultant.</p> <p><u>Clarification Request No. 27.</u></p> <p>Please submit the official approval of the EIA or clarify if the approval is already part of available documents.</p> <p>The letter of justification of LoA of ANDE including assessments of national sustainable development criteria needs to be submitted to DOE.</p>	CR 27	<input checked="" type="checkbox"/>
D.1.3. Will the project create any adverse environmental effects?	1	See CR 26, CR 27	See CR 26, CR 27	<input checked="" type="checkbox"/>
D.1.4. Were transboundary environmental impacts identified in the analysis?	1	Transboundary impacts are not relevant.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
D.2. If environmental impacts are considered significant by the project participants or the host Party, please provide conclusions and all references to support documentation of an environmental impact assessment undertaken in accordance with the procedures as required by the host Party				
D.2.1. Have the identified environmental impacts been addressed in the project design sufficiently?	1	See CR 26, CR 27	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
D.2.2. Does the project comply with environmental legislation in the host country?	1	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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, 4, 5	Yes, discussions with municipality, consultation with chef de village and public consultation with 80 systematically selected habitants of the village.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
E.1.2. Have appropriate media been used to invite comments by local stakeholders?	1	yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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, 4, 5	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
E.1.4. Is the undertaken stakeholder process that was carried out described in a complete and transparent manner?	1	yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
E.2. Summary of the comments received				
E.2.1. Is a summary of the received stakeholder comments provided?	1	No <u>Corrective Action Request No.20.</u> A more detailed summary of the comments needs to be indicated in PDD.	CAR 20	<input checked="" type="checkbox"/>
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	Yes, by mitigation plan.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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	yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
F.1.2. Is the information on all private participants and directly involved Parties presented?	1	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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	1	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
by the project participants?				
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?		Not applicable	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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	<u>Corrective Action Request No.21.</u> Annex 3 has to be indicated in the table of contents and as title in the Annex even if no information is summarized in the Annex.	CAR 21	<input checked="" type="checkbox"/>
F.3.2. If additional background information on baseline data is provided: Is this information consistent with data presented by other sections of the PDD?		Not applicable	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
F.3.3. Is the data provided verifiable? Has sufficient evidence been provided to the validation team?		Not applicable	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
F.3.4. Does the additional information substantiate / support statements given in other sections of the PDD?		Not applicable	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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	<u>Corrective Action Request No.22.</u> Annex 4 has to be indicated in the table of contents and as title in the Annex even if no information is summarized in the Annex.	CAR 22	<input checked="" type="checkbox"/>
F.4.2. Is the information provided verifiable? Has sufficient evidence been provided to the validation team?		Not applicable	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
F.4.3. Do the additional information and / or documented procedures substantiate / support statements given in other sections of the PDD?		Not applicable	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

Table 1a Tool to determine project emissions from flaring gases containing Methane

In case the project activity includes waste water release, the wastewater is treated anaerobically and resulting methane is flared the AM0025 methodology requires the use of the “Tool to determine project emissions from flaring gases containing Methane” to estimate methane emissions $PE_{CH_4,w,y}$

G. Tool to determine project emissions from flaring gases containing Methane													
G.1. Justification of the choice of the tool and why it is applicable to the project activity													
G.1.1.	Is the applied tool considered the most appropriate one?	1, 2, 3, 4	Clarification Request No. 28. A flare will be installed in order to burn biogas in case of engine failure or overpressure. Hence, it cannot be excluded that the flare contributes to project emissions and the tool to determine project emissions from flaring gases containing Methane has to be applied.	CR 28	<input checked="" type="checkbox"/>								
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”													
G.1.2.	Criterion 1: Is the residual gas stream (RG) containing methane?		The tool is not applicable (see closed CR 28). <table border="1"> <tr> <th>Applicability checklist</th> <th>Yes / No</th> </tr> <tr> <td>Criterion discussed in the PDD?</td> <td>NA</td> </tr> <tr> <td>Compliance provable?</td> <td>NA</td> </tr> <tr> <td>Compliance verified?</td> <td>NA</td> </tr> </table>	Applicability checklist	Yes / No	Criterion discussed in the PDD?	NA	Compliance provable?	NA	Compliance verified?	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Applicability checklist	Yes / No												
Criterion discussed in the PDD?	NA												
Compliance provable?	NA												
Compliance verified?	NA												
G.1.3.	Criterion 2: Is the residual gas stream (RG) to be flared containing no other combustible gases than methane, carbon monoxide and hydrogen?		<table border="1"> <tr> <th>Applicability checklist</th> <th>Yes / No</th> </tr> <tr> <td>Criterion discussed in the PDD?</td> <td>NA</td> </tr> <tr> <td>Compliance provable?</td> <td>NA</td> </tr> <tr> <td>Compliance verified?</td> <td>NA</td> </tr> </table>	Applicability checklist	Yes / No	Criterion discussed in the PDD?	NA	Compliance provable?	NA	Compliance verified?	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Applicability checklist	Yes / No												
Criterion discussed in the PDD?	NA												
Compliance provable?	NA												
Compliance verified?	NA												

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

G.1.4.	Criterion 3: Is the residual gas stream (RG) to be flared obtained from decomposition of organic material (through landfills, biogas digesters or anaerobic lagoons, among others) or from gases vented in coal mines (coal mine methane and coal bed methane)?		<table><tr><th>Applicability checklist</th><th>Yes / No</th></tr><tr><td>Criterion discussed in the PDD?</td><td>NA</td></tr><tr><td>Compliance provable?</td><td>NA</td></tr><tr><td>Compliance verified?</td><td>NA</td></tr></table>	Applicability checklist	Yes / No	Criterion discussed in the PDD?	NA	Compliance provable?	NA	Compliance verified?	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Applicability checklist	Yes / No												
Criterion discussed in the PDD?	NA												
Compliance provable?	NA												
Compliance verified?	NA												
G.2. Description of how the baseline methodology procedure is identified and description of the identified baseline procedure													
G.2.1.	Are the project emissions from flaring of the residual gas stream calculated based on the flare efficiency and the mass flow rate of methane?		NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>								
G.2.2.	Does the determination of flare efficiency take into account the actual efficiency of combustion in the flare and the time that the flare is operating?		NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>								
G.2.3.	Does the calculation of combustion efficiency take into account the methane content in the exhaust gas of the flare, the air used in the combustion process, and the methane content in the residual gas?		NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>								
G.2.4.	Is the stated type of flare (open, enclosed) traceable due to the definitions mentioned in the tool?		NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>								
G.2.5.	Does the CDM-PDD clearly describe which approach to determine the flare efficiency is used?		NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>								

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

G.2.6.	In case of open flare: Is there a device foreseen to demonstrate the flare is operational and are the default values (50%, 0%) in the calculation adapted?		NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
G.2.7.	In case of enclosed flare: Is a default value of 90 % adopted and is a continuous monitoring of compliance with manufacturer's specification of flare foreseen (option a) or will the methane destruction efficiency of the flare (flare efficiency) be monitored continuously (option b)		NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
G.2.8.	In case of enclosed flare and option a: Are the manufacturer's specification for the operation of the flare and the required data and procedures to monitor these specifications documented in the PDD?		NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
G.2.9.	In case of enclosed flare: Is the temperature of the exhaust gas of the flare recorded continuously?		NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
G.3. Methane Emission calculation					
The tool involves a 7-step process to determine the annual project emissions from flaring. Integrate questions concerning methodological choices and selection of options, if necessary					
G.3.1. Explanation of methodological choices					
G.3.1.1.	Is it explained how the procedures provided in the methodology are applied by the proposed project activity?		NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
G.3.1.2.	Is every selection of options offered by the methodology correctly justified and is this		NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

justification in line with the situation verified on-site?																
G.3.1.3. Are the formulae required for the determination of project emissions correctly presented, enabling a complete identification of parameter to be used and / or monitored?		NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>												
G.3.2. Data and parameters that are available at validation																
G.3.2.1. Are all constants used in equations listed in the PDD as per table 1 of the "tool to determine project emissions from flaring gases containing Methane"?		NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>												
G.4. Application of the monitoring methodology and description of the monitoring plan																
G.4.1. Data and parameters monitored																
G.4.1.1. Is the list of parameters presented in chapter G.4.1 considered to be complete with regard to the requirements of the applied methodology?		NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>												
G.4.1.2. Are all monitored data linked in time?		NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>												
Integrate the required amount of sub-checklists for monitoring parameter and comment on any line answered with "No"																
G.4.1.3. Parameter: $f_{v\ i, h}$ Volumetric fraction of component i in the residual gas in the hour h where $i = CH_4, CO, CO_2, O_2, H_2, N_2$ Unit: - Type: required		<table border="1"> <thead> <tr> <th>Monitoring Checklist</th> <th>Yes / No</th> </tr> </thead> <tbody> <tr> <td>Title in line with methodology?</td> <td>NA</td> </tr> <tr> <td>Data unit correctly expressed?</td> <td>NA</td> </tr> <tr> <td>Appropriate description of parameter?</td> <td>NA</td> </tr> <tr> <td>Source clearly referenced?</td> <td>NA</td> </tr> <tr> <td>Correct value provided for estimation?</td> <td>NA</td> </tr> </tbody> </table>	Monitoring Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	NA	Source clearly referenced?	NA	Correct value provided for estimation?	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Monitoring Checklist	Yes / No															
Title in line with methodology?	NA															
Data unit correctly expressed?	NA															
Appropriate description of parameter?	NA															
Source clearly referenced?	NA															
Correct value provided for estimation?	NA															

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

		<table><tr><td>Has this value been verified?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr><tr><td>Correct reference to standards?</td><td>NA</td></tr><tr><td>Indication of accuracy provided?</td><td>NA</td></tr><tr><td>QA/QC procedures described?</td><td>NA</td></tr><tr><td>QA/QC procedures appropriate?</td><td>NA</td></tr></table>	Has this value been verified?	NA	Measurement method correctly described?	NA	Correct reference to standards?	NA	Indication of accuracy provided?	NA	QA/QC procedures described?	NA	QA/QC procedures appropriate?	NA														
Has this value been verified?	NA																											
Measurement method correctly described?	NA																											
Correct reference to standards?	NA																											
Indication of accuracy provided?	NA																											
QA/QC procedures described?	NA																											
QA/QC procedures appropriate?	NA																											
G.4.1.4. Parameter: FV _{RG, h} Volumetric flow rate of the residual gas in dry basis at normal (NTP) conditions 2 in the hour <i>h</i> Unit: m³/h Type: required		<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided for estimation?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr><tr><td>Correct reference to standards?</td><td>NA</td></tr><tr><td>Indication of accuracy provided?</td><td>NA</td></tr><tr><td>QA/QC procedures described?</td><td>NA</td></tr><tr><td>QA/QC procedures appropriate?</td><td>NA</td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	NA	Source clearly referenced?	NA	Correct value provided for estimation?	NA	Has this value been verified?	NA	Measurement method correctly described?	NA	Correct reference to standards?	NA	Indication of accuracy provided?	NA	QA/QC procedures described?	NA	QA/QC procedures appropriate?	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Monitoring Checklist	Yes / No																											
Title in line with methodology?	NA																											
Data unit correctly expressed?	NA																											
Appropriate description of parameter?	NA																											
Source clearly referenced?	NA																											
Correct value provided for estimation?	NA																											
Has this value been verified?	NA																											
Measurement method correctly described?	NA																											
Correct reference to standards?	NA																											
Indication of accuracy provided?	NA																											
QA/QC procedures described?	NA																											
QA/QC procedures appropriate?	NA																											
G.4.1.5. Parameter: t _{O2, h}			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																								

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

<p>Volumetric fraction of O2 in the exhaust gas of the flare in the hour <i>h</i></p> <p>Unit: -</p> <p>Type: required only in case the flare efficiency is continuously monitored</p>	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided for estimation?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr><tr><td>Correct reference to standards?</td><td>NA</td></tr><tr><td>Indication of accuracy provided?</td><td>NA</td></tr><tr><td>QA/QC procedures described?</td><td>NA</td></tr><tr><td>QA/QC procedures appropriate?</td><td>NA</td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	NA	Source clearly referenced?	NA	Correct value provided for estimation?	NA	Has this value been verified?	NA	Measurement method correctly described?	NA	Correct reference to standards?	NA	Indication of accuracy provided?	NA	QA/QC procedures described?	NA	QA/QC procedures appropriate?	NA			
Monitoring Checklist	Yes / No																											
Title in line with methodology?	NA																											
Data unit correctly expressed?	NA																											
Appropriate description of parameter?	NA																											
Source clearly referenced?	NA																											
Correct value provided for estimation?	NA																											
Has this value been verified?	NA																											
Measurement method correctly described?	NA																											
Correct reference to standards?	NA																											
Indication of accuracy provided?	NA																											
QA/QC procedures described?	NA																											
QA/QC procedures appropriate?	NA																											
<p>G.4.1.6. Parameter:</p> <p>$f_{V\ CH_4,FG,h}$</p> <p>Concentration of methane in the exhaust gas of the flare in dry basis at normal conditions in the hour <i>h</i></p> <p>Unit: mg/m³</p> <p>Type: required only in the case the flare efficiency is continuously monitored</p>	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided for estimation?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr><tr><td>Correct reference to standards?</td><td>NA</td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	NA	Source clearly referenced?	NA	Correct value provided for estimation?	NA	Has this value been verified?	NA	Measurement method correctly described?	NA	Correct reference to standards?	NA	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>						
Monitoring Checklist	Yes / No																											
Title in line with methodology?	NA																											
Data unit correctly expressed?	NA																											
Appropriate description of parameter?	NA																											
Source clearly referenced?	NA																											
Correct value provided for estimation?	NA																											
Has this value been verified?	NA																											
Measurement method correctly described?	NA																											
Correct reference to standards?	NA																											

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

		<table><tr><td>Indication of accuracy provided?</td><td>NA</td></tr><tr><td>QA/QC procedures described?</td><td>NA</td></tr><tr><td>QA/QC procedures appropriate?</td><td>NA</td></tr></table>	Indication of accuracy provided?	NA	QA/QC procedures described?	NA	QA/QC procedures appropriate?	NA																				
Indication of accuracy provided?	NA																											
QA/QC procedures described?	NA																											
QA/QC procedures appropriate?	NA																											
<p>G.4.1.7. Parameter: T_{flare} Temperature in the exhaust gas of the enclosed flare</p> <p>Unit: °C Type: required in case enclosed flare</p>		<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided for estimation?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr><tr><td>Correct reference to standards?</td><td>NA</td></tr><tr><td>Indication of accuracy provided?</td><td>NA</td></tr><tr><td>QA/QC procedures described?</td><td>NA</td></tr><tr><td>QA/QC procedures appropriate?</td><td>NA</td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	NA	Source clearly referenced?	NA	Correct value provided for estimation?	NA	Has this value been verified?	NA	Measurement method correctly described?	NA	Correct reference to standards?	NA	Indication of accuracy provided?	NA	QA/QC procedures described?	NA	QA/QC procedures appropriate?	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Monitoring Checklist	Yes / No																											
Title in line with methodology?	NA																											
Data unit correctly expressed?	NA																											
Appropriate description of parameter?	NA																											
Source clearly referenced?	NA																											
Correct value provided for estimation?	NA																											
Has this value been verified?	NA																											
Measurement method correctly described?	NA																											
Correct reference to standards?	NA																											
Indication of accuracy provided?	NA																											
QA/QC procedures described?	NA																											
QA/QC procedures appropriate?	NA																											
<p>G.4.1.8. Any other parameters required to monitor proper operation of the flare according to the manufacturer's specification</p>		<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																				
Monitoring Checklist	Yes / No																											
Title in line with methodology?	NA																											

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

Unit: - Type: required only in the case of use of a default value for the flare efficiency of enclosed and open flares		Data unit correctly expressed?	NA			
		Appropriate description of parameter?	NA			
		Source clearly referenced?	NA			
		Correct value provided for estimation?	NA			
		Has this value been verified?	NA			
		Measurement method correctly described?	NA			
		Correct reference to standards?	NA			
		Indication of accuracy provided?	NA			
		QA/QC procedures described?	NA			
		QA/QC procedures appropriate?	NA			

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

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
First and Second loop between DOE and PP:			
<p><u>Corrective Action Request No.1.</u></p> <p>The title of the last column of the table for the project timeline obviously refers to the installed capacity of the biogas combustion engine(s), this should be indicated in the title of the column.</p>	A.1.3	We have replaced “Total installed capacity” by “Installed capacity of the biogas combustion engines”.	Closed, the PDD has been revised accordingly.
<p><u>Clarification Request No. 1.</u></p> <p>Please clarify how the supply of municipal waste can be ensured during the crediting period.</p>	A.2.1	<p>SITRADE has a purchase agreement with the collecting equipment supplier, Fratelli Mazzocchia. The waste collection will ensure the supply of municipal waste during the crediting period thanks to 4 000 garbage bags and 30 refuse-lorries.</p> <p>Please, find attached a PDF of the purchase agreement with Mazzocchia.</p>	<p>Closed</p> <p>The quoted evidence has been checked by the DOE.</p>
<p><u>Corrective Action Request No.2.</u></p> <p>It should be explained in the PDD how the project will reduce soil and water pollution in Akouédo’s neighborhood.</p>	A.2.1	In addition, the project will reduce soil and water pollution in Akouédo’s neighborhood by avoided landfilling. Indeed, the municipal waste is actually filled in wholes of the existing landfill of Akouédo without protection barrier against water and soil pollutions.	Closed, the PDD has been revised accordingly.
<p>Open Issue</p> <p>The letter of Modalities of Communication MOC is still missing. Please provide an MOC with printed names of all signatories in English. It would also be appreciated if a sepa-</p>	A.3.2	Please find attached the letter of Modalities of Communication.	<p><u>Comment raised by DOE</u></p> <p>Please provide a MOC with printed names of <u>all</u> signatories. If possi-</p>

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

<p>rate specimen signature of the nominated focal point could be provided, if different from the signatories on the MOC document.</p> <p>Since the buyer of the credits actually not has been defined the LoA of the buyer country is still missing.</p>		<p>SITRADE is currently closing a contract with Green Hercules Trading Limited for the forward sales of CERs. LoA from the buyer country (Swiss Confederation) will be available later.</p>	<p>ble, provide as well a separate specimen signature of the DNA of IC.</p> <p><u>Answer of PP:</u> Please find here attached the new version of the MOC.</p> <p><u>DOE:</u> Closed</p> <p><u>Comment raised by DOE:</u> The name of the party indicated in A.3 is not correct (see Annex 1).</p> <p><u>Answer of PP:</u> The name of the party indicated in A.3 has been modified : "Green Hercules Trading Limited - C/O Cargill PLC" instead of "Green Hercules Trading Limited".</p> <p><u>DOE:</u> Closed</p>
<p><u>Corrective Action Request No.3.</u></p> <p>The site location is not exactly identified in the PDD, hence, there is a need to provide a better map of the industrial ozone in the PDD covering as well the neighbourhood and Bingerville which is located between the project site and Abidjan.</p>	A.4.1.1	<p>According to the request, a map of Bingerville and precised project location has been added in the PDD page 7. The map has also been attached in JPG format. This map is an official one provided by the BNETD.</p>	<p>Closed, the PDD has been revised accordingly.</p>

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

<p><u>Clarification Request No. 2.</u></p> <p>During on-site interviews it was not clear whether a waste water treatment installation shall be installed on site, this has to be clarified. Furthermore, there is a need to indicate the waste water path in the process flow diagram in the PDD</p>	<p>A.4.3.1</p>	<p>There is no wastewater treatment installed on-site.</p> <p>Therefore emissions due to wastewater will be taken into account. It is impossible to estimate ex-ante these emissions but a dedicated monitoring will be implemented for specific ex-post calculations (please find here attached the new monitoring plan).</p> <p>The flow process diagram has been modified: the wastewater path has been added in the PDD page 8.</p> <p>Indeed, after centrifugation, water is used :</p> <ol style="list-style-type: none"> 1. To sort waste in hydropulpers (water recycling), 2. To control the humidity rate of compost during composting process (water recycling), 3. To irrigate lands. <p>Before being used, centrifugated water will stay in a tank no more than 1 or 2 days :</p> <p>Tank capacity : $20 \text{ m} \times 10 \text{ m} \times 2,5 \text{ m} = 500 \text{ m}^3$</p> <p>$74\,000 \text{ m}^3$ of centrifugated water /300 days per year = $247 \text{ m}^3/\text{day}$</p> <p>Maximum retention time : $500 \text{ m}^3 / 247 \text{ m}^3 = 2,03 \text{ days}$</p> <p>As a conclusion, 3 key elements demonstrate that no emission could occur in this part of the process :</p>	<p><u>Comment raised by DOE:</u></p> <p>The Process flow diagram in A.4.3 of the PDD has been revised accordingly.</p> <p>The project emissions from released waste water are generally covered in B.6.1 of the revised PDD.</p> <p>However, PE_{CH4wy} needs to be estimated ex-ante according to the methodology considering appropriate default values for B_0 and MCF_p.</p> <p><u>Answer of PP (see left):</u></p>
---	----------------	--	--

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

		<ul style="list-style-type: none"> - Water utilization: internal recycling in the process and irrigation, - Nature of water: centrifugated water after anaerobic digestion => very low quantity of organic matter and stabilized matter thanks to digestion. - Retention time very low: 2 days maximum. <p>The monitoring plan and section 3.4 of the PDD has been modified accordingly.</p>	DOE: closed
<p><u>Clarification Request No. 3.</u></p> <p>The Power Purchase Agreement with the grid operator energy department of the ministry is still missing. However, the request for this document has already been submitted to the grid operator SOPIE.</p>	A.4.3.1	<p>Please find here attached a letter of intention regarding the electricity sale.</p>	<p><u>Comment raised by DOE:</u></p> <p>The letter of intention regarding the electricity sale is missing. Anyway, at least prove of the price for the sold power needs to be submitted..</p> <p><u>Answer of PP:</u></p> <p>A letter of Ministry of Energy should be sent in the next days.</p> <p><u>DOE:</u> the letter of support of Ministry of Energy is available (IRL No. 56).</p>
<p><u>Corrective Action Request No.4.</u></p> <p>There is a need to indicate technical data and supplier information about the equipment, e.g. digester, recipients, flare, gasholder and engine(s).</p>	A.4.3.2	<p>A technical documentation has been provided by Promeco. Please find it here attached. Some of this information has also been added in the PDD (flare, gas motors, gasholder).</p>	<p>Closed</p> <p>The quoted evidence has been checked by the DOE.</p>

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

<p><u>Clarification Request No. 4.</u></p> <p>Please give evidence for the specific gas leakage rate of the elastic cover of the gas-holder.</p>	A.4.3.2	<p>Please find here attached :</p> <ul style="list-style-type: none"> 1 PDF for external membrane characteristics: <ul style="list-style-type: none"> Velocity of methane transmission : $3,68 \cdot 10^{-15}$ m/Pa.s Permeability to methane : $3,68 \cdot 10^{-15}$ m²/Pa.s 1 PDF for internal membrane characteristics: <ul style="list-style-type: none"> Velocity of methane transmission : $7,45 \cdot 10^{-15}$ m/Pa.s Permeability to methane : $6,04 \cdot 10^{-18}$ m²/Pa.s <p>There is a mistake: documents are not in PDF format but in jpeg format. Please find here attached these 2 documents.</p> <p>Right figures are those in the PDD :</p> <ul style="list-style-type: none"> for external membrane characteristics: <ul style="list-style-type: none"> Velocity of methane transmission : $3,68 \cdot 10^{-18}$ m/Pa.s Permeability to methane : $3,68 \cdot 10^{-15}$ m²/Pa.s internal membrane characteristics: <ul style="list-style-type: none"> Velocity of methane transmission : $7,45 \cdot 10^{-15}$ m/Pa.s Permeability to methane : $6,04 \cdot 10^{-18}$ m²/Pa.s <p>Regarding the demonstration, please refer to the attached document named "Calcolo permeabilità PROMECO-ECOSUR-CostaDAvorio.pdf" and to the following calculation :</p> <p>Membrane permeability of internal membrane = $6,04 \times 10^{-18}$ m²</p>	<p><u>Comment raised by DOE</u></p> <p>PDF documents are not available. The figures in the PDD are not exactly the same, please clarify. There is a need to demonstrate by calculation why the leakages of the gasholder are deemed to be zero.</p> <p><u>Answer of PP (see left):</u></p>

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

		<p>/ Pa x s</p> <p>[1 m² / Pa x s = 8,726 x 1018 cm³ mm/m² x d x atm (rel)]</p> <p>Membrane diameter = 21,50 m</p> <p>Membrane surface (fondo + semisfera) = 3 x 3,14 x 10,752 = 1089 m²</p> <p>Membrane thickness = 1 mm</p> <p>Relative pressure of biogas = 0,02 atm</p> <p>Methane content in biogas = 60%</p> <p>Density of Methane (1.013 bar and 15 °C (59 °F)) kg/m³</p> <p>=> 0,7168 IPCC default value</p> <p>Total PERMEABILITY = 6,04 x 8,726 x 1089 x 0,02 = 1148 cm³/d = 1,15 l/d</p> <p>1.15 liter of biogas/day = 420 liter of biogas/year</p> <p>420 x 0,6 = 252 liter of methane = 0.252 m³</p> <p>0,252 x 0.7168 = 0.1806 kg methane</p> <p>0.1806 t x 21 = 3,8 tonnes eq. CO₂/an</p> <p>As this demonstration only considered the internal membrane, we assume that leakages are not significant for gasholder.</p> <p>We have added these new elements to the 3rd version of the PDD.</p>	
<p><u>Corrective Action Request No.5.</u></p> <p>As information was gathered during on-site interview with Promeco fossil fuel should be</p>	A.4.3.2	<p>Fossil fuel is not used for engines ignition but only for starting digesters reaction in the boiler. Only gas-oil will be used.</p> <p>70 liters/hours x 21 hours/day x 60 days</p>	<p>DOE: closed, the calculation is conservative since the membrane area is smaller than predicted.</p> <p>Closed, the PDD has been revised accordingly.</p>

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

used for engine ignition. The type and quantity of this fuel has to be indicated in the PDD.		= 88 200 liters for starting digesters reaction. These emissions are estimated in the PDD and reviewed ex-post.	
<p><u>Clarification Request No. 5.</u></p> <p>Please demonstrate how the need for maintenance is covered during the crediting period.</p>	A.4.3.9	<p>Maintenance will be assured by SITRADE following Promeco's instructions and manual. Set of spare parts will be available on site.</p> <p>A dedicated team will be set up including at least: 1 engineer, 1 technician, 2 workers.</p> <p>Promeco will be also available for on-site maintenance when required by SITRADE.</p>	Closed, the PDD has been revised accordingly.
<p><u>Clarification Request No. 6.</u></p> <p>Please demonstrate why AMS.I.D is applicable here since cogeneration, used for the project, is excluded in this methodology.</p> <p>For calculation of emission reduction of electrical and thermal output of the engines see CAR 7.</p>	B.1.1.1	<p>The reference to AMS-I.D. is not relevant.</p> <p>Regarding calculation of emission reduction of thermal output of the engines, SITRADE claims no CER for heat generation.</p> <p>Regarding calculation of emission reduction for electricity production, SITRADE proposes to mention only AM0025 as this methodology seems to be sufficient.</p> <p>The version of the "Tool to calculate project or leakage CO₂ emissions from fossil fuel combustion" is already indicated in the 2nd version of the PDD (Tool version 1) sent to TUV-SUD.</p> <p>However, in the section B.1, the version of the "Tool to determine project emissions from flaring gases containing methane"</p>	<p>Closed</p> <p>AM0025 covers already heat and electricity generation (see table 1 of methodology). Hence, there is no need to refer to AMS.I.D.</p> <p><u>Comment raised by DOE</u></p> <p>However, the version of the tool to calculate project or leakage CO₂ emissions from fossil fuel consumption needs to be indicated in PDD.</p> <p><u>Answer of PP (see left):</u></p>

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

		is not specified. Indeed, the version of this tool is not stated in the document on line in the UNFCCC web site. It is just referred to EB 28 so we added this precision in the 3 rd version of the PDD.	<u>DOE</u> : closed
<p><u>Clarification Request No. 7.</u></p> <p>There is a need to discuss how the emissions of fossil fuel during project (ignition fuel for engine) will be calculated, e.g. by the tool to calculate project or leakage CO₂ emissions from fossil fuel combustion (version 01).</p>	B.1.1.1	<p>The title of the tool has been added in section B.1: "Tool to calculate project or leakage CO₂ emissions from fossil fuel combustion".</p> <p>The section B.6.1 has been modified to take into account all emissions in the project activity due to fuel used on-site according to the tool :</p> <ol style="list-style-type: none"> Vehicles consumption used on-site Boiler consumption (at the starting digesters reaction and in particular case where electricity would not be produced by biogas engines, where cogeneration would not be possible, fuel use allows boiler to maintain optimal temperature for the growing of bacteria in digesters.) <p>Fossil fuel is not used for engines ignition but only for starting digesters reaction in the boiler.</p> <p>Emissions due to boiler fuel consumption are estimated ex-ante in the PDD. These emissions will be monitored and reviewed annually ex-post (see monitoring plan)</p> <p>Local values are not available, so project participants use IPCC default values for the net calorific values and CO₂ emission factors. Density of fuel will be monitored.</p> <p><u>Answer of PP to OI7:</u></p> <p>Please find here attached the document named "Evidences for</p>	<p><u>Comment raised by DOE</u></p> <p>Instead of the formula of the meth to calculate PE_{fuel} on-site the tool to calculate project or leakage CO₂ emissions from fossil fuel combustion (EB32) has been applied; please justify the availability of local data for NCV and EF. Furthermore:</p> <ul style="list-style-type: none"> the unit of the vehicle distance needs to be indicated in the table in the PDD as for km/day, the selected NCV for gas oil is not conservative and has to be expressed in TJ/t <p><u>Answer of PP (see left):</u></p>

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

		<p>density, NCV, Emission factor.pdf".</p> <p>This document underlines the fact that to date, local data for NCV and EF is not available. The IPCC default value of 0.043 TJ/t has been chosen for NCV (IPCC 2006 - Vol. 2 - Table 1.2 - Gas/diesel oil: 43.0 TJ/Gg).</p> <p>Regarding gas-oil density, the initial value stated in the PDD has been replaced in the Excel sheet and in the last version of the PDD by a very conservative local value of 0.880 kg/l (range of: 0.820 à 0.880 kg/l) provided by SIR (Société Ivoirienne de Raffinage).</p> <p>Please find here attached a PDF "evidences for density NCV, Emission factor.pdf"</p> <p>In section B.6.1, Project emission ii), a) Estimation of on-site vehicles consumption, the unit of the vehicle distance has been modified in the table: "km/day" instead of "km".</p>	DOE: closed
<p><u>Clarification Request No. 8.</u></p> <p>There is a need to submit the environmental code of Ivory Coast to confirm the fact that no environmental legislation requires waste treatment.</p>	B.2.9	Please find here attached the Ivorian Environmental Code in PDF format.	<p>Closed</p> <p>The quoted evidence has been checked by the DOE.</p>
<p><u>Corrective Action Request No.6.</u></p> <p>The compliance rate has been considered later on in the PDD but not in chapter B.2, hence, this criterion has still to be discussed.</p>	B.2.11	<p>This criterion has been added in chapter B.2 :</p> <p>"The compliance rate of the environmental regulations during (part of) the crediting period is below 50% just before the project start, this parameter will be monitored each year (if monitored compliance with the MSW rules exceeds 50%, the project activity shall receive no further credit, since the assumption that the policy is not enforced is no longer tenable".</p>	<p>Closed, the PDD has been revised accordingly.</p>

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

		To date, there is no law and practice for municipal waste management in Ivory Coast.	
<p><u>Clarification Request No. 9.</u></p> <p>Please demonstrate how can be ensured during project operation that neither industrial nor hospital waste can be treated in the project plant, e.g. by spot check of input material.</p>	B.2.14	SITRADE will control input material by spot check. Two workers will be in charge of this task.	<p><u>Comment raised by DOE</u></p> <p>Are these spot checks covered in the MP? Please refer to the corresponding chapter of MP or add the item.</p> <p><u>Answer of PP:</u></p> <p>MP plan and PDD have been modified (flow chart and legend).</p> <p><u>DOE:</u> closed</p>
<p><u>Clarification Request No. 10.</u></p> <p>The sources B.3.2, B.3.4 and B.3.7 need to be discussed.</p>	B.3	The sources “Emissions from thermal energy generation”, “Emissions from onsite electricity use” and “Emissions from waste water treatment” have been added and discussed in the table.	Closed, the PDD has been revised accordingly.
<p><u>Corrective Action Request No.7.</u></p> <p>The steps of the methodology are not consequently applied, e.g. M1 to M3, P1 to P6 and H1 to H7; there is a need to discuss the applicability of each alternative and finally the applicable combination (table 1 of the methodology).</p>	B.4	The steps of the methodology are applied in the second version of the PDD. Applicability of each alternative is discussed.	<p>The choice of baseline scenario M1 and P6 is deemed to be reasonable.</p> <p><u>Comment raised by DOE</u></p> <p>Meanwhile, the parameters Hn are not discussed and the choice of H1 is not appropriate and the description of the situation in the cor-</p>

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

			<p>responding table is not correct for all parameters, please clarify.</p> <p><u>Answer of PP:</u></p> <p>The parameters Hn have been discussed in the 3rd version of the PDD.</p> <p>The choice of the options has been modified (H4 instead of H1).</p> <p>And so, the description of the situation in the corresponding table has been modified for this parameter.</p> <p><u>DOE:</u> closed</p>
<p><u>Corrective Action Request No.8.</u></p> <p>Regulatory or legal requirements as the environmental code of Ivory Coast have to be identified and discussed.</p>	B.4.4	The environmental Code of Ivory Coast submitted to the DOE has no specific provisions related to municipal waste management.	<p>Closed</p> <p>(see Answer to CR 8)</p>
<p><u>Corrective Action Request No.9.</u></p> <p>Baseline fuel taking into account the national or sectoral policies has to be discussed and identified if applicable.</p>	B.4.6	Extract of the second version of the PDD: "To date, there are no prospective studies available in Ivory Coast related to the future energy mix. Nevertheless various interviews with authorities from the ministry of energy indicate that future capacity will be added to the grid thanks to thermal power plants."	<p>Closed</p> <p>Statement is plausible (see IRL No. 8 for the on-site interview with a representative of the Energy Efficiency and Renewable Energy Department at the Ministry of Energy.</p>

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

<p><u>Corrective Action Request No.10.</u></p> <p>There is a need to use step 2 and 3 of the additionality tool version 4 to assess the baseline alternatives that should be excluded.</p>	B.4.7	Step 2 is added in the second version in the PDD.	<p>Closed</p> <p>The choice of baseline scenario is deemed to be reasonable (see OI 8).</p>
<p><u>Clarification Request No. 11.</u></p> <p>Evidence for BNI agreement for banc loan to SITRADE is strongly recommended to prove the financial assurance of the project.</p>	B.5.14	<p>A letter signed from SITRADE Chairman (which is also the main shareholder) stipulates the engagement to cover the financial needs of the project.</p> <p>BNI agreed in principle to SITRADE loan request but requires the final validation report of the DOE as condition precedent to proceed with the loan. Please see the letter here attached.</p>	<p>Closed</p> <p>The quoted evidences are available (IRL No. 42 – 44) and have been checked by the DOE.</p>
<p><u>Clarification Request No. 12.</u></p> <p>The excel sheet calculation needs to be calculated as well for the option without CERs. Furthermore an IRR benchmark has to be defined by help of the DNA.</p>	B.5.14	<p>Step 2 with option III (IRR benchmark) is added in the second version in the PDD and IRR calculation is provided in Annex 5.</p> <p>IRR benchmark, IRR and sensitivity analysis of the project are given in the PDD.</p> <p>IRR detail calculation with and without carbon credit are provided in Annex 5.</p> <p>The excel sheet calculation has also been modified.</p>	<p>IRR calculation have been done for the option without and with credits, evidence is available by the excel sheet (IRL-No. 23).</p> <p><u>Comment raised by DOE</u></p> <p>a) There is a need to demonstrate that the project is not financially attractive during the whole crediting period (21 years).</p> <p>b) The investment amount indicated in No. 2 of the contract between SITRADE and Promeco is not</p>

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

		<p>a) We have calculated emission reductions over 3 crediting periods to demonstrate that the project is not financially attractive during the whole crediting period.</p> <p>b) c) All values indicated in the new version of the IRR Excel sheet and in the PDD are consistent with documentation provided by Promeco, Mazzochia, ...</p> <p>You will find here attached some documentation from</p>	<p>consistent with the investment sum indicated in the IRR calculation, please clarify and, if applicable, justify the price for phase 2.</p> <p>c) The amount for operating costs indicated in the "def01-040308_ConsumiAbidjan.pdf" is much smaller than that indicated in the IRR calculation, please clarify.</p> <p>d) Evidence for the price of each recycled product is missing.</p> <p>e) Tax and VAT need to be considered.</p> <p><u>Answer of PP (see left):</u></p>
--	--	--	---

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

		<p>Promeco regarding Phase 2 (technology investment, operation costs)</p> <p>d) Please find here attached evidence of each recycled product (Page 3 of contract: 50 FCF/kg i.e. 76€/t)</p> <p>e) Tax and VAT has been considered in the new version of IRR calculation.</p> <p>Find here attached the corresponding evidence from Direction Générale du Trésor (Impôt sur le revenu.pdf, impôts_sur_biensetservices.pdf)</p> <p>Please find here attached evidence for the discount rate of 10% (Equigold.pdf). This value is often used for investments in Ivory Coast. There is no official data on that matter.</p> <p>The sensitivity analysis and the lowest tipping fee analysis have been also modified.</p>	
<p><u>Corrective Action Request No.11.</u></p> <p>Anyway, the calculation of the lowest tipping fee has to be demonstrated in the PDD.</p> <p>Furthermore, Annex X does not exist, please amend the footnote X in the PDD.</p>	B.5.14	<p>A lowest tipping fee analysis has been added in section B.5. (Investment barriers) of the PDD.</p> <p>“The minimum tipping fee is calculated by using the same project IRR (internal rate of return) for the options: landfilling and project activity. All costs and income have been taken into account, including the income from electricity generation, recyclable materials and fertilizer sale.</p>	<p><u>DOE</u>: closed</p> <p>Closed, the PDD has been revised accordingly.</p>

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

		<p>As shown in the table below, the tipping fee for the proposed project activity is higher than the landfilling scenario. Therefore the lowest tipping fee option is landfilling.</p> <table><tr><td></td><td>IRR</td><td>Estimated IRR of the project activity without carbon credits</td><td>Minimum IRR benchmark</td><td>Estimated IRR based on current landfill system</td></tr><tr><td></td><td></td><td>11.1%</td><td>12.0%</td><td>26.3%</td></tr><tr><td rowspan="2">Tipping fee</td><td>Landfilling</td><td>10.00€/ton</td><td>10.30€/ton</td><td>16.00€/ton</td></tr><tr><td>Project activity</td><td>16.00€/ton</td><td>17.50€/ton</td><td>41.70€/ton</td></tr></table> <p>The footnote « Annex X » has been deleted.</p>		IRR	Estimated IRR of the project activity without carbon credits	Minimum IRR benchmark	Estimated IRR based on current landfill system			11.1%	12.0%	26.3%	Tipping fee	Landfilling	10.00€/ton	10.30€/ton	16.00€/ton	Project activity	16.00€/ton	17.50€/ton	41.70€/ton	
	IRR	Estimated IRR of the project activity without carbon credits	Minimum IRR benchmark	Estimated IRR based on current landfill system																		
		11.1%	12.0%	26.3%																		
Tipping fee	Landfilling	10.00€/ton	10.30€/ton	16.00€/ton																		
	Project activity	16.00€/ton	17.50€/ton	41.70€/ton																		
<p><u>Clarification Request No. 13.</u></p> <p>Please give evidence for the operating costs and the paper prizes as well as the envisaged valorization of the recycled paper.</p>	B.5.14	<p>Please find here attached evidence for :</p> <ul style="list-style-type: none">- Operating costs from Promeco Spa,- Paper prizes from SOUMANO ISMAEL CONSTRUCTION BATIMENT (ESICB).	Closed																			
<p><u>Clarification Request No. 14.</u></p> <p>Please check all footnotes with links to web-pages if those are accessible, e.g. footnote 19 does not link to the webpage.</p>	B.6.1.1	<p>All footnotes have been checked and linked to the web page.</p> <p>Footnote 19 is working.</p>	Closed																			
<p><u>Clarification Request No. 15.</u></p> <p>Methane emissions from leakage of gas-holder needs to be identified and, if applicable, option 2 of methodology with IPCC</p>	B.6.1.3	<p>Following the certificates from the gasholder manufacturer (that you can find here attached) and statements from Promeco, a physical leakage default factor of zero is applied.</p>	Closed																			

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

physical leakage default factor has to be applied (see CR 4).		<p>MEMBRANES made of double-sided PVC coated polyester fiber fabric.</p> <p>External membrane: Permeability to methane : 3,68.10⁻¹⁸ m²/Pa.s Internal membrane: 3,68.10⁻¹⁵ m/Pa.s</p> <p>Internal membrane : Permeability to methane : 6,04.10⁻¹⁸ m²/Pa.s Internal membrane: 7,45.10⁻¹⁵ m/Pa.s</p>																						
<p><u>Clarification Request No. 16.</u></p> <p>Please clarify that there are no leakage emissions by the treatment of recycled paper in the project, assuming that paper is not sorted out in the baseline.</p> <p>Furthermore, leakages in the project by gas-holder leakages as well as the combustion of fossil fuel for engine ignition has to be considered here.</p> <p>The formula for the emissions from transportation is not indicated in the PDD.</p>	B.6.1.5	<p>As it is not possible to prove that no leakage emissions are generated by the treatment of recycled paper, the amount of waste taken into account in the emissions reductions calculation has been reviewed. New values are based on the amount and the composition of waste entering into the digesters instead of the amount and the composition of waste collected.</p> <p>The first table below has been added in the PDD :</p> <table><tr><th>Year</th><th>Quantity of waste before sorting in tons</th><th>Quantity of waste after sorting in tons</th></tr><tr><td>2008 (3 months)</td><td>16 600</td><td>11 600</td></tr><tr><td>2009</td><td>116 600</td><td>81 600</td></tr><tr><td>2010</td><td>200 000</td><td>140 000</td></tr><tr><td>2011</td><td>200 000</td><td>140 000</td></tr><tr><td>2012</td><td>200 000</td><td>140 000</td></tr><tr><td>2013</td><td>200 000</td><td>140 000</td></tr></table>	Year	Quantity of waste before sorting in tons	Quantity of waste after sorting in tons	2008 (3 months)	16 600	11 600	2009	116 600	81 600	2010	200 000	140 000	2011	200 000	140 000	2012	200 000	140 000	2013	200 000	140 000	<p><u>Comment raised by DOE</u></p> <p>The figures in the waste composition table in the PDD and that ones of the IRR Excel calculation are not consistent with those of tableau No. 7 of the evidence of BNETD, please clarify.</p>
Year	Quantity of waste before sorting in tons	Quantity of waste after sorting in tons																						
2008 (3 months)	16 600	11 600																						
2009	116 600	81 600																						
2010	200 000	140 000																						
2011	200 000	140 000																						
2012	200 000	140 000																						
2013	200 000	140 000																						

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

2014	200 000	140 000
	2015 (9 months)	105 000

Waste type j	Proportion before sorting	Proportion after sorting
Pulp, paper and cardboard	5,80%	1,1%
Textiles	2,25%	0,5%
Wood and wood products	0,55%	0,0%
Garden, yard and park waste	19,00%	25,0%
Food, food waste	51,00%	60,0%
Glass, plastic, metal, other inert waste	21,40%	13,4%
TOTAL	100,00%	100,00%

Fossil fuel are only used for boiler (at the beginning of the project activity and in case of emergency) and also for on-site vehicles and collecting vehicles. Leakages by gasholder and by fossil fuel are discussed in this section.

The formula for the emissions from transportation has been added in the PDD.

Answer of PP to OI11:
Emission reductions Excel calculation, PDD and IRR Excel

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

sheet have been modified to take into account the figures mentioned in the BNETD study.

Waste type j	Proportion in the old version of the PDD	Proportion in the new version of the PDD
Pulp, paper and cardboard	5,80%	6.66%
Textiles	2,25%	2.65%
Wood and wood products	0,55%	0%
Garden, yard and park waste	19,00%	18.04%
Food, food waste	51,00%	48.41%
Glass, plastic, metal, other inert waste	21,40%	=0.71+6.99+1.03 +15.51=24.24%
TOTAL	100,00%	100%

After sorting, Promeco indicates the following waste composition:

Waste type j	Proportion in the old version of the	Proportion in the new version of the PDD
--------------	--------------------------------------	--

Answer of PP (see left):

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

			PDD	
		Pulp, paper and card-board	1,10%	1.26%
		Textiles	0,50%	0.59%
		Wood and wood products	0%	0%
		Garden, yard and park waste	85%	82.98%
		Food, food waste		
		Glass, plastic, metal, other inert waste	13,4% (=0,7+6+1+5,7)	15.18%
		TOTAL	100,00%	100.00%
		<p>For emissions reduction calculation, the quantity and the composition of the waste after sorting are considered.</p> <p>For waste type “Garden, yard and park waste” and “food, food waste” a conservative approximation has been made:</p>		
		Waste type j	Proportion in the old version of	Proportion in the new version

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

		<table><tr><th></th><th>the PDD</th><th>of the PDD</th></tr><tr><td>Pulp, paper and cardboard</td><td>1,10%</td><td>1.26%</td></tr><tr><td>Textiles</td><td>0,50%</td><td>0.59%</td></tr><tr><td>Wood and wood products</td><td>0%</td><td>0%</td></tr><tr><td>Garden, yard and park waste</td><td>25%</td><td>24.4%</td></tr><tr><td>Food, food waste</td><td>60%</td><td>58.57%</td></tr><tr><td>Glass, plastic, metal, other inert waste</td><td>13,4% (=0,7+6+1+5,7)</td><td>15.18%</td></tr><tr><td>TOTAL</td><td>100,00%</td><td>100%</td></tr></table>		the PDD	of the PDD	Pulp, paper and cardboard	1,10%	1.26%	Textiles	0,50%	0.59%	Wood and wood products	0%	0%	Garden, yard and park waste	25%	24.4%	Food, food waste	60%	58.57%	Glass, plastic, metal, other inert waste	13,4% (=0,7+6+1+5,7)	15.18%	TOTAL	100,00%	100%	<u>DOE</u> : closed
	the PDD	of the PDD																									
Pulp, paper and cardboard	1,10%	1.26%																									
Textiles	0,50%	0.59%																									
Wood and wood products	0%	0%																									
Garden, yard and park waste	25%	24.4%																									
Food, food waste	60%	58.57%																									
Glass, plastic, metal, other inert waste	13,4% (=0,7+6+1+5,7)	15.18%																									
TOTAL	100,00%	100%																									
<u>Corrective Action Request No.12.</u> The data unit for the parameter EF _{c,N2O} needs to be expressed correctly.	B.6.2.2	The data unit for the parameter EF _{c,N2O} has been modified : “tonne N ₂ O/tons of compost” has been replaced by “kg N ₂ O/tons of compost”	Closed, the PDD has been revised accordingly.																								
<u>Clarification Request No. 17.</u> Please clarify if power needs to be purchased from the grid during the running phase and in emergency cases. Estimate the quantity needed, if applicable. Anyway, the power imports to the plant needs to be monitored.	B.6.2.12	Yes, power needs to be purchased from the grid during the running phase and in emergency cases. For the running phase, the quantity needed is estimated to 1000 MWh. As it is mentioned in the monitoring plan, power imports to the plant will be monitored (see monitoring plan attached).	Closed, the PDD has been revised accordingly. The available MP does include the requirement to measure power input amount for the project activity.																								

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Number of Pages: 127



Table 1 is applicable to AM0025, vers 10

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

		<p>ified in accordance with methodology.</p> <p>c) It seems that the starting date of operation of Vridi II Tag 5/6/7 (1985) mentioned in the PDD and in the Excel sheet comply with the figure in IRL 28.</p> <p>The part named "Choice of the efficiency rate" has been completely modified. Default values of efficiency rate for each power plant have been applied.</p>	DOE: closed
<p><u>Clarification Request No. 19.</u></p> <p>The fuel density for the calculation of the project emissions (0,84) is not consistent with the figure used in the table in page 35 of PDD (0,81), please clarify.</p>	B.6.3.2	<p>The fuel density has been amended: a value of 0,81 has been applied in page 35 instead of 0,84.</p> <p>This value will be monitored (please see monitoring plan).</p>	Closed, the PDD has been revised accordingly.
<p><u>Clarification Request No. 20.</u></p> <p>The results of the first table on page 44 for the leakage emissions of annual consumption are not transparent regarding the given figures in the other columns, please clarify.</p>	B.6.3.2	<p>The results of the first table on page 44 for the leakage emissions of annual consumption have been modified.</p>	Closed, the PDD has been revised accordingly. Excel calculation is plausible.
<p><u>Corrective Action Request No.13.</u></p> <p>Regarding the CRs and CARs for project and leakage emissions, if applicable, the figures in table B.6.4 needs to be revised.</p>	B.6.4.4	<p>The figures have been revised taking into account all modifications.</p> <p>a) The yearly sum of BECH4SWDS has been indicated in table B.6.3 of the 3rd version of the PDD.</p>	<p><u>Comment raised by DOE</u></p> <p>a) The yearly sum of BE_{CH4SWDS} is not indicated in table B.6.3 of revised</p>

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

		<p>b) The sum of BE has been added in table B.6.4 in the 3rd version of the PDD.</p> <p>A summarizing table for different PE figures has been added in section B.6.3 of the PDD.</p> <p>a) The yearly sum of BECH4SWDS has been indicated in table B.6.3 of the 3rd version of the PDD.</p> <p>b) The sum of BE has been added in table B.6.4 in the 3rd version of the PDD.</p> <p>A summarizing table for different PE figures has been added in section B.6.3 of the PDD.</p>	<p>PDD.</p> <p>b) The sum of BE is not indicated in table B.6.4 of the revised PDD, black version, in the red version it is!?</p> <p>c) A summarizing table for different PE figures is missing in the PDD in order to enhance transparency.</p> <p><u>Answer of PP (see left):</u></p> <p><u>DOE:</u> closed</p>
<p><u>Corrective Action Request No.14.</u></p> <p>The methodology of monitoring as well as compliance with National Standard, meter accuracy and calibration should be indicated.</p>	B.7.1.1	<p>The name of the monitoring methodology has been added.</p> <p>All relevant monitoring issues are addressed in the monitoring plan here attached.</p>	<p>Closed, the PDD has been revised accordingly.</p>
<p><u>Corrective Action Request No.15.</u></p>	B.7.1.1	<p>The main priority of SITRADE regarding this issue is to avoid</p>	<p>Closed</p>

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

There is a need to discuss the procedure in case of failure of monitoring equipment.		<p>any failures of the monitoring equipment by privileging preventive maintenance rather than curative maintenance.</p> <p>The second priority of SITRADE is to locate any failure of the monitoring equipment as fast as possible by multiplying dedicated digital system on control panel.</p> <p>In case of monitoring failure, data provided by the cross-check could be used (please see the monitoring plan).</p> <p>If none of the cross-checked data can be obtained, the more conservative option will be chosen (increase of project emissions).</p> <p><u>Example</u>, flaring of biogas in case of emergency.</p> <ol style="list-style-type: none"> 1) Temperature is above 500°C but below manufacturer requirements. => Efficiency rate is considered to be 50%. 2) Thermocouples are not working. => Efficiency rate is considered to be 0%. <p>It is important to underline the fact that, to ensure the relevance of its monitoring plan, SITRADE had made the choice to conduct an initial verification with a DOE.</p>	Error management has been addressed in the MP.
<p><u>Corrective Action Request No.16.</u></p> <p>It should be discussed in more detail how monitoring data is gathered, archived and recorded. The whole way from data monitor-</p>	B.7.1.1	Please see the monitoring plan here attached.	<p><u>Comment raised by DOE</u></p> <p>There is a need to refer in the PDD, e.g. chapter</p>

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

<p>ing to the issuance of the monitoring report should be defined in the monitoring plan.</p>			<p>B.7.2 to the main content of the available MP which is a separate document.</p> <p><u>Answer of PP:</u></p> <p>The following sentence has been added to the chapter B.7.2 of the PDD : "A specific monitoring plan has been established for Abidjan Municipal Solid Waste-to-Energy Project. The following paragraphs are an extract of this document."</p> <p><u>DOE:</u> closed</p>
<p><u>Clarification Request No. 21.</u></p> <p>Please clarify whether the maturity of the produced compost needs to be monitored during the project in order not to generate leakage emissions after selling a non-mature compost to local farmers for soil fertilizing.</p>	<p>B.7.1.1</p>	<p>To ensure that compost will not generate leakage emissions after selling, various precautions will be taken during composting process :</p> <ul style="list-style-type: none"> - daily measures of temperature, relative humidity and oxygen content will be implemented, - a sufficient number of days in the aerobic process will be respected, <p>The following paragraph has been added in section A.4.3 of the PDD</p> <p>"The composting process lasts 6 weeks, this includes :</p> <ul style="list-style-type: none"> - 2 weeks for the intensive maturation at 63°C-65°C, - 4 weeks for the post-maturation period. 	<p>Closed, the PDD and the MP has been revised in order to cover the item.</p>

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

		<p>The composting plant will be equipped with temperature, relative humidity and oxygen captors. The high temperature (65°C) at least during 3 days will ensure the hygienisation of compost.”</p> <p>In section B.7.1.1, the following paragraph has been added :</p> <p>“Parameters to determine off-site emissions from end use of the stabilized biomass (Ls,y)</p> <p>In addition of various precautions that will be taken during composting process, a measure of the respiration index of the compost will be implemented. If measures indicate that the respiration index of the compost is < 200 mg O₂/kgVS/h, the compost could be sold. If it is not the case, the compost will have to continue its maturation. Therefore, there will be no leakage emission from off-site end-use of stabilized biomass.</p>	
<p><u>Clarification Request No. 22.</u></p> <p>Since large modifications of the BM emission factor are expected in the next years it needs to be discussed why it is suitable to calculate CEF elec ex-ante and not to calculate it annually during project.</p>	B.7.1.3	<p>SITRADE has chosen the option 1 of the “Tool to calculate the emission factor for an electricity system”. According to the Ministry of Energy¹, it seems that the additional future forecasted power plant units will be mainly fossil fuel based. Therefore, SITRADE has chosen the more conservative approach.</p> <p>Precisions regarding this issue have been added in section</p>	<p>Closed, the PDD has been revised accordingly.</p>

¹ On-site interview with N’Guessan Pacôme N’CHO in charge of Energy Efficiency and Renewable Energy Department at the Ministry of Energy, thursday 28th of February, Abidjan, Hotel Tiama. This interview took place with the representatives of the DOE.

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

		B.6.1 and B.7.1.3.											
<p><u>Clarification Request No. 23.</u></p> <p>The parameter of density of fuel is missing, please clarify.</p>	B.7.1.36	<p>As it is suggested in CR n°7, the “Tool to calculate project or leakage CO₂ emissions from fossil fuel combustion” (version 01) has been applied.</p> <p>Regarding density of fuel $\rho_{i,y}$ (for project emission) and D_{fuel} (for leakage emissions due to increase of transportation)</p> <p>Option c is chosen for ex-ante calculation (value of 0.81 kg/l - CIRAD – Transformation des produits agricoles en Afrique², 2005)</p> <p>During the project activity, option a) will be preferred.</p>	Closed, the PDD has been revised accordingly										
<p><u>Clarification Request No. 24.</u></p> <p>Please demonstrate why it is unlikely that methane at the existing SWDS will be flared or combusted during the crediting period.</p>	B.7.1.56	<p>An annual monitoring will be carried on to ensure that the rate of compliance parameter is conformed to the PDD assumptions.</p> <p>The tables below have been modified in the PDD as follows :</p> <table><tr><td>Data / Parameter:</td><td>Rate_y^{compliance}</td></tr><tr><td>Data unit:</td><td>Number</td></tr><tr><td>Description:</td><td>Rate of compliance</td></tr><tr><td>Source of data to be used:</td><td>On site visits at Akouédo . Written statement from the technical director of Akouédo landfill.</td></tr><tr><td>Description of measurement methods and procedures to be</td><td>The compliance rate is based on the annual reporting of the municipal bodies issuing these reports. The state-</td></tr></table>	Data / Parameter:	Rate_y^{compliance}	Data unit:	Number	Description:	Rate of compliance	Source of data to be used:	On site visits at Akouédo . Written statement from the technical director of Akouédo landfill.	Description of measurement methods and procedures to be	The compliance rate is based on the annual reporting of the municipal bodies issuing these reports. The state-	Closed, the PDD has been revised accordingly.
Data / Parameter:	Rate_y^{compliance}												
Data unit:	Number												
Description:	Rate of compliance												
Source of data to be used:	On site visits at Akouédo . Written statement from the technical director of Akouédo landfill.												
Description of measurement methods and procedures to be	The compliance rate is based on the annual reporting of the municipal bodies issuing these reports. The state-												

² http://www.meca.ucl.ac.be/bepita/materiels/biomasse/Biomasse_nrf&Transformation_Productions_Agricoles.pdf

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

		applied:	level aggregation involves all landfill sites in the country. If the rate exceeds 50%, no CERs can be claimed.
		Value of data applied	0
		Monitoring frequency:	Annual
		Data / Parameter:	AF
		Data unit:	%
		Description:	Methane destroyed due to regulatory or other requirements.
		Source of data:	Ministère de la Ville et de la Salubrité Publique de Côte d'Ivoire
		Monitoring frequency:	At renewal of crediting period
		QA/QC procedures:	Data are derived from or based upon local or national guidelines, so QA/QC procedures for these data are not applicable. A specialized law Ivorian law firm will issue a specific statement based on the national regulation.
		Any comment:	Changes in regulatory requirements, relating to the baseline landfill(s) need to be monitored in order to update the

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

		<div></div> adjustment factor (AF), or directly MDreg.. This is done at the beginning of each crediting period.																				
<p><u>Clarification Request No. 25.</u></p> <p>It is not clear why this parameter of waste fraction of the waste type has been used in the PDD.</p>	B.7.1.59	<p>The waste fraction of waste type considered in the PDD is based on the 2 following studies :</p> <p>► «<i>Stratégie Nationale de Gestion Durable des Déchets</i> » (Ministry of Environment, BNETD, 2000).</p> <p>This study indicates the following waste composition :</p> <table><tr><th>Waste type</th><th>%</th></tr><tr><td>Paper and cardboard</td><td>5,80</td></tr><tr><td>Green wastes</td><td rowspan="2">70,00</td></tr><tr><td>Food wastes</td></tr><tr><td>Wood</td><td>0,55</td></tr><tr><td>Glass</td><td>0,60</td></tr><tr><td>Textile</td><td>2,25</td></tr><tr><td>Metal</td><td>0,90</td></tr><tr><td>Plastic</td><td>6,20</td></tr><tr><td>Other</td><td>13,70</td></tr></table> <p>► <i>Une ville face à ses déchets : une problématique géographique de la pollution à Abidjan (Côte d'Ivoire)</i>. SANÉ. Y. (1999). thèse de doctorat. Université Laval.</p>	Waste type	%	Paper and cardboard	5,80	Green wastes	70,00	Food wastes	Wood	0,55	Glass	0,60	Textile	2,25	Metal	0,90	Plastic	6,20	Other	13,70	Closed
Waste type	%																					
Paper and cardboard	5,80																					
Green wastes	70,00																					
Food wastes																						
Wood	0,55																					
Glass	0,60																					
Textile	2,25																					
Metal	0,90																					
Plastic	6,20																					
Other	13,70																					

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

Québec, 290 pages.).

This study provides us with the following waste composition :

Waste type	High standard of living	Average standard of living	Low standard of living
Fermentescibles	52,69%	50,55%	49,69%
Vegetables (Végétaux)	15,34%	19,18%	13,89%
Fines	8,04%	12,95%	25,19%
Plastics	8,29%	7,25%	4,70%
Paper	7,11%	5,82%	4,32%
Textile	5,26%	2,17%	0,94%
Metals	1,49%	0,95%	0,55%
Stone	0,71%	0,66%	0,38%
Glass	1,07%	0,48%	0,33%
Total	100%	100%	100%

As waste types mentioned in these studies are not exactly the same as in the “*Tool to determine methane emissions avoided from dumping waste at a solid waste disposal site*”, an extrapolation has been made :

Waste type <i>j</i>	Proportion
Pulp, paper and cardboard	5,80%
Textiles	2,25%
Wood and wood products	0,55%

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

		<table><tr><td>Garden, yard and park waste</td><td>19,00%</td></tr><tr><td>Food, food waste</td><td>51,00%</td></tr><tr><td>Glass, plastic, metal, other inert waste</td><td>21,40%</td></tr><tr><td>TOTAL</td><td>100,00%</td></tr></table>	Garden, yard and park waste	19,00%	Food, food waste	51,00%	Glass, plastic, metal, other inert waste	21,40%	TOTAL	100,00%								
Garden, yard and park waste	19,00%																	
Food, food waste	51,00%																	
Glass, plastic, metal, other inert waste	21,40%																	
TOTAL	100,00%																	
		<p>After sorting, Promeco indicates that waste composition is the following :</p> <table><tr><th>Waste type <i>j</i></th><th>Proportion</th></tr><tr><td>Pulp, paper and cardboard</td><td>1,10%</td></tr><tr><td>Textiles</td><td>0,50%</td></tr><tr><td>Wood and wood products</td><td>0%</td></tr><tr><td>Garden, yard and park waste</td><td rowspan="2">85%</td></tr><tr><td>Food, food waste</td></tr><tr><td>Glass, plastic, metal, other inert waste</td><td>13,4% (=0,7+6+1+5,7)</td></tr><tr><td>TOTAL</td><td>100,00%</td></tr></table>	Waste type <i>j</i>	Proportion	Pulp, paper and cardboard	1,10%	Textiles	0,50%	Wood and wood products	0%	Garden, yard and park waste	85%	Food, food waste	Glass, plastic, metal, other inert waste	13,4% (=0,7+6+1+5,7)	TOTAL	100,00%	
Waste type <i>j</i>	Proportion																	
Pulp, paper and cardboard	1,10%																	
Textiles	0,50%																	
Wood and wood products	0%																	
Garden, yard and park waste	85%																	
Food, food waste																		
Glass, plastic, metal, other inert waste	13,4% (=0,7+6+1+5,7)																	
TOTAL	100,00%																	
		<p>For emissions reduction calculation, the quantity and the composition of the waste after sorting are considered.</p> <p>For waste type “Garden, yard and park waste” and “food, food waste” a conservative approximation has been made :</p> <table><tr><th>Waste type <i>j</i></th><th>Proportion</th></tr></table>	Waste type <i>j</i>	Proportion														
Waste type <i>j</i>	Proportion																	

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

		<table><tr><td>Pulp, paper and cardboard</td><td>1,10%</td></tr><tr><td>Textiles</td><td>0,50%</td></tr><tr><td>Wood and wood products</td><td>0%</td></tr><tr><td>Garden, yard and park waste</td><td>25%</td></tr><tr><td>Food, food waste</td><td>60%</td></tr><tr><td>Glass, plastic, metal, other inert waste</td><td>13,4% (=0,7+6+1+5,7)</td></tr><tr><td>TOTAL</td><td>100,00%</td></tr></table>	Pulp, paper and cardboard	1,10%	Textiles	0,50%	Wood and wood products	0%	Garden, yard and park waste	25%	Food, food waste	60%	Glass, plastic, metal, other inert waste	13,4% (=0,7+6+1+5,7)	TOTAL	100,00%	
Pulp, paper and cardboard	1,10%																
Textiles	0,50%																
Wood and wood products	0%																
Garden, yard and park waste	25%																
Food, food waste	60%																
Glass, plastic, metal, other inert waste	13,4% (=0,7+6+1+5,7)																
TOTAL	100,00%																
<p><u>Corrective Action Request No.17.</u></p> <p>An operational chart has to be added to the PDD. Responsibilities for data collection and archiving needs to be allocated.</p>	B.7.2.1	Please see monitoring plan.	Closed, the PDD has been revised accordingly														
<p><u>Corrective Action Request No.18.</u></p> <p>A meter scheme with indication of all meter points and consideration of meter for power imports and exports as well as backup meter needs to be added to the PDD.</p>	B.7.2.3	<p>A meter scheme with indication of all meter points and consideration of meter for power imports and exports as well as backup meter has been added in the Annex 4 of PDD.</p> <p>Please see the monitoring plan attached.</p>	Closed, the PDD has been revised accordingly														
<p><u>Corrective Action Request No.19.</u></p> <p>The telephone number indicated is not allocated to the corresponding person, please</p>	B.8.1.3	<p>We tried the following number (+225) 20213720. It is working for us.</p> <p>NB: The mobile phone of Kouadio Yao Léonard changed. It</p>	Closed, the PDD has been revised accordingly														

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

check.		has been modified in the PDD.	
<p><u>Clarification Request No. 26.</u></p> <p>The conclusions with the measures (mitigation plan) to be verified during project operation needs to be stated in the PDD.</p> <p>The statement in the PDD that the mitigation plan has been established to overcome the negative impact identified needs to be revised, if applicable.</p> <p>However, the engine emissions of NOx, SOx, CO and VOC needs to be discussed in the PDD as well as noise from the installation equipment and explosion risks (emergency preparedness).</p>	D.1.1	<p>The conclusions with the measures (mitigation plan) to be verified during project operation have been added in the PDD.</p> <p>The following paragraph has been added to the PDD :</p> <p>“Technical data provided by engines manufacturer indicate that NO and CO emissions are low:</p> <ul style="list-style-type: none"> - NOx < 450 mg/m³ - CO < 650 mg/m³ <p>The plant will respected the CEE rules regarding the decibel levels.</p> <p>The explosion risks on digested deposit are extremely low considering the storage time of 2 hours.”</p>	Closed, the PDD has been revised accordingly
<p><u>Clarification Request No. 27.</u></p> <p>Please submit the official approval of the EIA or clarify if the approval is already part of available documents.</p> <p>The letter of justification of LoA of ANDE including assessments of national sustainable development criteria needs to be submitted to DOE.</p>	D.1.2	<p>The official approval of the EIA emitted by ANDE is contained in the document named: “EVALUATION DU PDD_SITRAD1.doc”.</p> <p>This document is submitted to the DOE.</p>	<p><u>Comment raised by DOE</u></p> <p>This document is still not available.</p> <p><u>Answer of PP:</u></p> <p>Please find here attached 2 documents :</p> <p>Letter of justification of LoA of ANDE including assessment of national sustainable development criteria</p> <p>LoA of Ivory coast DNA</p>

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

			for SITRADE municipal waste to energy project. <u>DOE</u> : closed
<u>Corrective Action Request No.20.</u> A more detailed summary of the comments needs to be indicated in PDD.	E.2.1	A large number of details have been added in the summary of the comments received during the stakeholder's comments.	Closed, the PDD has been revised accordingly
<u>Corrective Action Request No.21.</u> Annex 3 has to be indicated in the table of contents and as title in the Annex even if no information is summarized in the Annex.	F.3.1	In accordance with the Project Design Document form, Annex 3 (<u>Baseline</u> information) has been indicated in the table of content and as title in the Annex although no information is summarized in this Annex.	Closed, the PDD has been revised accordingly
<u>Corrective Action Request No.22.</u> Annex 4 has to be indicated in the table of contents and as title in the Annex even if no information is summarized in the Annex.	F.4.1	In accordance with the Project Design Document form, Annex 4 (Monitoring plan) has been indicated in the table of content and as title in the Annex.	Closed, the PDD has been revised accordingly
<u>Clarification Request No. 28.</u> A flare will be installed in order to burn biogas in case of engine failure or overpressure. Hence, it cannot be excluded that the flare contributes to project emissions and the tool to determine project emissions from flaring gases containing Methane has to be applied.	G.1.1	The tool " <i>to determine project emissions from flaring gases contain methane</i> " has been applied.	Closed Since the flare shall be used only in emergency situations ex-ante calculation of $PE_{a,s,y}$ is not needed.
Third loop between DOE and PP:			

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service

Clarification Request No. 29 The application of the additionality tool is incomplete, please clarify.	B.5	The assessment of additionality has been modified.	Closed
Clarification Request No. 30 The investment analysis: IRR calculation is not correct -> no financial additionality, please clarify.	B.5	We deleted this part as we decided not to apply the investment analysis but only the barriers analysis.	Closed, it has been demonstrated in the revised PDD by barrier analysis that this project activity is first-of-its-kind in the host country (IRL-No. 58).
Clarification Request No. 31 The application of the flare tool does not follow instructions, please clarify.	B.6	We added : "Flare type: Enclosed flare Flare efficiency: 90% (default value proposed in the "Tool to calculate emission from flaring") Flare manufacturer: PROGECO" The goal of STEP 1 of the flaring tool is to determine the mass flow rate of the residual gas that is flared ($FM_{RG,h}$). This parameter is an input parameter only in equation (5) of STEP 3 (this parameter is not necessary in STEP 5 and in STEP 6). The goal of STEP 2 is to determine the mass fraction of carbon, hydrogen, oxygen and nitrogen in the residual gas ($fm_{j,h}$). This parameter is an input parameter only in equation (8) of STEP 3 (this parameter is not necessary in STEP 5 and in STEP 6).	Closed
Clarification Request No. 32 Information concerning environmental regulations in the landfilling sector in Côte d'Ivoire (baseline) are missing, please clarify.	B.5	We replaced "There is no regulation regarding waste landfilling and waste treatment in the Ivory Coast" by «There is no specific regulation regarding biogas flaring in Ivory Coast. The Environment Code only provides some general principles and guidelines for toxic waste (Article 26 - Loi n° 96-766 du 3 octobre	Closed

Validation Protocol

Project Title: Abidjan Municipal Solid Waste-To-Energy Project

Date of Completion: 2008-10-10

Number of Pages: 127



Industrie Service


		<p>1996 Portant Code de l'Environnement) The Code also states that non toxic waste treatment is subject to administrative approval (Article 27) and should comply with the Laws of the Country and be undertaken in a way to facilitate the valorisation (Article 28)."</p> <p>We included an overview of all applicable laws and regulations in the last version of the PDD.</p>	
<p>Clarification Request No. 33</p> <p>The CEFgrid calculation is not completely consistent with the "tool to calculate the emission factor for an electricity system", please clarify.</p>		<p>The Excel spread sheet calculation has been revised accordingly and, if applicable, comments have been added to the PDD.</p>	<p>Closed, the calculation of the grid combined emission factor reflects now good practice and the assumptions are conservative.</p>

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
-	-	-




Annex 2: Information Reference List

Information Reference List 15 June 2009	Abidjan Municipal Solid Waste-To-Energy Project	Page 1 of 11	 Industrie Service
--	---	-----------------	--


Reference No.	Document or Type of Information																								
1.	Project Design Document (PDD); GSP version from February 12, 2008 and last version 05 from 29 May 2009																								
2.	<p>Interview (Opening Meeting) in Abidjan/Ivory Coast conducted on February 26, 2008, 09:00am, by auditing team of TÜV SÜD, including list of participants.</p> <p>Validation team:</p> <table> <tr> <td>Robert Mitterwallner</td><td>GHG Auditor, TÜV SÜD Industrie Service GmbH, Munich</td></tr> <tr> <td>Robert Köhn</td><td>GHG Trainee, TÜV SÜD Industrie Service GmbH, Munich</td></tr> </table> <p>Interviewed persons:</p> <table> <tr> <td>Mr. Diabate Ousmane</td><td>President, SITRAD SA. (Societe Ivoirienne de Traitement des Dechets)</td></tr> <tr> <td>Madam Doho</td><td>Assistante to President, SITRAD</td></tr> <tr> <td>Prof. Kabi Gnahowa</td><td>Conseiller, SITRAD SA.</td></tr> <tr> <td>Mr. Kouadio Yao Leonard</td><td>Director General, SITRAD SA.</td></tr> <tr> <td>Mr. Katier Pierre-Clayer</td><td>Engineer, SITRAD SA.</td></tr> <tr> <td>Mr. Beyli Niamien A</td><td>Engineer, SITRAD SA.</td></tr> <tr> <td>Mr. N'cho N'guessan Pacome</td><td>Engineer, SITRAD SA.</td></tr> <tr> <td>Mr. Fabrice le Sache</td><td>Managing Partner, ECOSUR</td></tr> <tr> <td>Mr. Luici Paleari</td><td>Representative, PROMECO SPA. (Technology supplier from Italy)</td></tr> <tr> <td>Mr. Rebai Paolo</td><td>Representative, PROMECO SPA. (Technology supplier from Italy)</td></tr> </table>	Robert Mitterwallner	GHG Auditor, TÜV SÜD Industrie Service GmbH, Munich	Robert Köhn	GHG Trainee, TÜV SÜD Industrie Service GmbH, Munich	Mr. Diabate Ousmane	President, SITRAD SA. (Societe Ivoirienne de Traitement des Dechets)	Madam Doho	Assistante to President, SITRAD	Prof. Kabi Gnahowa	Conseiller, SITRAD SA.	Mr. Kouadio Yao Leonard	Director General, SITRAD SA.	Mr. Katier Pierre-Clayer	Engineer, SITRAD SA.	Mr. Beyli Niamien A	Engineer, SITRAD SA.	Mr. N'cho N'guessan Pacome	Engineer, SITRAD SA.	Mr. Fabrice le Sache	Managing Partner, ECOSUR	Mr. Luici Paleari	Representative, PROMECO SPA. (Technology supplier from Italy)	Mr. Rebai Paolo	Representative, PROMECO SPA. (Technology supplier from Italy)
Robert Mitterwallner	GHG Auditor, TÜV SÜD Industrie Service GmbH, Munich																								
Robert Köhn	GHG Trainee, TÜV SÜD Industrie Service GmbH, Munich																								
Mr. Diabate Ousmane	President, SITRAD SA. (Societe Ivoirienne de Traitement des Dechets)																								
Madam Doho	Assistante to President, SITRAD																								
Prof. Kabi Gnahowa	Conseiller, SITRAD SA.																								
Mr. Kouadio Yao Leonard	Director General, SITRAD SA.																								
Mr. Katier Pierre-Clayer	Engineer, SITRAD SA.																								
Mr. Beyli Niamien A	Engineer, SITRAD SA.																								
Mr. N'cho N'guessan Pacome	Engineer, SITRAD SA.																								
Mr. Fabrice le Sache	Managing Partner, ECOSUR																								
Mr. Luici Paleari	Representative, PROMECO SPA. (Technology supplier from Italy)																								
Mr. Rebai Paolo	Representative, PROMECO SPA. (Technology supplier from Italy)																								

Information Reference List 15 June 2009	Abidjan Municipal Solid Waste-To-Energy Project	Page 2 of 11	 Industrie Service
--	---	-----------------	--


Reference No.	Document or Type of Information																										
3.	<p>Interview in DNA of Ivory Coast conducted on February 27, 2008, 09:30am – 11am, by auditing team of TÜV SÜD, including list of participants.</p> <p>Validation team:</p> <table> <tr> <td>Robert Mitterwallner</td><td>GHG Auditor, TÜV SÜD Industrie Service GmbH, Munich</td></tr> <tr> <td>Robert Köhn</td><td>GHG Trainee, TÜV SÜD Industrie Service GmbH, Munich</td></tr> </table> <p>Interviewed persons:</p> <table> <tr> <td>Mr. Seka Josefh</td><td>Director, ANDE (DNA of Ivory Coast)</td></tr> <tr> <td>Dr. Cissi Mamadou</td><td>Director Planning, ANDE (DNA of Ivory Coast)</td></tr> <tr> <td>Ms. Rachel Boti</td><td>Managing Director of CDM Projects, ANDE (DNA of Ivory Coast)</td></tr> <tr> <td>Mr. Pierre Djokoi</td><td>Public Relation Manager, ANDE (DNA of Ivory Coast)</td></tr> <tr> <td>Mr. Diabate Ousmane</td><td>President, SITRAD SA. (Societe Ivoirienne de Traitement des Dechets)</td></tr> <tr> <td>Madam Doho</td><td>Assistante, SITRAD</td></tr> <tr> <td>Prof. Kabi Gnahowa</td><td>Conseiller, SITRAD SA.</td></tr> <tr> <td>Mr. Kouadio Yao Leonard</td><td>Director General, SITRAD SA.</td></tr> <tr> <td>Mr. Fabrice le Sache</td><td>Managing Partner, ECOSUR</td></tr> <tr> <td>Mr. Luici Paleari</td><td>Representative, PROMECO SPA. (Technology supplier from Italy)</td></tr> <tr> <td>Mr. Rebai Paolo</td><td>Representative, PROMECO SPA. (Technology supplier from Italy)</td></tr> </table>	Robert Mitterwallner	GHG Auditor, TÜV SÜD Industrie Service GmbH, Munich	Robert Köhn	GHG Trainee, TÜV SÜD Industrie Service GmbH, Munich	Mr. Seka Josefh	Director, ANDE (DNA of Ivory Coast)	Dr. Cissi Mamadou	Director Planning, ANDE (DNA of Ivory Coast)	Ms. Rachel Boti	Managing Director of CDM Projects, ANDE (DNA of Ivory Coast)	Mr. Pierre Djokoi	Public Relation Manager, ANDE (DNA of Ivory Coast)	Mr. Diabate Ousmane	President, SITRAD SA. (Societe Ivoirienne de Traitement des Dechets)	Madam Doho	Assistante, SITRAD	Prof. Kabi Gnahowa	Conseiller, SITRAD SA.	Mr. Kouadio Yao Leonard	Director General, SITRAD SA.	Mr. Fabrice le Sache	Managing Partner, ECOSUR	Mr. Luici Paleari	Representative, PROMECO SPA. (Technology supplier from Italy)	Mr. Rebai Paolo	Representative, PROMECO SPA. (Technology supplier from Italy)
Robert Mitterwallner	GHG Auditor, TÜV SÜD Industrie Service GmbH, Munich																										
Robert Köhn	GHG Trainee, TÜV SÜD Industrie Service GmbH, Munich																										
Mr. Seka Josefh	Director, ANDE (DNA of Ivory Coast)																										
Dr. Cissi Mamadou	Director Planning, ANDE (DNA of Ivory Coast)																										
Ms. Rachel Boti	Managing Director of CDM Projects, ANDE (DNA of Ivory Coast)																										
Mr. Pierre Djokoi	Public Relation Manager, ANDE (DNA of Ivory Coast)																										
Mr. Diabate Ousmane	President, SITRAD SA. (Societe Ivoirienne de Traitement des Dechets)																										
Madam Doho	Assistante, SITRAD																										
Prof. Kabi Gnahowa	Conseiller, SITRAD SA.																										
Mr. Kouadio Yao Leonard	Director General, SITRAD SA.																										
Mr. Fabrice le Sache	Managing Partner, ECOSUR																										
Mr. Luici Paleari	Representative, PROMECO SPA. (Technology supplier from Italy)																										
Mr. Rebai Paolo	Representative, PROMECO SPA. (Technology supplier from Italy)																										

Information Reference List 15 June 2009	Abidjan Municipal Solid Waste-To-Energy Project	Page 3 of 11	
--	---	-----------------	---


Reference No.	Document or Type of Information																										
4.	<p>Meeting in the Presidential office in Abidjan, Ivory Coast hold on February 27, 2008, 12:00noon - 02:00pm, pls. refer to the following list of participants.</p> <p>Validation team:</p> <table> <tr> <td>Robert Mitterwallner</td><td>GHG Auditor, TÜV SÜD Industrie Service GmbH, Munich</td></tr> <tr> <td>Robert Köhn</td><td>GHG Trainee, TÜV SÜD Industrie Service GmbH, Munich</td></tr> </table> <p>Meeting participants::</p> <table> <tr> <td>Madam Hevivet</td><td>1st Lady, Ivory Coast</td></tr> <tr> <td>Mr. Tayoro Gbotta</td><td>Chief of Stuff, Presidential Office</td></tr> <tr> <td>Mr. Geoges Tai Benson</td><td>Advisor to the President, Environment</td></tr> <tr> <td>Mr. Diabate Ousmane</td><td>President, SITRAD SA. (Societe Ivoirienne de Traitement des Dechets</td></tr> <tr> <td>Prof. Kabi Gnahowa</td><td>Conseiller, SITRAD SA.</td></tr> <tr> <td>Mr. Kouadio Yao Leonard</td><td>Director General, SITRAD SA.</td></tr> <tr> <td>Mr. Katier Pierre-Clayer</td><td>Engineer, SITRAD SA.</td></tr> <tr> <td>Mr. Beyli Niamien A</td><td>Engineer, SITRAD SA.</td></tr> <tr> <td>Mr. Fabrice le Sache</td><td>Managing Partner, ECOSUR</td></tr> <tr> <td>Mr. Luici Paleari</td><td>Representative, PROMECO SPA. (Technology supplier from Italy)</td></tr> <tr> <td>Mr. Rebai Paolo</td><td>Representative, PROMECO SPA. (Technology supplier from Italy)</td></tr> </table>	Robert Mitterwallner	GHG Auditor, TÜV SÜD Industrie Service GmbH, Munich	Robert Köhn	GHG Trainee, TÜV SÜD Industrie Service GmbH, Munich	Madam Hevivet	1st Lady, Ivory Coast	Mr. Tayoro Gbotta	Chief of Stuff, Presidential Office	Mr. Geoges Tai Benson	Advisor to the President, Environment	Mr. Diabate Ousmane	President, SITRAD SA. (Societe Ivoirienne de Traitement des Dechets	Prof. Kabi Gnahowa	Conseiller, SITRAD SA.	Mr. Kouadio Yao Leonard	Director General, SITRAD SA.	Mr. Katier Pierre-Clayer	Engineer, SITRAD SA.	Mr. Beyli Niamien A	Engineer, SITRAD SA.	Mr. Fabrice le Sache	Managing Partner, ECOSUR	Mr. Luici Paleari	Representative, PROMECO SPA. (Technology supplier from Italy)	Mr. Rebai Paolo	Representative, PROMECO SPA. (Technology supplier from Italy)
Robert Mitterwallner	GHG Auditor, TÜV SÜD Industrie Service GmbH, Munich																										
Robert Köhn	GHG Trainee, TÜV SÜD Industrie Service GmbH, Munich																										
Madam Hevivet	1st Lady, Ivory Coast																										
Mr. Tayoro Gbotta	Chief of Stuff, Presidential Office																										
Mr. Geoges Tai Benson	Advisor to the President, Environment																										
Mr. Diabate Ousmane	President, SITRAD SA. (Societe Ivoirienne de Traitement des Dechets																										
Prof. Kabi Gnahowa	Conseiller, SITRAD SA.																										
Mr. Kouadio Yao Leonard	Director General, SITRAD SA.																										
Mr. Katier Pierre-Clayer	Engineer, SITRAD SA.																										
Mr. Beyli Niamien A	Engineer, SITRAD SA.																										
Mr. Fabrice le Sache	Managing Partner, ECOSUR																										
Mr. Luici Paleari	Representative, PROMECO SPA. (Technology supplier from Italy)																										
Mr. Rebai Paolo	Representative, PROMECO SPA. (Technology supplier from Italy)																										

Information Reference List 15 June 2009	Abidjan Municipal Solid Waste-To-Energy Project	Page 4 of 11	 Industrie Service
--	---	-----------------	--


Reference No.	Document or Type of Information																												
5.	<p>Interview in Municipality of Bingerville of Ivory Coast conducted on February 27, 2008, 3:00pm – 4:30pm, by auditing team of TÜV SÜD, including list of participants.</p> <p>Validation team:</p> <table> <tr> <td>Robert Mitterwallner</td><td>GHG Auditor, TÜV SÜD Industrie Service GmbH, Munich</td></tr> <tr> <td>Robert Köhn</td><td>GHG Trainee, TÜV SÜD Industrie Service GmbH, Munich</td></tr> </table> <p>Interviewed persons:</p> <table> <tr> <td>Mr. Beugre Djoman</td><td>Major of Bingerville</td></tr> <tr> <td>Mr. Koffi Celeslin</td><td>Office of Major, Bingerville</td></tr> <tr> <td>Mr. N'gbo Bekoe</td><td>Office of Major, Bingerville</td></tr> <tr> <td>Mr. Diabate Ousmane</td><td>President, SITRAD SA. (Societe Ivoirienne de Traitement des Dechets)</td></tr> <tr> <td>Madam Doho</td><td>Assistante to President, SITRAD</td></tr> <tr> <td>Prof. Kabi Gnahowa</td><td>Conseiller, SITRAD SA.</td></tr> <tr> <td>Mr. Kouadio Yao Leonard</td><td>Director General, SITRAD SA.</td></tr> <tr> <td>Mr. Katier Pierre-Clayer</td><td>Engineer, SITRAD SA.</td></tr> <tr> <td>Mr. Beyli Niamien A</td><td>Engineer, SITRAD SA.</td></tr> <tr> <td>Mr. Fabrice le Sache</td><td>Managing Partner, ECOSUR</td></tr> <tr> <td>Mr. Luici Paleari</td><td>Representative, PROMECO SPA. (Technology supplier from Italy)</td></tr> <tr> <td>Mr. Rebai Paolo</td><td>Representative, PROMECO SPA. (Technology supplier from Italy)</td></tr> </table>	Robert Mitterwallner	GHG Auditor, TÜV SÜD Industrie Service GmbH, Munich	Robert Köhn	GHG Trainee, TÜV SÜD Industrie Service GmbH, Munich	Mr. Beugre Djoman	Major of Bingerville	Mr. Koffi Celeslin	Office of Major, Bingerville	Mr. N'gbo Bekoe	Office of Major, Bingerville	Mr. Diabate Ousmane	President, SITRAD SA. (Societe Ivoirienne de Traitement des Dechets)	Madam Doho	Assistante to President, SITRAD	Prof. Kabi Gnahowa	Conseiller, SITRAD SA.	Mr. Kouadio Yao Leonard	Director General, SITRAD SA.	Mr. Katier Pierre-Clayer	Engineer, SITRAD SA.	Mr. Beyli Niamien A	Engineer, SITRAD SA.	Mr. Fabrice le Sache	Managing Partner, ECOSUR	Mr. Luici Paleari	Representative, PROMECO SPA. (Technology supplier from Italy)	Mr. Rebai Paolo	Representative, PROMECO SPA. (Technology supplier from Italy)
Robert Mitterwallner	GHG Auditor, TÜV SÜD Industrie Service GmbH, Munich																												
Robert Köhn	GHG Trainee, TÜV SÜD Industrie Service GmbH, Munich																												
Mr. Beugre Djoman	Major of Bingerville																												
Mr. Koffi Celeslin	Office of Major, Bingerville																												
Mr. N'gbo Bekoe	Office of Major, Bingerville																												
Mr. Diabate Ousmane	President, SITRAD SA. (Societe Ivoirienne de Traitement des Dechets)																												
Madam Doho	Assistante to President, SITRAD																												
Prof. Kabi Gnahowa	Conseiller, SITRAD SA.																												
Mr. Kouadio Yao Leonard	Director General, SITRAD SA.																												
Mr. Katier Pierre-Clayer	Engineer, SITRAD SA.																												
Mr. Beyli Niamien A	Engineer, SITRAD SA.																												
Mr. Fabrice le Sache	Managing Partner, ECOSUR																												
Mr. Luici Paleari	Representative, PROMECO SPA. (Technology supplier from Italy)																												
Mr. Rebai Paolo	Representative, PROMECO SPA. (Technology supplier from Italy)																												

Information Reference List 15 June 2009	Abidjan Municipal Solid Waste-To-Energy Project	Page 5 of 11	 Industrie Service
--	---	-----------------	--


Reference No.	Document or Type of Information																																
6.	<p>Interview in Chief of Village (town) of Bingerville of Ivory Coast conducted on February 27, 2008, 5:00pm – 6:00pm, by auditing team of TÜV SÜD, including list of participants.</p> <p>Validation team: Robert Mitterwallner GHG Auditor, TÜV SÜD Industrie Service GmbH, Munich Robert Köhn GHG Trainee, TÜV SÜD Industrie Service GmbH, Munich</p> <p>Interviewed persons:</p> <table> <tr> <td>Mr. Paul Aamloba</td><td>Speaker for Chief of Village in Bingerville</td></tr> <tr> <td>Mr. N’Kredji Nicolas</td><td>Notable, Village in Bingerville</td></tr> <tr> <td>Mr. Gbaloué Grégoire</td><td>Landowner of project site</td></tr> <tr> <td>Mr. Ayaké Germain</td><td>Member of the urban planning committee of Bingerville Adjamé village</td></tr> <tr> <td>Mr Mobio Grégoire</td><td>Member of the financial office of Bingerville Adjamé village</td></tr> <tr> <td>Mr Ghe Serge O’Neal</td><td>Police representative of Bingerville Adjamé village</td></tr> <tr> <td>Mr Yankou Danho Bernard</td><td>Representative of the neighborhood’s families</td></tr> <tr> <td>Mr. Anté Agoua</td><td>Representative of landowner</td></tr> <tr> <td>Mr. Diabate Ousmane</td><td>President, SITRAD SA. (Societe Ivoirienne de Traitement des Dechets)</td></tr> <tr> <td>Madam Doho</td><td>Assistante to President, SITRAD</td></tr> <tr> <td>Prof. Kabi Gnahowa</td><td>Conseiller, SITRAD SA.</td></tr> <tr> <td>Mr. Kouadio Yao Leonard</td><td>Director General, SITRAD SA.</td></tr> <tr> <td>Mr. Beyli Niamien A</td><td>Engineer, SITRAD SA.</td></tr> <tr> <td>Mr. Fabrice le Sache</td><td>Managing Partner, ECOSUR</td></tr> <tr> <td>Mr. Luici Paleari</td><td>Representative, PROMECO SPA. (Technology supplier from Italy)</td></tr> <tr> <td>Mr. Rebai Paolo</td><td>Representative, PROMECO SPA. (Technology supplier from Italy)</td></tr> </table>	Mr. Paul Aamloba	Speaker for Chief of Village in Bingerville	Mr. N’Kredji Nicolas	Notable, Village in Bingerville	Mr. Gbaloué Grégoire	Landowner of project site	Mr. Ayaké Germain	Member of the urban planning committee of Bingerville Adjamé village	Mr Mobio Grégoire	Member of the financial office of Bingerville Adjamé village	Mr Ghe Serge O’Neal	Police representative of Bingerville Adjamé village	Mr Yankou Danho Bernard	Representative of the neighborhood’s families	Mr. Anté Agoua	Representative of landowner	Mr. Diabate Ousmane	President, SITRAD SA. (Societe Ivoirienne de Traitement des Dechets)	Madam Doho	Assistante to President, SITRAD	Prof. Kabi Gnahowa	Conseiller, SITRAD SA.	Mr. Kouadio Yao Leonard	Director General, SITRAD SA.	Mr. Beyli Niamien A	Engineer, SITRAD SA.	Mr. Fabrice le Sache	Managing Partner, ECOSUR	Mr. Luici Paleari	Representative, PROMECO SPA. (Technology supplier from Italy)	Mr. Rebai Paolo	Representative, PROMECO SPA. (Technology supplier from Italy)
Mr. Paul Aamloba	Speaker for Chief of Village in Bingerville																																
Mr. N’Kredji Nicolas	Notable, Village in Bingerville																																
Mr. Gbaloué Grégoire	Landowner of project site																																
Mr. Ayaké Germain	Member of the urban planning committee of Bingerville Adjamé village																																
Mr Mobio Grégoire	Member of the financial office of Bingerville Adjamé village																																
Mr Ghe Serge O’Neal	Police representative of Bingerville Adjamé village																																
Mr Yankou Danho Bernard	Representative of the neighborhood’s families																																
Mr. Anté Agoua	Representative of landowner																																
Mr. Diabate Ousmane	President, SITRAD SA. (Societe Ivoirienne de Traitement des Dechets)																																
Madam Doho	Assistante to President, SITRAD																																
Prof. Kabi Gnahowa	Conseiller, SITRAD SA.																																
Mr. Kouadio Yao Leonard	Director General, SITRAD SA.																																
Mr. Beyli Niamien A	Engineer, SITRAD SA.																																
Mr. Fabrice le Sache	Managing Partner, ECOSUR																																
Mr. Luici Paleari	Representative, PROMECO SPA. (Technology supplier from Italy)																																
Mr. Rebai Paolo	Representative, PROMECO SPA. (Technology supplier from Italy)																																

Information Reference List 15 June 2009	Abidjan Municipal Solid Waste-To-Energy Project	Page 6 of 11	
--	---	-----------------	---


Reference No.	Document or Type of Information																										
7.	<p>Interview Electricity Board & Farmer Representative of Ivory Coast conducted on February 27, 2008, 7:00pm – 8:00pm, by auditing team of TÜV SÜD, including list of participants.</p> <p>Validation team:</p> <table> <tr> <td>Robert Mitterwallner</td><td>GHG Auditor, TÜV SÜD Industrie Service GmbH, Munich</td></tr> <tr> <td>Robert Köhn</td><td>GHG Trainee, TÜV SÜD Industrie Service GmbH, Munich</td></tr> </table> <p>Interviewed persons:</p> <table> <tr> <td>Mr. N'ChoN'Guessan Pacome</td><td>Representative, Electricity Board Ivory Coast</td></tr> <tr> <td>Mr. Ouattaro Diarrassouba</td><td>Representative of Farmer</td></tr> <tr> <td>Mr. Diabate Ousmane</td><td>President, SITRAD SA. (Societe Ivoirienne de Traitement des Dechets)</td></tr> <tr> <td>Madam Doho</td><td>Assistante to President, SITRAD</td></tr> <tr> <td>Prof. Kabi Gnahowa</td><td>Conseiller, SITRAD SA.</td></tr> <tr> <td>Mr. Kouadio Yao Leonard</td><td>Director General, SITRAD SA.</td></tr> <tr> <td>Mr. Katier Pierre-Clayer</td><td>Engineer, SITRAD SA.</td></tr> <tr> <td>Mr. Beyli Niamien A</td><td>Engineer, SITRAD SA.</td></tr> <tr> <td>Mr. Fabrice le Sache</td><td>Managing Partner, ECOSUR</td></tr> <tr> <td>Mr. Luici Paleari</td><td>Representative, PROMECO SPA. (Technology supplier from Italy)</td></tr> <tr> <td>Mr. Rebai Paolo</td><td>Representative, PROMECO SPA. (Technology supplier from Italy)</td></tr> </table>	Robert Mitterwallner	GHG Auditor, TÜV SÜD Industrie Service GmbH, Munich	Robert Köhn	GHG Trainee, TÜV SÜD Industrie Service GmbH, Munich	Mr. N'ChoN'Guessan Pacome	Representative, Electricity Board Ivory Coast	Mr. Ouattaro Diarrassouba	Representative of Farmer	Mr. Diabate Ousmane	President, SITRAD SA. (Societe Ivoirienne de Traitement des Dechets)	Madam Doho	Assistante to President, SITRAD	Prof. Kabi Gnahowa	Conseiller, SITRAD SA.	Mr. Kouadio Yao Leonard	Director General, SITRAD SA.	Mr. Katier Pierre-Clayer	Engineer, SITRAD SA.	Mr. Beyli Niamien A	Engineer, SITRAD SA.	Mr. Fabrice le Sache	Managing Partner, ECOSUR	Mr. Luici Paleari	Representative, PROMECO SPA. (Technology supplier from Italy)	Mr. Rebai Paolo	Representative, PROMECO SPA. (Technology supplier from Italy)
Robert Mitterwallner	GHG Auditor, TÜV SÜD Industrie Service GmbH, Munich																										
Robert Köhn	GHG Trainee, TÜV SÜD Industrie Service GmbH, Munich																										
Mr. N'ChoN'Guessan Pacome	Representative, Electricity Board Ivory Coast																										
Mr. Ouattaro Diarrassouba	Representative of Farmer																										
Mr. Diabate Ousmane	President, SITRAD SA. (Societe Ivoirienne de Traitement des Dechets)																										
Madam Doho	Assistante to President, SITRAD																										
Prof. Kabi Gnahowa	Conseiller, SITRAD SA.																										
Mr. Kouadio Yao Leonard	Director General, SITRAD SA.																										
Mr. Katier Pierre-Clayer	Engineer, SITRAD SA.																										
Mr. Beyli Niamien A	Engineer, SITRAD SA.																										
Mr. Fabrice le Sache	Managing Partner, ECOSUR																										
Mr. Luici Paleari	Representative, PROMECO SPA. (Technology supplier from Italy)																										
Mr. Rebai Paolo	Representative, PROMECO SPA. (Technology supplier from Italy)																										

Information Reference List 15 June 2009	Abidjan Municipal Solid Waste-To-Energy Project	Page 7 of 11	 Industrie Service
--	---	-----------------	--


Reference No.	Document or Type of Information																						
8.	<p>Interview (Presentation by) Environmental Engineer who prepared environmental impact study for the DNA of Ivory Coast conducted on February 28, 2008, 10am - noon, by auditing team of TÜV SÜD, including list of participants.</p> <p>Validation team:</p> <table> <tr> <td>Robert Mitterwallner</td><td>GHG Auditor, TÜV SÜD Industrie Service GmbH, Munich</td></tr> <tr> <td>Robert Köhn</td><td>GHG Trainee, TÜV SÜD Industrie Service GmbH, Munich</td></tr> </table> <p>Interviewed persons:</p> <table> <tr> <td>Mr. Gohoua Yoga Félicien</td><td>Environmental & Quality Engineer, Consultant</td></tr> <tr> <td>Mr. Diabate Ousmane</td><td>President, SITRAD SA.</td></tr> <tr> <td>Madam Doho</td><td>Assistante to President, SITRAD</td></tr> <tr> <td>Prof. Kabi Gnahowa</td><td>Conseiller, SITRAD SA. (partly present only)</td></tr> <tr> <td>Mr. Kouadio Yao Leonard</td><td>Director General, SITRAD SA.</td></tr> <tr> <td>Mr. Beyli Niamien A</td><td>Engineer, SITRAD SA.</td></tr> <tr> <td>Mr. Fabrice le Sache</td><td>Managing Partner, ECOSUR</td></tr> <tr> <td>Mr. Luici Paleari</td><td>Representative, PROMECO SPA. (Technology supplier from Italy)</td></tr> <tr> <td>Mr. Rebai Paolo</td><td>Representative, PROMECO SPA. (Technology supplier from Italy)</td></tr> </table>	Robert Mitterwallner	GHG Auditor, TÜV SÜD Industrie Service GmbH, Munich	Robert Köhn	GHG Trainee, TÜV SÜD Industrie Service GmbH, Munich	Mr. Gohoua Yoga Félicien	Environmental & Quality Engineer, Consultant	Mr. Diabate Ousmane	President, SITRAD SA.	Madam Doho	Assistante to President, SITRAD	Prof. Kabi Gnahowa	Conseiller, SITRAD SA. (partly present only)	Mr. Kouadio Yao Leonard	Director General, SITRAD SA.	Mr. Beyli Niamien A	Engineer, SITRAD SA.	Mr. Fabrice le Sache	Managing Partner, ECOSUR	Mr. Luici Paleari	Representative, PROMECO SPA. (Technology supplier from Italy)	Mr. Rebai Paolo	Representative, PROMECO SPA. (Technology supplier from Italy)
Robert Mitterwallner	GHG Auditor, TÜV SÜD Industrie Service GmbH, Munich																						
Robert Köhn	GHG Trainee, TÜV SÜD Industrie Service GmbH, Munich																						
Mr. Gohoua Yoga Félicien	Environmental & Quality Engineer, Consultant																						
Mr. Diabate Ousmane	President, SITRAD SA.																						
Madam Doho	Assistante to President, SITRAD																						
Prof. Kabi Gnahowa	Conseiller, SITRAD SA. (partly present only)																						
Mr. Kouadio Yao Leonard	Director General, SITRAD SA.																						
Mr. Beyli Niamien A	Engineer, SITRAD SA.																						
Mr. Fabrice le Sache	Managing Partner, ECOSUR																						
Mr. Luici Paleari	Representative, PROMECO SPA. (Technology supplier from Italy)																						
Mr. Rebai Paolo	Representative, PROMECO SPA. (Technology supplier from Italy)																						

Information Reference List 15 June 2009	Abidjan Municipal Solid Waste-To-Energy Project	Page 8 of 11	 Industrie Service
--	---	-----------------	--

Reference No.	Document or Type of Information																
9.	<p>Online & Telephone Interview ECOSUR Project Developer (Abidjan-Paris) who prepared the PDD, conducted on February 28, 2008, 12noon – 1:30pm, by auditing team of TÜV SÜD, including list of participants.</p> <p>Validation team:</p> <table> <tr> <td>Robert Mitterwallner</td><td>GHG Auditor, TÜV SÜD Industrie Service GmbH, Munich</td></tr> <tr> <td>Robert Köhn</td><td>GHG Trainee, TÜV SÜD Industrie Service GmbH, Munich</td></tr> </table> <p>Interviewed persons:</p> <table> <tr> <td>Ms. Aurelie Lepage</td><td>Ecosur, Paris</td></tr> </table>	Robert Mitterwallner	GHG Auditor, TÜV SÜD Industrie Service GmbH, Munich	Robert Köhn	GHG Trainee, TÜV SÜD Industrie Service GmbH, Munich	Ms. Aurelie Lepage	Ecosur, Paris										
Robert Mitterwallner	GHG Auditor, TÜV SÜD Industrie Service GmbH, Munich																
Robert Köhn	GHG Trainee, TÜV SÜD Industrie Service GmbH, Munich																
Ms. Aurelie Lepage	Ecosur, Paris																
10.	<p>Visit of a plastic recycling plant, industry area of Abidjan, on February 28, 2008, 3pm – 5pm, by auditing team of TÜV SÜD, including list of participants.</p> <p>Validation team:</p> <table> <tr> <td>Robert Mitterwallner</td><td>GHG Auditor, TÜV SÜD Industrie Service GmbH, Munich</td></tr> <tr> <td>Robert Köhn</td><td>GHG Trainee, TÜV SÜD Industrie Service GmbH, Munich</td></tr> </table> <p>Interviewed persons:</p> <table> <tr> <td>Mr. Abbas Badreddine</td><td>Managing Director, Plastica Fabrication plant</td></tr> <tr> <td>Mr. Diabate Ousmane</td><td>President, SITRAD SA.</td></tr> <tr> <td>Madam Doho</td><td>Assistante to President, SITRAD</td></tr> <tr> <td>Prof. Kabi Gnahowa</td><td>Conseiller, SITRAD SA. (partly present only)</td></tr> <tr> <td>Mr. Kouadio Yao Leonard</td><td>Director General, SITRAD SA.</td></tr> <tr> <td>Mr. Beyli Niamien A</td><td>Engineer, SITRAD SA.</td></tr> </table>	Robert Mitterwallner	GHG Auditor, TÜV SÜD Industrie Service GmbH, Munich	Robert Köhn	GHG Trainee, TÜV SÜD Industrie Service GmbH, Munich	Mr. Abbas Badreddine	Managing Director, Plastica Fabrication plant	Mr. Diabate Ousmane	President, SITRAD SA.	Madam Doho	Assistante to President, SITRAD	Prof. Kabi Gnahowa	Conseiller, SITRAD SA. (partly present only)	Mr. Kouadio Yao Leonard	Director General, SITRAD SA.	Mr. Beyli Niamien A	Engineer, SITRAD SA.
Robert Mitterwallner	GHG Auditor, TÜV SÜD Industrie Service GmbH, Munich																
Robert Köhn	GHG Trainee, TÜV SÜD Industrie Service GmbH, Munich																
Mr. Abbas Badreddine	Managing Director, Plastica Fabrication plant																
Mr. Diabate Ousmane	President, SITRAD SA.																
Madam Doho	Assistante to President, SITRAD																
Prof. Kabi Gnahowa	Conseiller, SITRAD SA. (partly present only)																
Mr. Kouadio Yao Leonard	Director General, SITRAD SA.																
Mr. Beyli Niamien A	Engineer, SITRAD SA.																

Information Reference List 15 June 2009	Abidjan Municipal Solid Waste-To-Energy Project	Page 10 of 11	 Industrie Service
--	---	------------------	--

Reference No.	Document or Type of Information
25.	Project Emission Reductions and Monitoring (excel sheet calculation), version 5, October 7, 2008
26.	Monitoring Process Flow Diagram, March 26, 2008
27.	Ministry of Ivory Coast for Miners and Energy with power generation information in the country, March 18, 2008
28.	Bureau National d'Etudes Technique et de Developement (BNETD): <i>IRR Benchmark Confirmation for Ivory Coast</i> for SITRADE, March 19, 2008
29.	Scheme from Promeco with monitoring points, March 5, 2008
30.	<i>CDM Monitoring Plan Guidelines</i> issued by SITRADE, September 2008
31.	Contract of Selling Compost (Fertiliser) between SITRADE and COOPAKK (Cooperative Agricole Kobegnan de Kahen) ; 2008-03-18
32.	Offer of Fratelli Mazzocchia to sell waste compactors to SITRADE, February 18, 2008
33.	Map of Bingerville
34.	Pan Gaston: map of the project plant, scale 1:2500 and 1:15000, January 3, 2008
35.	Organigramme of SITRADE, March 26, 2008
36.	Prize list of technical project equipment of Promeco, February 18, 2008
37.	Process Description of Promeco, March 4, 2008
38.	ESTIMATED BUDGET FOR OPERATING COSTS of Promeco, March 16, 2008
39.	Equipment Data of Promeco. March 17, 2008
40.	SITRADE request for investment, January 2008
41.	First letter of BNI (Banque National d'investissement) to SITRADE, January 8, 2008
42.	Second letter of BNI (Banque National d'investissement) to SITRADE , February 12, 2008

Information Reference List 15 June 2009	Abidjan Municipal Solid Waste-To-Energy Project	Page 11 of 11	 Industrie Service
--	---	------------------	--

Reference No.	Document or Type of Information
43.	Letter from the president of SITRADE to the general director with statement to cover the financial risk, February 20, 2008
44.	MoC from July 18, 2008
45.	LoA of Ivory Coast from February 25, 2008
46.	LoA of Switzerland from May 21, 2008
47.	Investment convention of Equigold NL for financial parameters in Ivory Coast, Mai 2007
48.	Sensitivity Analysis as Excel Sheet Calculation, April 25, 2008
49.	ANDE: Evaluation of SITRADE PDD regarding SD, April 18, 2008
50.	Evidence for Land Acquisition, December 17, 2007
51.	Calculation of gasholder permeability, Promeco, April 10, 2008
52.	Article <i>Production d'énergie électrique en Côte d'Ivoire</i> from "Le Temps", 2008-08-05
53.	E-mail from Banque Atlantique of Côte d'Ivoire to the investor PP, 2008-06-12
54.	Letter from investor PP to SITRADE about upfront payment, 2008-05-15
55.	Letter about request for loan from Banque Atlantique of Côte d'Ivoire to SITRADE, 2008-06-12
56.	Letter of Support of <i>Ministère des Mines et de l'Energie</i> of Côte d'Ivoire to SITRADE, 2008-04-28
57.	E-mail about renewable energy legislation of <i>Ministère des Mines et de l'Energie</i> of Côte d'Ivoire to Ecosur, 2008-07-09
58.	E-mail about first-of-its-kind-project of <i>Ministère des Mines et de l'Energie</i> of Côte d'Ivoire to Ecosur, 2008-08-28
59.	Grid Emission Factor Calculation, Excel Sheet from 2008-10-07
60.	Data base of SOPIE (Société d'Opération Ivoirienne d'Électricité) ; PDF from October 1, 2008