VALIDATION REPORT

UTE SÃO BORJA GERADORA DE ENERGIA S.A.

UTE SÃO BORJA 12.3 MW RICE HUSK PROJECT

Report No: 8000385475- 10/57

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TÜV NORD CERT GmbH
JI/CDM Certification Program
Langemarckstraße, 20
45141 Essen, Germany
Phone: +49-201-825-3335
Fax: +49-201-825-3290
www.tuev-nord.de
www.global-warming.de

Validation Report:	***Report No.***	***Rev. No.***	***Date of 1st issue:***	***Date of this rev.***
	8000385475 – 10/57	0	2012-02-24	2012-02-24
Project:	***Title:***		***Initial PDD Version:***	***Final PDD Version***
	UTE São Borja 12.3 MW Rice Husk Project		2009-08-06 v.1	2012-02-23 v.7
Client:	UTE São Borja Geradora de Energia S.A.		***Client ref:***	Mr. Albert Ramcke
Project Participant(s):	***Host Party:***		***Other involved parties:***	
	Brazil		Germany	
Applied methodology/ies:	***Title:***		***No.:***	***Scope / TA:***
	Grid connected renewable electricity generation		AMS I.D. ver.17	1 / 1.1
	Avoidance of methane production from decay of biomass though controlled combustion, gasification or mechanical/thermal treatment		AMS III.E. ver. 16	13 / 13.1
Validation team / Technical Review and Final Approval	***Validation Team:***		***Technical review:***	***Final approval:***
	Ricardo Lopes TL Glauciano Goncaves TE 13.1 Gilberto Andrade TE 1.1 Fernando Pacheco TM		Alexandra Nebel Rainer Winter	Rainer Winter
Expected Emission reductions: [t CO_2e]	***Expected emission reductions over the first crediting period:***		***(Expected) project starting date:***	
	923,369 t CO_{2e}		2008-07-14	
Confidential content:	☐ Yes		☒ No	
Summary of Validation Opinion:	☒ Positive validation opinion		☐ Negative validation opinion	
	In detail the conclusions can be summarised as follows: ☐ The project is in line with all relevant host country criteria Brazil) and all relevant UNFCCC requirements for CDM. Project activity approval have been obtained from DNA of Brazil vide the Letter of Approval (HCA) dated (not yet) from DNA of Germany dated (not yet). This point will be only set as fulfilled after LoA has been received. ☒ The project additionality is sufficiently justified in the PDD. ☒ The monitoring plan is transparent and adequate. ☒ The calculation of the project emission reductions is carried out in a transparent and conservative manner, so that the calculated emission reductions of 32,458 tCO_2e are most likely to be achieved within the (1st renewable) crediting period. ☒ The conclusions of this report show, that the project, as it was described in the project documentation, is in line with all criteria applicable for the validation.			
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Abbreviations

ANEEL	Brazilian National Agency of Electric Energy
BAU	Business as usual
BCB	Brazilian Central Bank
BNDES	Brazilian National Bank of Sustainable Development
CA	Corrective Action / Clarification Action
CAR	Corrective Action Request
CCEE	Brazilian Electricity Energy Trading Chamber
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CL	Clarification Request
CNE	National Energy Commission
CO_2	Carbon dioxide
CO_{2e}	Carbon dioxide equivalent
CONAMA	National Commission of Environment
CP	Certification Program
DNA	Designated National Authority
EB	CDM Executive Board
EIA	Environmental Impact Assessment
FAR	Forward Action Request
GHG	Greenhouse gas(es)
IPCC	Intergovernmental Panel on Climate Change
MME	Brazilian Ministry of Mines and Energy
ONS	Brazilian National System Operator
PDD	Project Design Document
QC/QA	Quality control/Quality assurance
QMS	Quality Management System
UNFCCC	United Nations Framework Convention on Climate Change
VVM	Validation and Verification Manual

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1 OBJECTIVE / SCOPE

The purpose of a validation is to have an independent third party assess the project design. In particular the project's baseline, the monitoring plan (MP), and the project's compliance with

- the requirements of Article 12 of the Kyoto Protocol;
- the CDM modalities and procedures as agreed in the Marrakech Accords under decision 3/CMP.1
- the annex to the decision;
- subsequent decisions made by COP/MOP & CDM Executive Board and
- other relevant rules, including the host country legislation and sustainability criteria

are validated in order to confirm that the project design as documented is sound and reasonable and meets the stated requirements and identified criteria. Validation is seen as necessary to provide assurance to stakeholders on the quality of the project and its intended generation of certified emission reductions (CERs).

The validation scope is given as a thorough independent and objective assessment of the project design including especially: the correct application of the methodology, the project's baseline study, additionality justification, local stakeholder commenting process, environmental impacts and monitoring plan, which are included in the PDD and other relevant supporting documents, to ensure that the proposed CDM project activity meets all relevant and applicable CDM criteria.

The information included in the PDD and the supporting documents were reviewed against the requirements as set out by the UNFCCC. The validation team has, based on the requirements in the Validation and Verification Manual[/VVM/], carried out a full assessment of all evidences to assess the compliance of the project with the key areas as outlined in section V.E. and V.F. of the VVM (version 01.2, EB 55).

The validation is based on the information made available to TÜV NORD JI/CDM CP and on the contract conditions.

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

2 GHG PROJECT DESCRIPTION

2.1 Project Characteristics

Essential data of the project is presented in the following Table 2-1.

Table 2-1: Project Characteristics

Item	Data		
Project title	UTE São Borja 12.3 MW Rice Husk Project		
Project size	☐ Large Scale ☒ Small Scale		
Project Scope *(according to UNFCCC sectoral scope numbers for CDM)*	☒	1	Energy Industries (renewable- /non-renewable sources)
	☐	2	Energy distribution
	☐	3	Energy demand
	☐	4	Manufacturing industries
	☐	5	Chemical industry
	☐	6	Construction
	☐	7	Transport
	☐	8	Mining/Mineral production
	☐	9	Metal production
	☐	10	Fugitive emissions from fuels (solid, oil and gas)
	☐	11	Fugitive emissions from production and consumption of halocarbons and hexafluoride
	☐	12	Solvents use
	☒	13	Waste handling and disposal
	☐	14	Afforestation and Reforestation
	☐	15	Agriculture
Applied Methodology	AMS I.D. – Grid connected electricity generation, version 17 AMS III.E – Avoidance of methane production from decay of biomass through controlled combustion, gasification or mechanical/thermal treatment, version 16		
Technical Area(s)	e.g: 1.1 Thermal Energy; 13.1 Waste handling and disposal		
Crediting period	☒ Renewable Crediting Period (7 y) ☐ Fixed Crediting Period (10 y)		
Start of crediting period	2013-01-01		

2.2 Involved Parties and Project Participants

The following parties to the Kyoto Protocol and project participants are involved in this project activity (Table 2-2).

Table 2-2: Project Parties and project participants

Characteristic	Party	Project Participants*
Host party	Brazil	UTE São Borja Geradora de Energia S.A.

Characteristic	Party	Project Participants*
Annex I	Germany	MPC Bioenergie Brasilien GmbH & Co. KG

*One former PP listed in the published PDD has removed its participation. He was not the contracting party with TÜV NORD. This is in line with EB50, Annex48, Para 8: Project participants who are listed in the PDD submitted for global stakeholder consultation but who do not have a contractual relationship with the DOE for the purposes of the validation activity may be removed from the PDD which is submitted for registration.

2.3 Project Location

The details of the project location are given in table 2-3:

Table 2-3: Project Location

No.	Project Location
Host Country	Brazil
Region:	Rio Grande do Sul state, São Borja city
Project location address:	São Bento, Rincão da Cria e Chácara da Conceição, Distrito 1º - São Borja
Latitude:	28°41'09.88" S
Longitude:	55°55'22.75" W

2.4 Technical Project Description

The technical key data are provided in table 2-4 below /TD/

Table 2-4: Technical data of the project activity

Parameter	Unit	Value
General data		
Gross electrical output at generator at substation (net output)	--	 12.33 11.10
Power generation level	--	13.8
Grid level	--	13.8/69
Boiler		
Manufacturer	--	Equipalcool
Serial No.	--	53-V-2-S
Type	--	Spreader stoker with Vibrating Grate
Steam Capacity	t/h	53
Efficiency	%	86.11%
Outlet pressure	Bar	44
Outlet temperature	°C	430
Generator		
Manufacturer	--	INDAR
Serial No.	--	LSA-900-XIA4
Capacity	MW	12.429

Parameter	Unit	Value
Efficiency	%	97.1
Frequency	rpm	1800
Inlet pressure	Bar	43
Inlet temperature	°C	420
Power	MVA	15.6
Turbine		
Manufacturer	--	Dresser Rand
Serial No.	--	RD9MOQ
Capacity	kW	12,995
Efficiency (yield)	%	82.32
Efficiency (Rankine cycle)	%	23.2
Rice Husk		
LHV	Mj/Kg	13,188
Density	t/m^3	0.115
Humidity	%	12
Carbon content	%	33.12
Ashes	%	20.4
Consumption	Kg/h	12,995
Dust		
Collection Equipment	--	Multicyclone and Bagfilter
Outlet concentration	mg/Nm^3	<150
Other Data		
Auxiliary transformer rate	MVA	2
Capacity of turbine crane	t	10
Capacity of clarification pant	M^3/h	1 x 80
Capacity of demineralization plant	M^3/h	1 x 8
Ambient Temperature range (min/max)	°C	-3/37
Relative Humidity	%	70-77
Minimum altitude above see level	m	<100
Max wind speed	Km/h	<130
Cooling tower		
Total Heat load capacity	Mcal/h	25,900
Total water rate	M^3/h	3,700
Water inlet temperature	°C	37
Water outlet temperature	°C	30
Wet bulb temperature	°C	24
Sound pressure level at 1 m	dB (A)	<90
Evaporation and drif losses	%	1.1

3 METHODOLOGY AND VALIDATION SEQUENCE

3.1 Validation Steps

The validation of the project consisted of the following steps:

- Contract review
- Appointment of team members and technical reviewers
- Publication of the project design document (PDD)
- Desk review of the PDD and supporting documents
- Validation planning
- On-Site assessment
- Background investigation and follow-up interviews with personnel of the project developer and its contractors
- Draft validation reporting
- Resolution of corrective actions (if any)
- Final validation reporting
- Technical review
- Final approval of the validation

The sequence of the validation is given in the table 3.1 below:

Table 3.1: Validation sequence

Topic	Time
Assignment of validation	2010-01-06
Submission of PDD for global stakeholder commenting process	2010-04-27
On-site visit	2010-05-27 to 2010-05-28
Draft reporting finalised	2010-06-04
Final reporting finalised	2012-02-24
Technical review on final reporting finalised	2012-02-24

3.2 Contract review

To assure that

- the project falls within the scopes for which accreditation is held,
- the necessary competences to carry out the validation can be provided,
- Impartiality issues are clear and in line with the CDM accreditation requirements

a contract review was carried out before the contract was signed.

3.3 Appointment of team members and technical reviewers

On the basis of a competence analysis and individual availabilities, a validation team, consisting of one team leader and 3 additional team members, as well as the Technical Review personnel were appointed.

The list of involved personnel, the tasks assigned and the qualification status are summarized in the table 3-2 below.

Table 3-2: Involved Personnel

	Name	Company	Function [1)]	Qualification Status [2)]	Scheme competence [3)]	Technical competence [4)]	Host country Competence
☒ Mr. ☐ Ms.	Ricardo Lopes	BRTÜV (TUV NORD Brazil), São Paulo	TL	LA	☒		☒
☒ Mr. ☐ Ms.	Gilberto Andrade	BRTÜV (TUV NORD Brazil), São Paulo	TM[A)]	A	☒	1.1	☒
☒ Mr. ☐ Ms.	Glauciano Gosalves	BRTÜV (TUV NORD Brazil), São Paulo	TM[A)]	TE	☐	13.1	☒
☒ Mr. ☐ Ms.	Fernando Pacheco	BRTÜV (TUV NORD Brazil), São Paulo	TM[A)]	A	☒		☒
☐ Mr. ☒ Ms.	Alexandra Nebel	TÜV NORD CERT	TR[B)]	SA	☒		☐
☒ Mr. ☐ Ms.	Rainer Winter	TÜV NORD CERT	FA[B)] TR[B)]	SA	☒	1.1 13.1	☐

1) TL: Team Leader; TM: Team Member, TR: Technical review; OT: Observer-Team, OR: Observer-TR; FA: Final approval

2) GHG Auditor Status: A: Assessor; LA: Lead Assessor; SA: Senior Assessor; T: Trainee; TE: Technical Expert

3) GHG auditor status (at least Assessor)

4) As per S01-MU03 or S01-VA070-A2 (such as 1.1, 1.2, …)
5) In case of verification projects

A) Team Member: GHG auditor (at least Assessor status), Technical Expert (incl. Host Country Expert or Verification Expert), not ETE
B) No team member

All team members contributed to the review of documents, the assessment of the project activity and to the preparation of this report under the leadership of the team leader.

Technical Experts contributed to the assessment of special aspects of the project activity, e.g. technical or host country aspects.

In order to qualify further personnel the project team was accompanied by observers and/or trainees as indicated in the table above. They are usually not considered as team members.

Statements of competence for the above mentioned team members are enclosed in annex 6 of this report.

3.4 Consideration of Public Stakeholder Comments

Acc. to the modalities and procedures the draft PDD, as received from the project participants, has been made publicly available on the dedicated UNFCCC CDM website prior to the validation activity commenced. Stakeholders have been invited to comment on the PDD within the 30 days public commenting period.

In case comments are received, they are taken into account during the validation process. The comments and the discussion of the same are documented in annex 5 of this report.

3.5 Validation Protocol

In order to ensure consideration of all relevant assessment criteria, a validation protocol is used. The protocol shows, in a transparent manner, criteria and requirements, means of validation and the results from pre-validating the identified criteria. The validation protocol reflects the generic CDM requirements each CDM project has to meet as well as project specific issues as applicable. The validation protocol serves the following purposes:

- It organises, details and clarifies the requirements that a CDM project is expected to meet;
- It ensures a transparent validation process where the validating entity will document how a particular requirement has been validated and the result of the determination.

The validation protocol is described in Figure 1.

Validation Protocol Table A-1: Requirement checklist				
Checklist Item	***Validation Team Comment***	***Reference***	***Draft Conclusion***	***Final Conclusion***
The checklist items in Table A-1 are linked to the various requirements the project should meet. The checklist is organised in various sections. Each section is then further sub-divided as per the requirements of the topic and the individual project activity.	*The section is used to elaborate and discuss the checklist item in detail. It includes the assessment of the validation team and how the assessment was carried out. The reporting requirements of the VVM shall be covered in this section.*	*Gives reference to the information source on which the assessment is based on*	*Assessment based on evidence provided if the criterion is fulfilled (OK), or a CAR, CL or FAR (see below) is raised. The assessment refers to the draft validation stage.*	*In case a corrective action or a clarification the final assessment at the final validation stage is given.*

Figure 1: Validation protocol table

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

3.6 Review of Documents

The published PDD and supporting background documents related to the project design and baseline were reviewed.

Furthermore, the validation team used additional documentation by third parties like host party legislation, technical reports referring to the project design or to the basic conditions and technical data.

3.7 Site Visit and Follow-up Interviews

The validation team has carried out a site visit in order to assess the information included in the project documentation and to gain additional information regarding the compliance of the project with the relevant criteria applicable for CDM.

During validation the validation team has performed interviews to confirm selected information and to resolve issues identified in the document review. The main topics of the interviews are summarized in table 3-3.

Table 3-3: Interviewed persons and interview topics

Interviewed Persons / Entities	Interview topics
Project proponent representatives Project consultant	- Chronological description of the project activity with documents of key steps of the implementation. - Current status of plant design - Technical details of the project realization, project

Interviewed Persons / Entities	Interview topics
	feasibility, designing, operational life time, monitoring of the project - Host Government Approval - Approval procedures and status - Monitoring and measurement equipment and system. - Financial aspects - Crediting period - Project activity starting date - CER allocation / ownership - Baseline study assumptions - Additionality - Sustainable development issues - Monitoring - Analysis of local stakeholder consultation - Roles & responsibilities of the project participants w.r.t. project management, monitoring and reporting - National Legislation - Editorial issues of the PDD

A comprehensive list of all interviewed persons is part of section 7 ‘References’.

3.8 Project comparison

The validation team has compared the proposed CDM project activity with similar projects or technology that have similar or comparable characteristics and with similar projects in the host country in order to achieve additional information esp. regarding:

- Project technology
- Additionality issues
- Reasons for reviews, requests for reviews and rejections within the CDM registration process.

3.9 Resolution of Clarification and Corrective Action Requests

3.9.1 Definition

A **Corrective Action Request (CAR)** will be established where:

- mistakes have been made in assumptions, application of the methodology or the project documentation which will have a direct influence the project results,

- the requirements deemed relevant for validation of the project with certain characteristics have not been met or
- there is a risk that the project would not be registered by the UNFCCC or that emission reductions would not be able to be verified and certified.

A **Clarification Request (CL)** will be issued where information is insufficient, unclear or not transparent enough to establish whether a requirement is met.

A **Forward Action Request (FAR)** will be issued when certain issues related to project implementation should be reviewed during the first verification.

3.9.2 Draft Validation

After reviewing all relevant documents and taken all other relevant information into account, the validation team issues all findings in the course of a draft validation report and hands this report over to the project proponent in order to respond on the issues raised and to revise the project documentation accordingly.

3.9.3 Final Validation

The final validation starts after issuance of the proposed corrective action (CA) of the CARs, CLs and FARs by the project proponent. The project proponent has to reply on those and the requests are “closed out” by the validation team in case the response is assessed as sufficient. In case of raised FARs the project proponent has to respond on this, identifying the necessary actions to ensure that the topics raised in this finding are likely to be resolved at the latest during the first verification. The validation team has to assess whether the proposed action is adequate or not.

In case the findings from CARs and CLs cannot be resolved by the project proponent or the proposed action related to the FARs raised cannot be assessed as adequate, no positive validation opinion can be issued by the validation team.

The CAR(s) / CL(s) / FAR(s) are documented in chapter 4.

3.10 Technical review

Before submission of the final validation report a technical review of the whole validation procedure is carried out. The technical reviewer is a competent GHG auditor being appointed for the scope this project falls under. The technical reviewer is not considered to be part of the validation team and thus not involved in the decision making process up to the technical review.

As a result of the technical review process the validation opinion and the topic specific assessments as prepared by the validation team leader may be confirmed or revised. Furthermore reporting improvements might be achieved.

3.11 Final approval

After successful technical review of the final report an overall (esp. procedural) assessment of the complete validation will be carried out by a senior assessor located in the accredited premises of TÜV NORD.

Only after this step the request for registration can be started (in case of a positive validation opinion).

4 VALIDATION FINDINGS

In the following table the findings from the desk review of the published PDD, visits, interviews and supporting documents are summarised**:**

Table 4-1: Summary of CARs, CLs and FARs issued

Validation topic [1)]	No. of CAR	No. of CL	No. of FAR
General description of project activity (A) - Project specification - Technical project description - Participation - Contribution to sustainable development - PDD editorial aspects - Technology to be employed	1	3	-
Project Baseline, Additionality and Monitoring Plan (B) - Application of the Methodology - Project Boundary - Baseline identification - Calculation of GHG emission reductions Project emissions Baseline emissions Leakage - Additionality determination - Monitoring Methodology - Monitoring Plan - Project management planning	2	14	-
Duration of the Project / Crediting Period (C)	1	1	-
Environmental impacts (D)	-	-	-
Stakeholder Comments (E)	-	-	-
SUM	**4**	**18**	**-**

[1)] The letters in brackets refer to the validation protocol

Table 4-2: PDD versions used for assessments

Version Nr.	Assessment Round
PDD v. 1 (Published)	Description of findings

Version Nr.	Assessment Round
PDD v. 2	DOE Assessment #1
PDD v. 3	DOE Assessment #2
PDD v. 4	DOE Assessment #3
PDD v.5 to 6	Running corrections by PP without separate DOE assessment.
PDD v. 7 (Final)	DOE Assessment #7

The following tables include all raised CARs, CLs and FARs. For an in depth evaluation of all validation items it should be referred to the validation protocols (see Annex 1).

The findings of validation process are summarized in the tables below.

General	**Finding CAR A1**		
Classification	☒ CAR	☐ CL	☐ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	Please provide the Brazilian and German LoA for the project with the exact project title as in the PDD (identical to section A.1) and precise name of the project participants (identical to section A.3 of the PDD).		
Corrective Action #1 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	The letter of approval will be requested to the Brazilian and German DNA with the final version of the PDD (version 2) submitted to the DOE.		
DOE Assessment #1 *The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.*	The LoA will only be submitted by the Brazilian and German DNA at the time of the issuance of the final version of the validation report. Please refer to the validation summary stating that the request for registration will not be submitted before the Letters of Approval (LoA) are officially issued.		
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the first periodic verification ☒ Appropriate action was taken ☐ Project documentation was corrected correspondingly ☐ Additional action should be taken ☐ The project complies with the requirements		

General	**Finding CAR B1**		
Classification	☒ CAR	☐ CL	☐ FAR

General	**Finding CAR B1**
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	1. All the parameters applied in the financial assessment (step 3 of section B.5 – Investment Analyses) should be detailed evidenced indicating the title of document/website/link referenced, page, paragraph, etc used for the identification of the parameter. 2. Additionally, the period of the financial analysis adopted is lower than the identified 25 years of project lifetime based on the technical lifetime of the main equipments. Therefore, revision of the financial analyses lifetime or inclusion a fair value as a cash inflow at the end of the analysis period is necessary.
Corrective Action #1 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	1. The table A.3 sent by the DOE related to the financial parameters identification applied in the project activity was detailed filled indicating all necessary information for the parameters identification. 2. Regarding the comment raised by the DOE on finding item 2 of this CAR (CAR B1), the project proponents always considered a fair value as a cash inflow at the end of the analysis period. The fair value is shown in cell V55 of Progn. Wirtschaftlichkeitsrechn spreadsheet. The fair value considered in our existing calculation is EUR 15,200,000 (Gross value). Given the sales tax on shares of 15% this ends up in a cash inflow to the shareholders of EUR 12,920,000. Given the technical lifetime of 25 years and the investment period analysis of 17 years there will 8 operational years left to the plant. The sales price is about 6 x the average yearly distribution of dividends of the fund to its shareholders. The dividend distribution is in Progn. Wirtschaftlichkeitsrechn spreadsheet, line 93. UTE São Borja is a small electricity plant and it is not a strategic asset to large utilities companies. By 2026 it will be probably technically outdated since new state-of-the-art technologies are expected and in the end of its technical lifetime. Considering these facts we believe that our estimative is very conservative.

General	Finding CAR B1
DOE Assessment #1 *The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.*	The table A.3 sent by the DOE related to the financial parameters identification applied in the project activity was detailed filled (please refer to table A-3 of this report for a detailed assessment). However, the following issues remains opened: 1. Section B.5: Table on page 36 is not complete. Please check with UNFCCC and ANEEL website and update also the conclusion drawn from this table. 2. Section B.5: Step 3: Investment Analysis: Sensitivity Analysis: A discussion is missing on the output data from the sensitivity analysis. Looking at the lower benchmark to be conservative (BNDES rate of 9,24%) it is obvious that the parameter "Energy Revenues" is very sensible with regard to changes. Assuming an increase of 10% in energy production (or tariff) the IRR is crossing the benchmark with 11,01% (according to the PDD). It shall therefore be shown in the PDD at which increase in energy production the IRR of the project would cross the benchmark of 9,24%. And it shall be discussed that this increase in energy production (or tariff) is unlikely to be expected. The same shall be discussed for the "Exchange Rate" and the "IGPM". Further, the sensitivity analysis in the excel sheet has not considered the energy generation increase of 10% from the first year on but only after the fifth year. This is not as per the rules. Appling the 10% increase from the first year would result in an even higher IRR. 3. Section B.5: Table 15: The total return offered to investors is given with 220,3 %, what would be the return in case CDM would not be considered?
Corrective Action #2 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	1. The table on Section B.5 was updated. The PP included a table with other similar projects that failed to be accomplished and are related to electricity and the rice husk industry. The conclusion drawn from the table is also updated. 2. The likelihood in changes on energy production volume, energy prices, exchange rate and inflation were completed in the PDD (pg 44 to 47). New spreadsheets showing the calculations are available to the DOE. The energy contracts are sold through long-term agreements at fixed price, the O&M service company has to provide a given plant output and exchange rate can be hedged. Also exchange rate and inflation volatility reflects the local economy. Brazil received an investment grade status in 2008. The PDD was completed showing the variation needed on these variables to cross the benchmark. The new calculation shows the conservatives of the project proponents' previous calculations. 3. The total return in the case CDM is not considered is 205%. Which according to the explanation given on table 15 is lower than the expected return of the investor for this type of project.

General	Finding CAR B1
DOE Assessment #2 *The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.*	1. OK, topic closed. Table 11 of PDD was adjusted considering ANEEL and UNFCCC websites. Additionally, Table 12 was included in PDD section B.5 listing hice husk projects in Brazil that were not succesfully implemmented. 2. The PDD wa revised and an assessment of the likhood of fluctuation of the paramenters energy revenues, exhane rate and IGPM were included in PDD version 2. The energy generated will be sold at fixed prices based in long term contracts, which are the commom practice in the sector and guarantee more security to project developer regarding the project financial health. The plant will be operated by a third part company (Dalkia) which will be responsible to guarantee and ensure the plant output performance at a fixed price. The signed contract with Dalkia states that if a higher performance of the plant than the expected occurs, a bonus payment will be due to the plant operator (Dalkia) from UTE São Borja. If the plant performance is lower Dalkia will pay a bonus to São Borja instead. Additionally, the fund prospectus confirms that the target to the electrcity price is 165 BRL/MWh, which was approved by the fund gestor. Therefore, the possibility of significant change in the energy revenues is very low/FD/. Considering the exchange rate and IGPM parameters, significants fluctuations are also not expected. Brazil‘s rating was raised to investment grade by Standard & Poor's in the past year, showing that the national economy is stable and strong. Additionally, Brazilian Central Bank adopted an Inflation Target System, which aims to keep the national inflation under a controlled regim and without significant variation/FD//bcb/. However, the investment Analysis considers that the IGPM and Exchange Rate are fixed over the 25 years of the project lifetime. It shall be clarified whether this approach is appropriate for each parameter looking at the market development in the past 10 years (or whatever time period seems appropriate). In case there was an increase/decrease of the parameters an annual growth tax shall be assumed for the calculation of the project IRR in order to be conservative. 3. OK, topic closed. The fund return withpou the CERs income is 205% as per the fund prospectus.

General	Finding CAR B1
Corrective Action #3 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	All variables and assumptions used in the valuation spreadsheets are the ones presented to the investors in the fund Prospectus. The fund prospectus is publicly available to the investors according to Germany financial authorities regulations and laws. It is important to consider that the fund prospectus is the only official instrument available to the German investor for them to base their investment decision. According to the corporate governance of the fund, any change in the variables or assumptions originally presented to investors would have to be previously informed to investors, and would cause the fund sales to stop since the investors will have to take a new decision on investment based on the new assumption. About the findings in topic 2 related to the DOE 2nd assessment of this CAR (B1), the project participants have the following comments: ***Relationship between inflation and exchange rates: Purchasing Power Parity Theory*** **Purchasing power parity** (**PPP**) is a theory of long-term equilibrium exchange rates based on relative price levels of two countries. The idea originated with the School of Salamanca in the 16th century[1]. The concept is founded on the law of one price; the idea that in absence of transaction costs, identical goods will have the same price in different markets. In its "absolute" version, the purchasing power of different currencies is equalized for a given basket of goods. In the "relative" version, the difference in the rate of change in prices at home and abroad—the difference in the inflation rates—is equal to the percentage depreciation or appreciation of the exchange rate. The relationship between exchange rate and inflation changes in Brazil has been showed as non-linear, cubic and positive, according to the Brazil's Ministry of Finance[2]. Although the relationship exists and fundaments the PPP theory, it is difficult to estimate the magnitude of the impact from variations of exchange rate to variations in inflation rates. For UTE São Borja, if no hedge strategy is adopted, any exchange rate variation in Brazil would impact the inflation, increasing in the same time the revenues from energy sales but decreasing the cash flows in Euro to the investors of the project. And vice-versa Considering this fact, the positive variation of one could be offset by the negative effect of the other, providing little impact in the financial analysis.

[1] http://www.nber.org/papers/w10607
[2] *www.fazenda.gov.br/spe/publicacoes/conjuntura/bancodeslides/Nelson%20FGV%202010%2008*

General	Finding CAR B1
	For Inflation: Assumptions presented to investors in the fund prospectus. For the fixing of the calculated IGP-M we took the overview of the available data from official sources (IBGE, FIPE and FGV) since 1995. We didn´t consider the high inflation rates 15 to 20 years ago, but considered the stabilization process of Brazil during the last 10 years. Anyway, 4 % of IGP-M in average seems to be low, but it shows a conservative calculation, because calculating with a higher rate would have lead to a higher gap between income and costs, which would at the end produce a higher margin. We wanted to stay on the conservative side. So, if the real inflation rate will be higher in the future than planned, the results of the UTE will improve. The last 10 years of Brazil showed an inflation from 2 digits, as the 25.31% in 2002 up to negative inflation in January 2009 of -0.44 %. As mentioned, the already published inflation rate that based the investors' decision is 4%. We considered inappropriate to include a factor to increase inflation over the years since inflation is already a factor by itself and not a price (i.e oil price), being the 1st derivative of prices. Having a 2nd positive or negative derivative of prices could overestimate/ underestimate the inflation very easily and then distort all the calculation. For example, if we consider an annual change rate of inflation of 10%, in 2026 the inflation would be 17%, and an inflation this high happened only one in the last 15 years of Brazil.

General	Finding CAR B1

For Exchange Rate:

As mentioned, the already published inflation rate that based the investors' decision is R$ 2.7/ EUR.

Besides this fact, when the fund was finalized in August 2009 the exchange rate was around 2,70 R$/EUR and looking back to the previous years it seemed to be a realistic average rate.

We already considered the last 10 years in our analysis in order to determine the R$ 2,7/ EUR exchange rate.

Based on the last 11 years (1999 – 2009), the Exchange rate averaged the value of R$ 2,68/ EUR and in the last 4 years (2006-2009), the average value was R$ 2.71.

In the last 11 years (1999 – 2009) we saw an average increase of 5% on a yearly basis.

Please note that in the case the cash flow is not hedged any positive variation in the exchange rate in the long run would decrease the cash flow in Euros and consequently the IRR of the project. Not including the average X-rate increasing rate shown in the last 11 years then shows to be a conservative approach.

Data	R$/ Euro Exchange Rate - average - source: Ipeadata (http://www.ipeadata.gov.br/Default.aspx)	R$/ Euro Exchange Rate - variation
1999	R$ 1.94	
2000	R$ 1.69	-13%
2001	R$ 2.11	25%
2002	R$ 2.80	33%
2003	R$ 3.48	24%
2004	R$ 3.64	5%
2005	R$ 3.04	-17%
2006	R$ 2.74	-10%
2007	R$ 2.66	-3%
2008	R$ 2.67	0%
2009	R$ 2.77	4%
Average value - 1999 to 2009		**R$ 2.68**
Average value - 2006 to 2009		**R$ 2.71**
Average variation - % - from 1999 to 2009		**5%**

General	Finding CAR B1
DOE Assessment #3 *The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.*	A full assessment is still not possible as: 1) The excel sheet does still not contain clear references to the input data and that they are valid at time of investment decision. 2) The excel sheet is partly protected and contains a lot of unimportant information. Comply with EB 51 Annex 58, Guidance 8. 3) The whole excel sheet shall be translated into English. 4) EB 51 Annex 58, Guidance 3: The cash flow calculation has been done over 17 years. The project activities lifetime is 25 years. It has not been justified why a 17 years period is appropriate. Further the technical lifetime of equipment has not been determined (if different from lifetime of project activity).
Corrective Action #7	PP provides a new unprotected spread sheet with clear references to the input data PP provides completely translated excel sheets As outlined below (please refer to the answer to CL B8) the point of project start has previously been wrongly defined with July 17th, 2009 at a date about a year later than the actual point of decision making which was July 14 th, 2008. The parameters of the financial model submitted before reflected the project at a much more developed stage and were elaborated in much greater detail. In consequence input parameters to the financial model had to be adjusted to the redefined date of project start in order to comply with EB 62 Report Annex 5 Guidance 6. The main sources of information for the initial investment decision of the PP were the selling memorandum prepared by the investment banking advisor in charge of the transaction, a technical and financial due diligence (24.9.2007, Attachment 01[1].01.01.01 Technical Due Diligence Report of BC Projetos.pdf). However, as the intention of the provider ENERPAL of these data is “to sell” the project described in the PDD and the due diligences were assigned by the former owner ,i.e. the vendor, costs and revenue assumptions had to be critically reviewed and accordingly adjusted. These adjustments are detailed and explained in the revised financial model submitted. (Sheet “Adjustments”,excel file UTESB_20120222.xls) The financial model has been revised in accordance with the time of the investment decision. In order to comply with EB 62 Report Annex 5 Guidance 8 and to present the investment analysis in a transparent manner to the extent that the reader can reproduce the results, the basic design of the financial model has been adjusted as follows: The built-in-flexibilities in the calculations have been eliminated, thus reducing complexity of the formulas in order to increase transparency. • Calculations are on yearly basis only.

General	**Finding CAR B1**
	• In consequence various calculation sheets could be eliminated without actually impacting the calculation results, now basically all summarised on Sheet "IRR_Calculation" • There are no hidden sheets or cells. The technical lifetime determines the project lifetime of 25 years. The cash flow calculations have been adjusted to reflect the project lifetime of 25 years which exceeds the maximum period of assessment of 20 years as defined in EB 62 Annex 5 Guidance 3. However, due to the fact that there are no observable market prices for this asset (level 3 inputs according to IFRS 13 www.iasplus.com/standard/ifrs13.htm) the income approach, ie discounted cash flow technique, is the appropriate approach for determining the fair value of the asset. Therefore it deemed appropriate to exceed the maximum period of 20 years and to include the discount cash flow calculation for the fair value into the overall calculation of the project by prolonging the period of assessment to the technical lifetime of the asset.
DOE Assessment #7	1) The provided excel sheet contains clear references to the input parameters that where available and valid at time of investment decision. As the date of investment decision was revised and also the way of presenting the investment data a complete new analysis of the financial analysis was necessary. 2) The excel sheet is unprotected und traceable and in accordance with EB 51 Annex 58, Guidance 8. 3) The whole excel sheet is translated into English. For a complete assessment on the investment analysis please refer to chapter 5 and the assessment of the input parameter in the annex of this report. 4) The assessment period has now changed to 25 years which is also the project lifetime of the equipment. In terms of financial return this is a conservative approach. Further the fair value has been included the discount cash flow calculation. As this approach is overall correct and conservative it is accepted by the validation team. **CAR is closed**

General	Finding CAR B1
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the first periodic verification ☒ Appropriate action was taken ☒ Project documentation was corrected correspondingly ☐ Additional action should be taken ☐ The project complies with the requirements

General	Finding CAR B2		
Classification	☒ CAR	☐ CL	☐ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	It could be evidenced that the previous CDM notice sent to UNFCCC on 2009/4/17 states a different project name than the one indicated in the PDD. For consistency and transparency of the validation process the indicated names in PDD and previous CDM consideration must be identical. Revision is necessary.		
Corrective Action #1 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	The project name indicated in the revised PDD was revised and it is now in accordance with the name indicated in the UNFCCC communication regarding the previous CDM communication.		
DOE Assessment #1 *The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.*	The PDD section A.2 was revised and no diversion in the project name available for previous CDM communication to UNFCCC and the one stated in the PDD could be detected. As the project start and investment decision changed meanwhile, the project now has to show early consideration for projects where start date is before 2nd of August 2008. Find the assessment on the prior consideration in section 5 of this report. ***CAR is closed***		
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the first periodic verification ☐ Appropriate action was taken ☒ Project documentation was corrected correspondingly ☐ Additional action should be taken ☒ The project complies with the requirements		

General	Finding CL A1		
Classification	☐ CAR	☒ CL	☐ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	In section A.4.2, please provide more detailed information including all boilers, steam and gas turbines and generators. Please detailed fill in table 2 given in section A.4.2 of the PDD including information on the efficiency of the equipments applied in the project scenario.		
Corrective Action #1 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	Section A.4.2 and table 2 was revised in the last version of the PDD including the solicited information.		

General	Finding CL A1
DOE Assessment #1 *The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.*	The PDD section A.4.2 was correctly revised and no deviation could be detected. Detailed information regarding the equipments to be used in the project scenario is transparently provided. ***CL closed***
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the first periodic verification ☐ Appropriate action was taken ☒ Project documentation was corrected correspondingly ☐ Additional action should be taken ☐ The project complies with the requirements

General	Finding CL A2		
Classification	☐ CAR	☒ CL	☐ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	In section A.2 the identified total amount of energy generation in 10 months (91,088 MWh) it is not a possible value considering the given plant installed capacity (12,3 MW given in section A.4.2). Moreover, in section A.4.3 the same value of total amount of electricity generation (91,088 MWh) is given, but 11 months are indicated instead of 10. Revision is necessary.		
Corrective Action #1 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	Section A.2 of the PDD was revised considering the correct value of 11 months of operation.		
DOE Assessment #1 *The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.*	It is still not clear which is the exact running time of the project activity. This finding response indicates 11 months, but in the IRR calculation sheet 2 months of maintenance and 10 of operation is expected. No sample calculation has been included in the PDD. The excel sheet provided for TR still includes calculation with $EG_{BL,y}$: 91,088 MWh. Please make sure the correct excel sheet has been provided. ***CL remain open***		
Corrective Action #7 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	Value for EGBL,y has been recalculated under assumptions that are consistent with those for the investment analysis. The calculation is made transparent in the newly provided spreadsheet for the emission calculation and is also described in the PDD under section B.6.3 The changes in baseline emissions and projected emission reductions have been changed in all tables of the PDD.		

General	Finding CL A2
DOE Assessment #7 *The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.*	A transparent calculation of the total electricity generation has been provided (excel and PDD). Now the PLF or operating hours have been given in hours instead of month. This is more precise and has been applied correctly in all calculations. The operation hours are based on 10 month operation per year. This is due to rice husk availability and contracts closed with the producer (within 2 month no rice husk is produced or sold) as well as due to maintenance needs of the plant. The value for operation hours is assessed as overall correct and plausible. ***CL closed***
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the first periodic verification ☐ Appropriate action was taken ☒ Project documentation was corrected correspondingly ☐ Additional action should be taken ☐ The project complies with the requirements

General	Finding CL A3		
Classification	☐ CAR	☒ CL	☐ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	Section A.2 (brief history page 4): here it is stated that the project idea started in 2009. As there were in total 4 GSCPs the PP is requested to transparently show the history of the project also related to the CDM.		

General	Finding CL A3
Corrective Action #1 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	Our project is based on the launch of a unique investment structure to fund an energy power plant in Brazil. Based on limited information available to UTE São Borja, KFW was involved in the financing of the project for other entrepreneurs and the project didn't move forward and was offered to MPC Capital. As explained in section A.2 of the PDD, MPC Capital was moving towards launching new investment products to its investors based on renewable energy in emerging markets. The main motivation of the project participants to develop the project in the same location was the significant timing reduction for the project development. As CCC Machinery was the supplier of the previous project, the project had a turn-key package already defined with promise of faster delivery by the equipment suppliers, identified location, raw materials (rice husk) secured and on-going CDM project. This would save between 6 to 12 months on project development and was critical for MPC Capital in order to successfully launch its innovative investment product. The real situation showed to be different than expected, and as showed to the DOE, the project participants had to develop all rice husk supply agreements, CDM project, licensing and permits for the plant and modification to the equipment turn-key package. So the real situation showed a project without significant accomplishments. According to official information from ANEEL, the only project that has licence to operate a rice husk based energy plant in São Borja is owned by the project participant and is the project activity of this PDD. Please see the attached document with the transfer of the permitting from ANEEL. UTE São Borja is a new project and cannot comment on previous project under development by different entrepreneurs.
DOE Assessment #1 *The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.*	EB 51 Annex 58 Guidance 7: It has not been shown in the PDD that the project ceases several times before final investment decision has been taken (re-uploading of PDD four times). Evidence for ceases shall be provided to the DOE in order to clearly determine the correct definition of the investment decision to proceed with the project activity. A clear description and transparent timeline is missing in the PDD.
Corrective Action #7	The new time of investment decision is the 14th July 2008. A PDD for the project activity has been uploaded two times before the starting Date and two times after the starting date but as another project with other participants. In the following the history and the different proponents are explained. **Project participants of the initial project** Energiegesellschaft Palmaille GmbH (ENERPAL) was registered on November 29, 2005 in the German companies register with the commercial purpose of planning, construction and operation of

General	Finding CL A3
	machinery for power generation outside Europe and related activities. CCC Machinery GmbH (CCC Machinery) was the provider of technical equipment and in charge to arrange the loan package. CCC Machinery is a minority shareholder of ENERPAL Hamburgo Energia Participacoes Ltda (HEP) with headquarters in Rio de Janeiro, Brazil and a branch office in the city of Porto Allegre, Brazil, owned by ENERPAL and CCC Machinery, was incorporated to act as a holding of four project companies of which each was founded for the operation of a number of biomass power plants in Brasil. **Initial project structure** The initial project structure was to be financed under the framework of an export financing from the German "Kreditanstalt für Wiederaufbau" (KfW). It has been a project that was developed for the CDM from the beginning on. The PDD was developed by Perspectives GmbH and TÜV Süd Industrie Service GmbH (TÜV SÜD) was chosen as DOE. The selling memorandum from ENERPAL (*ELEKTRA_Selling_Memorandum.pdf*) gives the following information about the first efforts to receive CDM registration: *HEP through ENERPAL and CCCM had initially started the CDM application process in 2006. Due to a change in methodology by the UNFCCC, applicable to the HEP Plants, this first attempt had to be discontinued, as the necessary approvals could not be obtained in time before the new methodology became obligatory. (page 28)* Another start with the same companies was made. This time the project received positive validation and the report was handed out on 26 June 2006. In the opinion of TÜV SÜD the project was an eligible CDM project and a request for registration to the UNFCCC was signed on 28/06/2006. In this request TÜV SÜD confirms that: *In summary, it is TÜV SÜD´s opinion that the project "Sao Borja Biomass Power Plant – Riograndedo Sul, Brazil I", as described in the revised project design document of 12 June 2006, meets all relevant UNFCCC requirements for the CDM, set by the Kyoto Protocol, the Marrakech Accords and relevant guidance by the CDM Executive Board and that the project furthermore meets all relevant host country criteria and correctly applies the baseline and monitoring methodologies AMS type I, category D*

General	**Finding CL A3**
	"Grid connected renewable electricity generation", version 08 and AMS type III, category E "Avoidance of methane production from biomass decay through controlled combustion", version 08. In the meantime the conditions for the loan payment by the KfW have not been fullfilled by project participants in Brazil and the KfW ceased the disbursement of loan installments. The constructions were suspended taking effect on June 14, 2007 (According to the technical DD). With loss of the financing the project participants were not able to continue the project activity and decided to sell it. For the purpose of selling the project ENERPAL assigned a selling memorandum for potential buyers of the projects (document from 6.9.2007). They also assigned a technical, legal and financial Due Diligence in 2007. In the selling memorandum and related DD reports it is clearly stated that the revenues from Carbon Credits are an integral part of project activity. The data room was made available to potential buyers in October 2007. Evidence is provided by an email to ENERPAL with the request to grant access to the data room, listing potential buyers that are not connected with the old or new project participants or the MPC Group (Attachment: *sellingprocess_enerpal.pdf* from 09.10.2007). The data room contained among the relevant documentation for the DD also information about the market for carbon credits and a calculation that includes the CDM. (*00[2] Data Room Index-HEP.pdf* from 26.05.2008). These documents prove that there has been an official selling process in which interested parties from the outside took part. One of the interested parties was MPC Capital AG which in the process of the transaction founded the MPC Bioenergie GmbH & Co. KG and later the PP MPC Bioenergie Brasilien GmbH & Co KG MPC CAPITAL belongs to the MPC Holding (27%) CHARTas CCC Machinery (see below description of the relationship between parties). MPC Capital AG critically reviewed the selling memorandum and other available information at arms length bases. After own research and setting up assumptions based on their experience MPC Capital AG made an internal calculation that was meant to determine the attractiveness of an investment in this project. MPC Capital AG decided to buy the assets of the existing project to develop the project within a new company structure.. For this purpose they bought the liabilities from the KfW in a contract dated to 14th July 2008 in exchange of the ownership of the assets,with the intention to later transfer the assets to newly founded project companies. This is the time of investment decision

General	Finding CL A3
	where MPC Capital AG ultimately decided to invest in the project. As referred to in A4 the later structuring of the financing of the project thorugh a closed-end-fund is not of importance for the investment decision which is shown by the fact that the shares that could not be placed would have been bought by a affiliate of the MPC Capital AG. The transfer of the assets was concluded in December 2008 (Ancillary Asset Purchase Agreement from 22.12.2008) to the newly founded project companies. As explicitly mentioned in the contract that was closed, not the businesses were sold but only the assets. All contracts with external partners were terminated as the old project companies ceased to exist. **Organisational relationship between the parties involved in the old and the new project** The following figure shows the relationship between the old and the new project. In essence the ownership changed from CCC Machinery GmbH to MPC Bioenergie GmbH & Co KG which is owned by MPC Capital AG (MPC CAPITAL). There is a distant relationship between MPC Capital and CCC Machinery as they both have a common shareholder, the MPC holding and both operate from the same premises. However, MPC Holding has only a stake of 29,6% in MPC Capital having not the influence of a majority shareholder on the company. In addition, both companies have different strategic business setups. Purpose of CCC Machinery according to their homepage (access Friday 3.2.2012): *In several sales departments CCC Machinery handles business with Pipes, Tubes and Tubular Accessories ("Tubular Products") for the international oil, gas and water industries as well as technically unspecified business with machines, plant, technical products and raw materials mostly in combination with granting and/or arranging Export Finance solutions for its customers in the markets of the African continent ("Technical Export South"), in South East Asia and Turkey ("Technical Export East") and in Europe and Latin America ("Technical Export West"). Last but not least - CCC Machinery develops Renewable Energy Projects in selected countries ("Project Development").* Purpose of MPC Capital AG according to their homepage (access Friday 3.2.2012):

General	**Finding CL A3**
	As a listed issuing house, MPC Capital has developed, initiated and marketed alternative investments, which it actively manages for investors throughout the entire product cycle, since 1994. As the largest independent initiator for closed-end funds in Germany, the MPC Capital Group has participated in the gradual development of the alternative investment sector and systematically expanded the market with its own product concepts. As an innovation leader, MPC Capital aims to play an active role in shaping the market in terms of products, processes and services. Although both companies reside under the same address they are fully operationally divided and have a completely different business model. A critical difference between the two companies is their respective access to financing which impacts their business models. After the project failed under the framework of export finance CCC Machinery had no possibility to continue the proejct and put it up for sale. In a competitive sales process MPC Capital Fund Management was selected as buyer of the project assets. MPC Capital Fund Management was able to finance the project on its own and structure it as a closed ended funds afterwards. **In relation to the CDM two phases can be identified:** Phase one is the initial project that was planned under the framework of a export financing from the German Kreditanstalt für Wiederaufbau (KfW) by CCC Machinery GmbH (CCC Machinery, provider of machinery and financing) and Energiegesellschaft Palmaille GmbH (ENERPAL, owner of project company). The project documentation was developed by Perspectives GmbH and the contracted DOE was TÜV Süd. The first PDD had to be changed due to changes in Mehodology that had to be taken into account before registration could be achieved. The second PDD with the new applicable methodology was validated and submitted for registration. While the project got validated the financing was lost by the previous project participants. Without financing the project could not be continued and had to be sold. A commercial asset sale process was initiated by ENERPAL and CCC Machinery and interest was received from potential buyers. The assignment of an investment bank for the support of the selling process and of other companies to perform due dilligences shows that it was no transaction between companies within a group but with the intention to find the best buyer. From a couple of interested parties the MPC Bioenergie GmbH decided after internal review to buy the assets of the project but explicitly not the businesses. This represents a cut in project history

General	Finding CL A3
	where the old setup ceased to exist, and a new project structure was established, marking the beginning of Phase two, the reinitiation of the Project. Evidences are the purchase and participation agreement between KfW and MPC Bioenergie GmbH from 14th July 2008 and the Ancillary Asset Purchase Agreement between the old and the new project companies. After the investment has been made a new PDD was developed by Ativos Técnicos e Ambientais and Bureau Veritas (BV) has been assigned as DOE. But later on it has become clear that BV wasn't able to validate the scope of project activity. The contract with BV was cancelled in January 2010 (Attachment *Project Cancellation 10.01.10.pdf*) and TÜV NORD CERT GmbH was assigned as new DOE.
DOE Assessment #7	In the latest version of the PDD a clear and transparent project timeline has been included. Further as described above in the corrective action the PP clearly shows why the project was uploaded four times for GSCP and that the project ceased one time. The complete stop of the first project attempt could be evidenced by the selling memorandum as expected guarantees needed for the financing by the KfW ceased. Consequently the project has been sold from KfW to MPC Bioenergie GmbH & Co KG. This cease can also be substantiated by the already positively given validation opinion by TÜV SÜD, that was not be uploaded for request for registration due to lack of the necessary guarantee. The validation process has been started agagin. The validation team has checked all above mentioned evidences and confirms the cease of the initial project idea and consequently the investment decision and start date of the project activity have to be evaluated in relation with the new project owners timeline of events. For detailed assessment of the new start date please see section 5 of this report.
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the first periodic verification ☐ Appropriate action was taken ☒ Project documentation was corrected correspondingly ☐ Additional action should be taken ☒ The project complies with the requirements

General	Finding CL B1		
Classification	☐ CAR	☒ CL	☐ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	Please include an assessment of all project applicability conditions listed in AMS III.E (paragraphs 1 – 15) and applied tools.		
Corrective Action #1 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	All the applicability conditions were included in the revised version of the PDD.		

General	Finding CL B1
DOE Assessment #1 *The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.*	The PDD was revised considering the applicability conditions of both applied methodologies. However, please update the version of the meth AMS.I.D (14 vs. 15) in section B.6.1. ***CL remains opened.***
Corrective Action #2 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	Section B.6.1 and also section B.2 were updated to version 15 of the AMS.I.D
DOE Assessment #2 *The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.*	The methodology reference version in section B.6.1 of PDD was adjusted.
DOE Assessment #7	In the final PDD AMS I.D. v17 and AMS III.F. v16 have been applied. All applicability conditions have been discussed and justified. The project activity is applicable under both methodologies. ***CL closed.***
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the first periodic verification ☐ Appropriate action was taken ☒ Project documentation was corrected correspondingly ☐ Additional action should be taken ☒ The project complies with the requirements

General	Finding CL B2		
Classification	☐ CAR	☒ CL	☐ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	Please reconsider whether the indicated barriers in section B.5 can be claimed for the project activity and if so, please revise the argumentation, in line with EB 50 Annex 13. Reference of the given information and detailed analyses are missing in the PDD table 9 for a proper assessment of all claimed barriers.		
Corrective Action #1 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	The PDD was revised and the barrier "*Extra pre-operating expenses related to the project activity due to longer fund raising period*" is no longer listed in the revised PDD. Moreover, the table 9 was revised including more information related to the claimed barriers.		

General	Finding CL B2
DOE Assessment #1 *The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.*	The argumentation on page 34 that the rice husk providers might in the future sell their biomass to other users for higher prices, cannot be used as barrier argumentation as it can be expressed in financial terms in the financial analysis. When including a price increase for biomass acquisition in the financial analysis this must be evidenced by referenced (market evaluation on price increase of rice husk). But this would also contradict with the biomass surplus study that enough rice husk is available in the region.
Corrective Action #2 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	This part of the argumentation was excluded. The project participants didn't consider price increase in the financial analysis since the contracts are based on a fixed price adjusted by inflation. Due to the uniqueness of the project's business model, the supply contracts are new to UTE São Borja and the rice millers and were never tested in the market. Any stop in the supply of rice husk will cause very limited or no losses to the rice producers but very high losses to the energy plant and its investors. According to the Brazilian long lasting experience with renewable fuels, the price fluctuation of renewable alternatives and fossil ones have a high correlation. This happens especially in places where there is supply and demand of fossil and renewable alternatives. In the case of UTE São Borja, the supply is significantly higher than the demand for rice husk. While the supply's driver is the rice processing industry, the demand is the energy industry. This situation is not expected to change if the price of fossil fuels does not increase significantly. Electricity prices in Brazil is driven mainly by Hydro plants, while biomass could turn in thermal energy and shift other fossil fuels that have a significant higher price than electricity. Due to distance to markets and characteristics of the rice husk at today's price levels this is not expected to change. But if the oil price increases at a level creating and arbitrage opportunity between biomass and fossil fuel this will motivate a technological change, increasing the market for biomass in the future. This is a situation to be revisited in the further crediting periods of the project. After a technological change, the markets tend to converge and integrate themselves. This happens since any fossil fuel or biomass price increase in the short-term, increases the opportunity cost of the biomass or fossil fuel and its consumption is likely to increase, impacting the prices of the other fuel in that region. Brazil has a long lasting experience with the price transmission dynamics' between fossil fuels and renewable ones, especially in the case of motor fuels. The ethanol in Brazil is widely used and its price is defined in the market based on gasoline prices mainly and there is a strong correlation between those prices. Since the market of gasoline is significantly larger than the ethanol market, the fossil alternative prevails in the price definition of the renewable one.

General	Finding CL B2
	There are several scientific studies showing the strong correlation and price transmission dynamics between these two markets. Another important evidence on the symmetric behavior of the fossil and renewable prices in Brazil are demonstrated in the electricity market. According to the auction realized in 2006, all the thermal energy plants sold its energy at a very similar price in the regulated market. This shows that independent on the fuel source (biomass, natural gas and fuel oil), the opportunity cost of the fuel given its calorific power is similar and this will prevail in the long run.
DOE Assessment #2 *The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.*	The barrier is still included in the PDD. The guideline 3 clearly says as rationale that the barrier would prevent other projects from occurring. As there are still other rice husk projects under development the barrier can not be accepted. Further it has not been discussed in table A-4 of the FVR
Corrective Action #7	The additionality of the project is demonstrated by application of a benchmark analysis showing that the project activity encounters an investment barrier. No other barriers are furthermore referred to.
DOE Assessment #7	The only barrier claimed for this project has been reduced to the investment barrier. This has been done by applying the SSC procedures for Attachment A to Appendix B. To show the investment barrier the guidance on the assessment of investment analysis has been used as well as the respective steps of the additionality tool. Finally the investment barrier has been shown to be real. Please refer to section 5 of this report.
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the first periodic verification ☐ Appropriate action was taken ☒ Project documentation was corrected correspondingly ☐ Additional action should be taken ☐ The project complies with the requirements

General	Finding CL B3		
Classification	☐ CAR	☒ CL	☐ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	In section B.6.1, please include an assessment of all possible project activity emissions as defined in paragraph 17 of AMS III.E; In case fossil fuel are used at the project site option (c) of the methodology should be considered. Clarification is necessary and revision of PDD if applicable.		
Corrective Action #1 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	Please refer to the revised PDD section B.6.1, AMS III.E. Project Emissions. All methodological choices were (a – c) were included and assessed. This project activity considers project emission due to fossil fuel usage and increase in the biomass transport. The project emission methodological choices are detailed given in section B.6.1 of the PDD.		

General	Finding CL B3
DOE Assessment #1 *The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.*	Section B.6.1 of the PDD was revised and the requested information was included. Option c of the methodology – *CO2 emissions related to the fossil fuel and/or electricity consumed by the project activity facilities ($PE_{y,power}$)* – was correctly included as project emissions. No deviation could be detected. ***CL is closed***
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the first periodic verification ☐ Appropriate action was taken ☒ Project documentation was corrected correspondingly ☐ Additional action should be taken ☒ The project complies with the requirements

General	Finding CL B4		
Classification	☐ CAR	☒ CL	☐ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	In section B.6.2, please: • Exclude the parameter **f**, "*Fraction of methane captured at the SWDS and flared combusted or used in another manner*", as this is a monitored parameter and should be indicated in section B.7.1. • Include the parameter **specific fuel consumption** as requested by the applied methodology paragraph 18 AMS I.D. • Include the **MCF factor** as requested by the "*Tool to determine methane emissions avoided from disposal of waste at a solid waste disposal site*" applicable to AMS III.E. Moreover, please exclude the parameter of section B.7.1 of PDD. • Include the parameter $\mathbf{w_{OM}}$, $\mathbf{w_{BM}}$ as solicited in the applicable tool "*Tool to calculate emission factor from an electricity system*". • The parameter **GWPCH4** should be mentioned in section B.7.1 instead of B.6.2 as it is monitored according to the applicable methodology. Revesion is necessary.		
Corrective Action #1 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	The requested corrections had been made in section B.6.2 and B.7.1 of the PDD. Please refer to PDD version II.		
DOE Assessment #1 *The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.*	All parameters that are available at the time of validation stage were correctly included in the last version of the PDD section B.6.2. The parameters were identified according to the applicable methodologies and tools requirements. No deviations could be found. ***CL is closed***		

General	Finding CL B4
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the first periodic verification ☐ Appropriate action was taken ☒ Project documentation was corrected correspondingly ☐ Additional action should be taken ☐ The project complies with the requirements

General	Finding CL B5		
Classification	☐ CAR	☒ CL	☐ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	In section B.7.1, please: • Exclude the **MCF factor** as it is not a monitored parameter. • Include more detailed information with respect to the monitoring equipments (meters and balance): type (model or at least specify accuracy class or max error range), quantity, function (main and backup), location, nature (uni or bidirectional). • Refer to paragraph 28 of AMS III.E. It is necessary to include the parameter $\mathbf{Q_{,non\text{-}biomass}}$ as monitored. • Include the parameter **GWPCH4** as monitored parameters as requested by the "*Tool to determine methane emissions avoided from disposal of waste at a solid waste disposal site*". • Include the parameter "**f**" as requested by the "*Tool to determine methane emissions avoided from disposal of waste at a solid waste disposal site*". • Include the parameters $\mathbf{Q_{y,ash}}$ and $\mathbf{CT_{y,ash}}$ as monitored parameters as defined in the applied methodology AMS III.E. • The EF of the grid is calculated as a combined margin based on the weighted average of the build and operation margins. Therefore, please include the build and operation margins EFs as monitored parameters. Additionally, the parameter $\mathbf{EF_{grid,CO2}}$ can be excluded from this section as its calculation approach is clearly described in section B.6.3 of the PDD.		
Corrective Action #1 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	The requested corrections had been made in section B.7.1 of the PDD. Please refer to PDD version II.		

General	Finding CL B5
DOE Assessment #1 *The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.*	The parameters listed in section B.7.1 of the PDD were revised. All requested monitored parameters by the applicable methodologies and tools are correctly addressed in the PDD. The QA/QC procedures and measurement methods are in detail given and no deviations could be detected. However, the following issues should be considered: 1. Parameter $W_{j,x}$ = Q_y and Q_{ash}: Please include a sample calculation how this parameter was calculated. Use the same h of operating as for the parameter $EG_{BL,y}$. 2. Parameter DAF_w: Include in this table also the parameter DAF_{ash}. 3. Parameter EF_{CO2}: Please include exact reference source from CETESB. 4. Parameter $COEF_{i,y}$: Include this parameter in this section B.7.1. 5. Parameter $FC_{i,j,y}$: Include in this table a sample calculation how the value of 340 ton was calculated and justify the input value of 400 liter fossil fuel consumption per year. ***CL remains opened.***
Corrective Action #2 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	The PDD was completed. The ER calculations were adjusted to reflect 7.387 hrs of operation per year, to be in line with the financial spreadsheet assumption.
DOE Assessment #2 *The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.*	All parameters that are monitored were correctly included in the last version of the PDD section B.7.1. The parameters were identified according to the applicable methodologies and tools requirements. No deviations could be found. ***CL is closed***
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the first periodic verification ☐ Appropriate action was taken ☒ Project documentation was corrected correspondingly ☐ Additional action should be taken ☐ The project complies with the requirements

General	Finding CL B6		
Classification	☐ CAR	☒ CL	☐ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	In section B.7.2, please include brief statement about data substitution procedures (backup monitoring procedures/equipments).		

General	Finding CL B6
Corrective Action #1 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	As detailed in section B.7.2 all energy meter will have its backup unit and the calibration interval of the monitoring equipments will occur according to national Standards (CCEE and ONS). It is important to mention that UTE São Borja hired a third part company that will be responsible for the plant operation and data recording.
DOE Assessment #1 *The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.*	Section B.7.2 of the PDD was revised and it was included more information regarding the responsibility of the plant operation and data recording. Dalkia, a worldwide well known company, will be responsible for the UTE operation and data record and backup procedures as detailed in the signed contract with UTE São Borja. ***CL closed***
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the first periodic verification ☐ Appropriate action was taken ☒ Project documentation was corrected correspondingly ☐ Additional action should be taken ☐ The project complies with the requirements

General	Finding CL B7		
Classification	☐ CAR	☒ CL	☐ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	Please complete and update the data for the common practice analysis/first of its kind barrier. Give an overview over all CDM and non-CDM project activities and figure out the differences. It is necessary to revise the common practice analyses after the update of table 11.		
Corrective Action #1 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	The common practice was revised. A new figure was introduced and more information on the projects was provided. Please see page 50 of the PDD.		
DOE Assessment #1 *The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.*	Section B.5: Table on page 36 is not complete. Please check with UNFCCC and ANEEL website and update also the conclusion drawn from this table.		
Corrective Action #2	-		
DOE Assessment #2	This finding has not been discussed nor has anything changed in the PDD. Table on page 36 shall justify the barriers and that the project is not common practice. To take this argumentation serious all power plants shall be discussed. Further the project decided to apply the combined tool to identify the baseline scenario and demonstrate additionality thus as adequate common practice analysis must be performed.		

General	Finding CL B7
Corrective Action #7	The table has been removed in the revised section B.5. The project does not claim to be first of its kind and the conclusions that should have been drawn from the table are obsolete. Please see A10 for a description of how additionality is demonstrated. The additionality will be shown according to the requirements for CDM small scale projects. It must be demonstrated that the project activity would not be implemented without the CDM due to the existence of one or more of the barriers set by attachment A to appendix B of 4/CMP.1.
DOE Assessment #7	For simplification the PP finally decided to use the SSC applicable additionality guidance Attachment A to Appendix B. No common practice analysis is needed anymore. Further no first of its kind barrier is claimed anymore. The respective sections in the PDD have been removed. The PDD is now in line with the applicable requirements. **CL is closed.**
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the first periodic verification ☒ Appropriate action was taken ☒ Project documentation was corrected correspondingly ☐ Additional action should be taken ☐ The project complies with the requirements

General	Finding CL B8		
Classification	☐ CAR	☒ CL	☐ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	Section B.5: Prior consideration: Please include in this chapter a timeline, showing all steps of this project activity (starting already with the first CDM GSCP in 2006). Show all milestones of the project (also purchase orders for equipment), identify the correct start date (see also C.1.1). Explain why the CDM project was withdrawn three times. Include all steps to start the project activity and to ensure CDM status.		
Corrective Action #1 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	Please see answer from finding CL A3. The major milestones of the project activity are: • Signing of the turn-key contract for the project plant: 17.07.09 • Official start of the project turn-key contract schedule: 17.07.09 • Fund sales start: 26.08.09 • Project completion and commission: 01.02.11, according to the new schedule.		
DOE Assessment #1 *The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.*	EB51 Annex 58, Guidance 6: Please clarify what point in time is determined as investment decision to invest in the project activity (e.g. first fund sale or last fund sale? Other?).		

General	**Finding CL B8**
Corrective Action #7	As the input values have to be valid at the time of the investment decision in accordance to EB 62 Annex 5 Guidance 6 the time when the investment decision is taken has to be proven. The start date shall be considered to be the date on which the project participant has committed to expenditures related to the implementation or related to the construction of the project activity. The point of decision making of the PP to develop the project and to (re-)initate the project is July 14th, 2008 (see attachment *KfW_agreement.pdf*). At this date an agreement between KfW, the lending bank, and MPC Bioenergie GmbH & Co KG, was signed transferring the loans signed and already partly disbursed for the project from the former owner of the project. The ownership has been later on transferred to the in 2009 founded MPC Bioenergie Brasilien GmbH & Co KG, the PP.(see project history as explained under A6/A13). With this contract the MPC Bioenergie GmbH & Co KG took over the obligation to service debt of 5,6 Mio EUR relating to the project already disbursed. Such a financial commitment does not make sense if there was no intention to develop the power plant. However, it is has been unfortunately erroneously reasoned before that the signing of the turn key contract (as of 17.07.2009) was determining the beginning of the project neglecting that a substantial financial commitment had been entered earlier by signing the contract with KfW. In addition, any reference to fund sale activities to private German equity investors which had been discussed as well are of no relevance. Equity stakes which are not sold on the market have to be taken over by the MPC Münchmeyer Petersen Real Estate Consulting GmbH, a sister company of the PP. This obligation of MPC Münchmeyer Petersen Real Estate Consulting GmbH guarantees that all equity is fully paid up. To put it simply, the fund activities lead to a change in the structure of ownership does not impact the investment decision itself, which had been decided on much earlier than it was proposed to potential fund investors.
DOE Assessment #7	The date of investment decision and project start date has been changed from 2009-07-17 (turn key contract) to 2008-07-14 (Selling agreement with KfW). This new defined start date and investment decision is accepted as the real project start date as major expenditures in buying the project have been made by the PP. According to this change also the prior consideration assumptions changed, a detailed assessment can be found in section 5 of the report. **CAR is closed.**
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the first periodic verification ☐ Appropriate action was taken ☐ Project documentation was corrected correspondingly ☐ Additional action should be taken ☐ The project complies with the requirements

General	Finding CL B9		
Classification	☐ CAR	☒ CL	☐ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	Section B.6.3: Include a sample calculation how the value of parameter $EG_{BL,y}$: 91,088 MWh was calculated. Especially the running hours per year are important to show as in the investment sheet 10 month have been proposed whereas in CL A2 it was told that the plant is running 11 month. This shall be consistent though all project documentation. Please define the running hours in (h) hours and not in month as this is not a precise approach.		
Corrective Action #2 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	The value for EG_y was changed to 81.774 MWh/ yr to reflect the hours of operation and own energy sales used in the spreadsheet. The plant operates for 7.387 hours per year according to the O&M contract.		
DOE Assessment #2 *The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.*	The $EG_{BL,y}$ calculation approach is clearly described. It was considered an operation hour of 7.387 ; per year as defined in O&M contract. No deviations could be detected. The PDD was correctly revised. ***CL closed.***		
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the first periodic verification ☐ Appropriate action was taken ☐ Project documentation was corrected correspondingly ☐ Additional action should be taken ☐ The project complies with the requirements		

Finding:	Finding CL B10		
Classification	☐ CAR	☐ CL	☐ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	Section B.5: Table 15: The total return offered to investors is given with 220,3 %, what would be the return in case CDM would not e considered? (See also discussion on barrier 1).		
Corrective Action #7 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	The return on equity given with 220,3% has been on the level of the German equity investor. According to the reason already outlined above (see A4) the financing structure through a closed end fund is not of relevance as the investment decision to develop the project by the PP has not been taken at this level. The return on investment (equal to the return on equity since the project is 100% equity financed) on the project developer level is 15.2% with CDM and 12.9% without CDM.		
DOE Assessment #7 *The assessment shall encompass all open issues in annex A-2. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.*	Due to change in investment decision level determination and start date as per the glossary of terms the perspective has changed when performing the financial analysis. The “German equity investor” is no longer seen as the investment decision taker. Thus the level of decision has been changed to the project developer’s level. The respective financial details show that the project will have an IRR at 12.9% without CDM at a benchmark rate of 18.9%. This confirms the additionality of the project.		

Finding:	Finding CL B10
	CL is closed.
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the next periodic verification ☐ Appropriate action was taken ☐ Project documentation was corrected correspondingly ☐ Additional action should be taken ☐ The project complies with the requirements

Finding:	Findings CL B11		
Classification	☐ CAR	☒ CL	☐ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	Minor issues: All PDD: The PDD is inconsistent when using comma for decimals and dots for thousand. English counting shall be used. A.1 Version number of the PDD is not updated. A.4.2: Table 1: unit for Gross electrical output is given in kW instead of MW A.4.5: Debundling has not been proven taking AMS III.E. into account. B.2: Justification for applicability criteria is not complete for 1. And 2. And is not precise for 7. And 8. B.5 Header is not as per PDD template B.6.1: Justification is missing for point II. Page 31 B.6.1: Clarify plausibility of C. Competing uses for the biomass (p.34) B.6.3: Year of tables (2011) is outdated. B.6.3: Table 6: $BE_{AMS\ I.D}$: data are not updated. B.7.1: Parameter $EG_{BL,y}$: It has not been included a transparent justification on how this parameter has been calculated.		
Corrective Action #7 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	1. All PDD: English counting is used consistently trough the document 2. A.1: Updated version number to 7 referring to the number of previously handed out PDDs 3. A.4.2: Changed to MW (page 10 of the track changes PDD) 4. A.4.5:Project search for exclusion of bundling has been widened to AMS III. (page 15 of the track changes PDD) 5. B.2: Justification for applicability criteria has been completed and made more precise (page 16 and 17 of the track changes PDD) 6. B.5: Changed Header to restore compliance with PDD template (page 23 of the track changes PDD) 7. B.6.1: Justification added 8. B.6.1: Clarified by identification of radius of supply and resulting area of influence on biomass availability(Page 41 of the track changes PDD) 9. B.6.3: Years are now stated in relation to project start		

Finding:	Findings CL B11
	10. B.6.3: Data updated (page 46 of the track changes PDD) 11. B.7.1:Calculation made transparent and reference to the calculation file is made (page 53 of the track changes PDD)
DOE Assessment #7 *The assessment shall encompass all open issues in annex A-2. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.*	All minor issues above have been correct in the PDD. The PDD is now complete and in requirement with the latest guideline to complete the project design document.
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the next periodic verification ☐ Appropriate action was taken ☐ Project documentation was corrected correspondingly ☐ Additional action should be taken ☐ The project complies with the requirements

Finding:	Finding CL B12		
Classification	☐ CAR	☒ CL	☐ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	B.5. Prior consideration of the CDM description is not complete. B.5. A list showing all financial key parameter is missing in section B.5.		
Corrective Action #7 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	B.5 now demonstrates the prior consideration of the CDM. Four tables are introduced that show the timeline of project activity and CDM activity before and after the investment decision. The necessity of being eligible for carbon financing under the CDM has been an integral part of the project history as well as of the financing structure of the project. Evidence is brought by documents from the former owner and by assignments made by the PP. A table with the financial key parameter has been added to B.5.		
DOE Assessment #7 *The assessment shall encompass all open issues in annex A-2. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.*	A compete overview on actions and events has been included in the PDD. The timeline shows the clearly the prior consideration of the CDM at time of investment decision, the start date in line with the glossary of terms as well as the continuing action to archive the CDM status. For a detailed assessment please see section 5 of this report. A table showing all key financial parameters with reference has been included in the PDD. The data given are in accordance with the IRR calculation and parameters have been assessed in the Annex of this report. **CL is closed**		

Finding:	Finding CL B12
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the next periodic verification ☐ Appropriate action was taken ☐ Project documentation was corrected correspondingly ☐ Additional action should be taken ☐ The project complies with the requirements

Finding:	Findings CL B13		
Classification	☐ CAR	☒ CL	☐ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	Sensitivity Analysis shall be carried out as per EB 51 Annex 58 Guidance 17 and 18: No excel sheets have been provided showing sensitivity without CERs. The applied variation in the SA is not clear (i.e. +-10%). What means best case what means worst case? According to the results of the sensitivity analysis described in the PDD the project activity can not stand below benchmark without CERs. The benchmark of 9,24% is crossed considering energy revenues increase (IRR 11,01%). Therefore all assumptions shall be made transparent (variation assumed) it shall further be determined at which variation of energy revenues the benchmark would be crossed (without CERs). All excel sheets shall be transparent to follow the applied variations in investment analysis.		
Corrective Action #7 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	In compliance with EB 62 Report Annex 5 Guidance 20 an extra column has been inserted into Sheet ”IRR_Calculations” (excel file UTESB_20120222.xls) to easily reproduce how varying assumptions on prices impact the IRR. The following variations have been carried out increasing/decreasing the return of investment, as these revenue/cost items constitute more than 20% of the revenues and costs respectively: ○ Energy sales price (+/- 10%) ○ Operations cost (-/+10%) ○ Biomass cost (-/+10%)		
DOE Assessment #7 *The assessment shall encompass all open issues in annex A-2. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.*	A sensitivity analysis has been carried out in compliance with EB 62 Report Annex 5 Guidance 20. Each parameter constituting 20% of the total revenues has been analysed using a 10% variation. A transparent excel sheet has been provided allowing to follow the calculations. As a result for non of the parameters changed, reached the benchmark of 18.9%. The nearest IRR coming closer to the benchmark is the electricity price with 18.0%. As per the assumptions the electricity price has already been chosen very high and conservative compared to the actual values currently paid in the market. Further a steady inflation rate has been considered all over the project lifetime. For detailed assessment please refer to section 5 and table A-2.		

Finding:	Findings CL B13
	CL is closed
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the next periodic verification ☐ Appropriate action was taken ☐ Project documentation was corrected correspondingly ☐ Additional action should be taken ☐ The project complies with the requirements

Finding:	Finding CL B14		
Classification	☐ CAR	☒ CL	☐ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	The additionality justification has not yet been transparently shown in section 5 of the PDD. The application of the combined tool has been chosen for the project by the PP. All requirements coming with the use of the combined tool shall be fulfilled and adequately described in the PDD.		
Corrective Action #7 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	The sections B.4 and B.5 have been completely revised. The "combined tool to identify the baseline scenario and demonstrate additionality" is not applied any longer because it is not necessary for a small scale CDM project and it does not benefit the project design here. Eligible small-scale projects are entitled to use the simplified baselines from the methodologies created under 4/CMP.1, Annex II, Appendix B. The baseline for project activity will be derived from the approved small scale Methodologies AMS I.D (Version 17) and AMS III.E.(Version 16). AMS I.D has been updated from version 16 with only slight changes in the applicability. The additionality will be shown according to the requirements for CDM small scale projects. It must be demonstrated that the project activity would not be implemented without the CDM due to the existence of one or more of the barriers set by attachment A to appendix B of 4/CMP.1. In essence the project faces an investment barrier that hinders it from implementation without the CDM. According to EB 35, Annex 34, paragraph 1 this barrier exists if an alternative scenario that leads to more emissions is economically more feasible. The project activity requires a significant investment. The PP would not have decided in favour of this investment if the expected revenues are below a certain benchmark that does reflect the risk of this investment. An investment analysis has been conducted before but the selection of the benchmark previously applied cannot be considered aedquate. Neither the Selic Rate nor the BNDES rate which have been unfortunately used before can be considered an appropriate benchmark for the cost of equity. The Selic rate is an important reference rate in the Brazilian financial market and used as a base rate for loan agreements with floating interest rates. At		

Finding:	Finding CL B14
	best it could be seen as a risk free rate. However it is an instrument of governmental monetary policy and thus not fully reflecting perceived market realities. In addition, it is very short-term as it is an overnight lending rate (http://www.bcb.gov.br/sddsi/txselic_i.htm) and as such not fulfilling the condition that term of investment and term of underlying benchmark should be about equal. BNDES is the Brazilian Development bank providing the economy with low interest capital (http://www.bndes.gov.br/SiteBNDES/bndes/bndes_en/Institucional/The_BNDES/). As calculating appropriate cost of equity is anything but easy we highly appreciate the new guidance of the UNFCCC to this issue and as published in EB 62 Annex 5 Appendix "Default values for the expected return on equity" and follow this guidance by applying the respective default value for Brazil. The default value provided by the Executive Board has only been adjusted in order to reflect the following: - the financial model is denominated in Brazilian Real - the forecast is made in nominal terms - the country risk of Brazil at the date of project start was Ba1. Therefore the default value has been increased to 12% (from 11,75%) according to the default value of countries with such a rating listed in the table. For the detailed calculations and references are outlined in sheet "WACC" in the Excel file *UTESB_20120222.xls*. The spreadsheets calculation show that the project activity without the CDM is unable to pass the benchmark even in an economic favourable scenario. The business as usual scenario does not need any investment and hence does not face this barrier. It is also in accordance with national legislation so there is no legal cause that this scenario will change. For the detailed calculation see the newly provided excel file UTESB_20120222.xls. It is further demonstrated that the investment decision was taken under consideration of the CDM. Revenues by CER have been an integral part of the selling memorandum (p. 27-28) and the Technical Due Diligence (page 8) confirmed that all projects conform to the Clean Development Mechanism and are eligible for Carbon Credits.
DOE Assessment #7 *The assessment shall encompass all open issues in annex A-2. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.*	The additionality justification has been completely revised. Instead of the "combined tool to identify the baseline scenario and demonstrate additionality" the SSC guidelines for showing additionality have been applied. The guidelines have been correctly applied in the latest version of the PDD. Additionality justification done transparently using the investment barrier

Finding:	Finding CL B14
	(benchmark analysis). For a detailed and complete assessment of the additionality please follow section B5 of this report. **CL is closed**
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the next periodic verification ☐ Appropriate action was taken ☐ Project documentation was corrected correspondingly ☐ Additional action should be taken ☐ The project complies with the requirements

General	Finding CAR C1		
Classification	☒ CAR	☐ CL	☐ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	Section C.1.1: According to the CDM glossary of terms the proposed starting date cannot be the date when the prospectus was available to the investors (26/08/2009). The PP is requested to change the starting date in accordance with the CDM glossary of terms. Further in the PDD it is stated that the construction start was on 17/07/2009 which is earlier than the publication of the fund prospectus.		
Corrective Action #1 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	The fund availability to investor reflects the date in which each investor can buy shares of the fund. Before the fund being available to the investors it has to pass through a bureaucratic approval process in the German financial authorities. The turnkey contract was signed in 17/07/2009. The PP changed the starting date to this date.		
DOE Assessment #1 *The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.*	The starting date was revised and it is now defined as the turn key contract signed (2009/7/17), which is the first real expenditure commitment from PP to proceed with the project implementation. Please refer to raised CL A3 regarding the previous CDM projects that was withdrawn from different PPs. DOE Assessment #7: During closure of CAR B1 and CL B10 the finally identified starting date is the 2008-07-14. For assessment please see section 5 of the report as well as the assessment in the CARs and CLs. **CAR is closed**		
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the first periodic verification ☒ Appropriate action was taken ☒ Project documentation was corrected correspondingly ☐ Additional action should be taken ☐ The project complies with the requirements		

General	Finding CL C1

General	Finding CL C1		
Classification	☐ CAR	☒ CL	☐ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	C.2.1.1 the CP start date is not updated. Additionally, in section C.1.2 the exact operational lifetime given e.g. by the manufacturer/supplier of the boiler shall be given. The value 25 years+ cannot be accepted. Section C.2.1.1: The start date of the CP shall be given as requested in the guidelines for completing the PDD: dd/mm/yyyy		
Corrective Action #1 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	Starting date of the first crediting period was changed to 01/06/2011. According to the ministry of work in Brazil, the technical lifetime can be considered 25 years. After this time the equipment has to pass through a severe inspection that will determine its remaining lifetime. http://www.mte.gov.br/legislacao/normas_regulamentadoras/nr_13.pdf paragraph 13.5.6		
DOE Assessment #1 *The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.*	The initial date of the crediting period was revised. The technical lifetime was defined as 25 years according to Brazilian legislation. Dates are again outdated.		
Corrective Action #7	Section C was updated, start date is now 14/7/2008, crediting period begins 01/01/2013		
DOE Assessment #7	Section C has been updated project start date and CP start date are correct. The technical lifetime has been correctly identified as per Brazilian legislation. **CL is closed**		
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the first periodic verification ☐ Appropriate action was taken ☒ Project documentation was corrected correspondingly ☐ Additional action should be taken ☐ The project complies with the requirements		

5 VALIDATION ASSESSMENT SUMMARY

5.1 General Description of the Project Activity

5.1.1 Participation

LOA

In accordance with the CDM M&P at the stage of validation a Party involved may or may not have provided its approval at the time of making the PDD public. The approval of the parties involved is required at the time of requesting registration.

At the time of the completion of this report the LoA for Brazil (host country) and German DNAs are pending. The LoA will only be submitted by the Brazilian and German DNA at the time of the issuance of the final version of the validation report. Please refer to the validation summary stating that the request for registration will not be submitted before the Letters of Approval (LoA) are officially issued.

Project Participants

The parties involved in the project activity are **Brazil** (Host Party) and Germany (Annex I country).
The project participants are:

- UTE São Borja Geradora de Energia S.A. (host country)
- MPC Bioenergie Brasilien GmbH & Co. KG (Annex I country)

All information provided in section A.3 and Annex 1 of the PDD are consistent.

5.1.2 Contribution to Sustainable Development

The rice husks based energy plants contributes to the development of the rice regions by making use of this residue that today causes environmental problems and extra costs to the producers due to the local obligation of waste storage. The importance of biomass residues based energy is noted on the Brazilian National Climate Change Plan, promoted by the Minister of Science and Technology. This project activity also contributes to social development of the region by creating new jobs in a region where these jobs didn't exist before the project activity. The Brazilian National Balance could be checked and it could be confirmed that there are very few biomass waste based electricity generation projects in the host country.

The national confirmation to the sustainable development will only be confirmed with the LoA issuance by Brazilian and German DNAs, which will only be issued based on the final revision number of this Validation Report.

5.1.3 PDD editorial Aspects

The CDM SSC PDD completing Guide form version 3 was applied. The PDD has in general been filled in accordance with the PDD guidelines. Nevertheless several editorial changes were necessary in order to improve the PDD. See chapter 4.

5.1.4 Technology to be employed

The PDD and technical data of the plant's equipments were reviewed in detail. Interviews were performed with the PPs and a plant tour was realized during on-site visiting. Detailed information regarding the equipments to be used in the project scenario is transparently provided.

The description of the project in the PDD is complete and accurate. The project activity involves the construction of based rice husk power plant. The electricity produced will be exported to the National grid. The technology employed is environmentally safe and sound and will contribute to climate change mitigation.

The equipments to be installed are manufactured by the worldwide sector leader companies (Equipalcool and Dresser Rand), which has several successfully implemented equipments around the globe.

Additionally, the project uses a technology which is not the common practice in the host country and the new technology installed will result in an environmentally sustainable solution.

5.1.5 Small Scale Projects

The project qualifies as a small scale CDM as the installed capacity of the power plant to be installed (12.3MW) does not exceed the limit of 15MW. There is not a project activity registered or an application for register with the same PPs in the host country. No debundling of a larger project took place.

As the average annual emission reductions are 47,061 tCO2 (less than 60,000 tCO2) over the first CP, the DOE concludes that the small-scale criteria are fulfilled.

5.2 Project Baseline, Additionality and Monitoring Plan

5.2.1 Application of the Methodology

The project applies the latest version of the approved methodology AMS I.D. version 17 (valid from 2011/06/11 onwards) and AMS III.E version 16 (valid from 2009/06/31 onwards). All applicability conditions are met, as described in section B.2 of the PDD. The project is in line with all requirements and stipulations mentioned in all sections of the applied meth (see also check list question B.1.4 below in the Annex). The project activity is not expected to result in significant emissions, related both to

project and leakage, other than those listed in the methodology. See also section B.1 of the protocol below.

5.2.2 Project Boundary

The project boundaries (geographic and also related to GHG sources and gases) are correctly given in PDD. It is defined in section B.3 of the PDD that the spatial extent of the project boundary includes the physical and geographical sites where:

- The renewable energy in generated – UTE São Borja facility;
- The biomass residues would have been disposed in the baseline scenario – Rice husks disposal sites at the rice mills suppliers site;
- The controlled combusted process of the biomass occurs – UTE São Borja power plant;
- The ashes generated during the controlled burning will be disposed – UTE São Borja ashes disposal site installed inside the plant facility;
- The itineraries between the rice husks suppliers and UTE São Borja facility.

Moreover, all sources and GHGs required by AMS I.D. and AMS III.E. are included in the table in section B.3 of the PDD.

5.2.3 Baseline Identification

The baseline is determined according to the applicable methodologies (AMS I.D. and AMS III.E.). Both have predefined the baseline.

AMS I.D:
“The baseline scenario is the electricity delivered to the grid by the project activity that otherwise would have been generated by the operation of grid-connected power plants and by the addition of new generation sources.”

AMS III.E:
“Situation where, in absence of project activity, organic waste matter is left to decay within the project boundary and methane is emitted to the atmosphere. The yearly baseline emissions are the amount of methane that would have been emitted from the decay of the cumulative quantity of the waste diverted or removed from the disposal site, to date, by the project activity, calculated as the methane generation potential using the “Tool to determined methane emissions avoided from disposal of waste at a solid waste disposal site.”

It can be concluded that the baseline for the project activity has been appropriately defined.

5.2.4 Calculation of GHG Emission Reductions

According AMS I.D, the CO2 emission factor for the electricity displaced from the grid was calculated applying the "Tool to calculate the emission factor for an electricity system" and it is used for the baseline emission identification. The Brazilian DNA is responsible for the calculation of the build and operating margins of the National grid EF. According to the tool mentioned above projects that are not wind or solar power based, for the first crediting period $\mathbf{w_{OM} = w_{BM}}$ = 0.5. Additionally, the latest available data from the Brazilian DNA (2008) at the time of publishing the PDD shows the value of 0,1458 for the $\mathbf{EF_{grid,BM,y}}$ and average of 0,476575 for the $\mathbf{EF_{grid,OM,y}}$. Therefore, the identified combined margin emissions factor ($\mathbf{EF_{grid,CM,y}}$) is 0,3112.
AMS III. E. indicates that the CO2 emission coefficient $\mathbf{COEF_{i,y}}$ can be calculated using two different options. Option (b) – based on net calorific value and CO2 emission factor of the fossil fuel type – was used.

Baseline emissions as per AMS III.E have been correctly estimated by applying the first order decay model to calculate $BE_{CH4,SWDS,y}$. All assumptions made to calculate methane avoidance have been correctly chosen and applied.

Project emissions

According to AMS I.D. renewable energy generation projects project emission can be neglected. However, AMS III.E. indicates three different types of project emissions, which are separately assessed bellow:

a. **CO2 emissions related to the gasification and combustion of the non-biomass carbon content of the waste (plastics, rubber and fossil derived carbon) or RDF/SB and auxiliary fossil fuels used in the combustion, gasification or mechanical/thermal treatment facility;**
The project activity is only burning rice husk. The auxiliary fuel used for the plant start up is considered in option (c) bellow. Therefore this PE is not considered.

b. **CO_2 emissions from the incremental distances between the collection points of the rice husk to the project site as compared to the baseline disposal site and CO_2 emissions from the transportation of combustion residues and final waste from controlled burning to disposal site ($PE_{y,transp}$),**
Four different types of emission sources are considered for the CO2 emission related to the incremental distance. Since this project activity does not predict to produce RDF/ SB and the produced ashes will be internally stored, the only emission source considered is the incremental distance of the rice husk transportation in the project scenario compared with the baseline scenario. The distances considered were conservatively identified.

c. **CO2 emissions related to the fossil fuel and/or electricity consumed by the project activity facilities ($PE_{y,power}$).**
The "Tool to calculate project or leakage CO2 emissions from fossil fuel combustion" is applied for this emission source calculation. As mentioned above, the parameter $\mathbf{COEF_{i,y}}$ will be determined applying option (b) of the tool. The

applied values of net calorific value and CO2 emission factor of the fuel were conservatively identified in the ER calculation.

Moreover, no other project emission sources than those described in the methodology have been identified.

Leakage

According to both methodologies leakage only occurs if equipment is transferred from another activity. For this project only new equipment is installed as could be evidenced during site visit. Consequently leakage from transfer of equipment does not occur.

In line with the "General guidance on leakage in biomass project activities" an analysis for the competing uses for biomass has been prepared. A detailed report can be found in the annex of the PDD. As the project activity only uses biomass residues option C. Competing uses for the biomass needs to be considered as a possible source of leakage. In line with the requirements the PP could show that in the core delivery region (150 km radius) the biomass surplus is 33%. This is in accordance with the guideline where a surplus of at least 25% must be available in the region. The information given in the analysis has been checked and found to be correct. It can be concluded that leakage will not occur in this project activity.

Please refer to section B.5 of Annex 1 below for more detailed assessment.

5.2.5 Additionality Determination

Following explanation shall be given to explain about the changes of assumptions for the additionality between the first published PDD and the final version of the PDD. In the published version of the PDD the project participant decided to apply the combined tool to show baseline and additionality for this SSC project. The additionality was mainly based on a financial analysis which was based on a financing structure with a German investor's fund. The viewpoint given here was that investment decision is made by each single fund investor (which are assumed to be some thousand). It was not really possible to define an exact investment decision start date with this financing structure as per the CDM glossary of terms. In the course of providing the requested clarification the PP had to acknowledge that the investor by definition of the EB is the investors fund company MPC Bioenergie GmbH & Co KG. In consequence another investment decision and start date had to be identified (see assessment below). Along with changing the point of decision making for investment it was also decided to come back to the SSC guidelines Attachment A to Appendix B to justify additionality by investment barrier rather than using the combined tool. The validation team accepted all these changes as reasonable and in line with the CDM requirements for SSC projects.

Consideration of CDM in decision making (if project start before validation)

First it has to be explained that the project activity has been ceased after the first attempt staring in 2006 due to missing guarantees for financing by the KfW /PC/. As

the project was already finalizing CDM validation at that time, the former project owner decided to stop the validation process (even though a positive validation opinion was already formed by the former DOE)/PC/. Thus it was decided to sell the project to minimize financial losses for the former project owner.

The new project started when the new owner bought the project activity from KfW (selling contact between KfW and MPC Bioenergie GmbH & Co KG) on 2008-07-14/FP/. This is also the date of investment decision. The project start date has been defined as per the glossary of terms. It is the date where first major financial expenditures have been made for the project activity by the new project participant MPC Bioenergie GmbH & Co KG. The contract has been signed by three managing directors of MPC Bioenergie GmbH & Co KG who have the competence of decision making.

It can be considered that the CDM was a decisive factor in the investment decision as the project was from the beginning of the first attempt been designed as a CDM project. The first PDD has been uploaded for validation on 2006-05-05. Further the selling memorandum for potential new buyers clearly contains the option to start this project as a CDM project activity again. It was part of the project design/FP//PC/. As a project with a starting date before 2008-08-02 it has been shown that CDM was considered in the decision making to buy the project.

On 2009-07-17 another turn-key contract was closed with the equipment supplier CCC Machinery. The validation team confirms the first date as the start date (2008-07-14) as here the first major expenditures have been made by the PP. First trial operations of the project have been started in May 2011.

After the investment decision and starting date on 2008-07-14 the consultant ATA has been contracted to develop the new PDD on 2008-10-02. On 2009-07-12 the first DOE Bureau Veritas has been contacted for validation. Finally BV did not had the necessary accreditation for Scope 13 and the contract was cancelled on 2010-01-10 and the PDD voluntary withdrawn. Finally the current validator TÜV NORD has been contracted on 2010-01-06 and the PDD was uploaded for GSCP on 2010-04-27/unfccc/. Until today the project activity is under validation. This timeline shows that a continuous CDM development was considered and that real action was taken to secure the CDM status of the project with time gaps smaller than 2 years/PC/.

Application of methodology / methodological tools

In section B.5 of the PDD the additionality determination is described. Initially the PP used the “Combined tool to identify the baseline scenario and demonstrate additionality” during the validation process they decided to apply the simplified modalities and procedures for SSC CDM projects Attachment A to Appendix B to show the additionality justification as simple as possible. The additionality justification is reduced to the financial investment barrier. Please refer to tables A-3 and A-4 for a detailed assessment.

Alternatives

The only applicable alternative to this project activity is the project activity not undertaken as a CDM project activity and the continuation of the status quo. Considering these alternative an investment analysis has been performed using a benchmark approach.

Investment analysis

The only barrier identified is the investment barrier as per Attachment A to Appendix B of the simplified modalities and procedures for SSC CDM projects. In order to show that the project scenario is not the most attractive alternative and economically feasible without benefits from CER sales an investment analysis has been prepared based on step 2 of the applicable additionality tool and the Guidance on the Assessment of Investment Analysis.

A benchmark analysis is the applicable option for the project activity because revenues other than CDM need to be considered. An investment comparison is not a feasible option as the project participant does not need to invest anyhow. The analysis method has been correctly chosen.

Finally a clear and unprotected excel spreadsheet has been made available to the DOE to allow a complete validation of all input parameters and calculation of the IRR.

The period chosen for the investment analysis has been finally set to 25 years, which reflects the lifetime of project equipment (as per the tool to determine the remaining lifetime of equipment and equipment supplier). Even though the recommended period for investment analysis is 15-20 years, the conservative approach of 25 years has been applied and justified. The discounted cash flow calculation for the fair value into the overall calculation of the project by prolonging the period of assessment to the technical lifetime of the asset has been included. This has been done as per best international practice. Depreciation as non-cash related item is only considered in the tax calculation and not as cash outflow.

All input values used in the investment analysis where valid and applicable at the time of investment decision. For detailed assessment of all parameters please refer to Table A-2 in the annex of this report.

The PLF or in this case assured capacity and the operating hours have been defined as per the equipment supplier's information and contracts with the biomass suppliers. For detailed assessment of these parameters please refer to Table A-2 in the annex of this report.

The benchmark is defined as the required returns on equity. Because the project is 100% equality financed the cost of equity is the same as the weighted average cost of capital (WACC). The benchmark has been calculated as a WACC which is appropriate for the 100% equity financed project. This has been done in accordance with EB 62 Report Annex 5. Equity financed investment is 100% and thus completely considered as net cash outflow. The interest payment of the interim financing loan have not been taken into account of the Brazilian income tax calculation because the interest is not payable by the Brazilian project company. The interest is paid by the

owner and are project development costs for the owner.It can be assumed that no third party would invest in this project activity without CDM revenues at a rate of lower return (12,9%) than the calculated benchmark of 18.9% (as per EB 62 Report Annex 5). Similar projects with investment decision in 2007/2008 (CDM Reg. 3487, 1089) in Brazil have applied BNDES benchmark or Selic rate that are not appropriate for this project activity (see annex table 2 for explanation).

The calculation spreadsheet as well as the PDD contains a transparent and traceable sensitivity analysis. The excel sheet allows to reproduce the adjustment of all selected parameters. All variables that constitute more than 20% of either total project costs or total project revenues were subjected to reasonable variation. Those include the electricity price (correlates with energy production) the operating costs and the biomass costs. Total investment costs are not part of the analysis as they correspond less than 20% to the total expenses over project lifetime further it has been checked that a decrease of 10% investment costs would not be enough to cross the benchmark. All selected parameters have been varied with +10% for revenues and -10% for project expenses. In any of the cases the IRR without CDM revenues reached or crossed the benchmark.

It can be concluded that project activity would not be financially feasible without the revenues from the CDM.

Barrier analysis

The only barrier identified is the investment barrier as per Attachment A to appendix B of the simplified modalities and procedures for SSC CDM projects. The analysis has been described in detail in the chapter Investment analysis and the financial parameters are discussed in the annex of this report.

Common practice analysis

As this is a SSC project no common practice approach is necessary.

Summary

As described in the PDD and assessed in detail in the Annexes below, the additionality demonstration is based on the barriers analysis, which include the investment barrier. The financial analysis shows that the project activity is not the most attractive alternative as its IRR is lower than the identified benchmark. The validation team concludes that the project is additional.

5.2.6 Monitoring Methodology

The monitoring plan in the PDD is in compliance with the applied monitoring methodology AMS I.D and AMS III.E. and it is assessed by the validation team as adequate and feasible. For details see section B.6 of the Annex below.

5.2.7 Monitoring Plan

The monitoring plan in the PDD covers all parameters which have to be monitored w.r.t. the project boundary in line with monitoring methodologies AMS I.D., AMS III.E. and the monitoring arrangements are assessed by the validation team as adequate and feasible. For details see section B.6 of the Annex below.

5.2.8 Project Management Planning

The project management planning is appropriate for the purpose of the project monitoring, as described in section B.7.2 of the PDD.

5.2.9 Crediting Period

The choice of the seven year (renewable) crediting period was unambiguously given in the PDD and corresponding calculation spreadsheet. The crediting period starting date is determined with 2013-01-01 and that is deemed appropriate.

5.2.10 Environmental Impacts

In Rio Grande do Sul state there is an environmental law, enforced through FEPAM (Environmental Agency of Rio Grande do Sul), that obliges rice producers to deposit rice husks on licensed disposal site, which are usually located at the rice mills facility. The ashes produced during the controlled burning will be stores at UTE São Borja plant in a licensed landfill by FEPAM. The emission standards of the state Rio Grande do Sul will be met and it is important to mention that the rice husk is not dangerous and is not expected to emit pollutant on its combustion. Additionally, it will be installed a filter that will be located after the controlled combustion of the rice husk to control the quality of the gas emitted to the atmosphere.

The host government does not request for an EIA for this specific project activity. To be in line with Brazilian Laws and requirements an Environmental Study was performed at the time of the operational licenses issuance. According to Brazilian legislation an Environmental Study is necessary at the time of operational license issuance, which is the initial step for the implementation of an Enterprise in the host country. At that moment, an Environmental Study must be taken to assure that the company operation is environmentally safe and sound. Considering that the Brazilian local Environmental bodies have issued the Installation Environmental license for the plant predicted to operate in the proposed project activity, the validation team assumes that the Environmental Study was appropriately assessed. Additionally, no transboundary impacts could be identified for the proposed project activity.

5.2.11 Comments by Local Stakeholders

Stakeholders were invited to raise comments related to the project activity through a invitation letter sent in June 2008. The letter was sent prior to the publication of PDD for global stakeholder consultation. The considered Stakeholders are listed below:

- Rio Grande do Sul State Government
- São Borja City Hall
- City Councilor's Chamber
- State Environment Foundation
- Municipal Environment Foundation
- State Public Prosecutors
- Federal Public Prosecutors
- Várzea Neighborhood Association
- Vila Goulart Neighborhood Association
- Vila São Francisco Neighborhood Association
- Brazilian Forum of NGO´s and Social Movements for the Environmental and Development

Besides, the above main Stakeholders, a Private local stakeholders and the local community have been invited to raise comments on the project at an organized one day meeting to present the project activity.

The stakeholder consultation was conducted in form of letters sent to stakeholders including description of the project activity, with proof of receipt. All proof of receipt could be checked during on-site visiting and no deviation could be detected. No comments were received about the proposed project activity.

6 VALIDATION OPINION

UTE São Borja Geradora de Energia S.A. has commissioned the TÜV NORD JI/CDM Certification Program (CP) to validate the project: "UTE São Borja 12.3 MW Rice Husk Project" with regard to the relevant requirements of the UNFCCC for CDM project activities, as well as criteria for consistent project operations, monitoring and reporting. UNFCCC criteria include article 12 of the Kyoto Protocol, the modalities and procedures for CDM (Marrakech Accords) and the relevant decisions by COP/MOP and CDM Executive Board

In the course of the pre-validation 4 Corrective Action Requests (CARs) and 18 Clarification Requests (CLs) were raised and successfully closed.

The review of the project design documentation and additional documents related to baseline and monitoring methodology; the subsequent background investigation, follow-up interviews and review of comments by parties, stakeholders and NGOs have provided TÜV NORD JI/CDM CP with sufficient evidence to validate the fulfilment of the stated criteria.

In detail the conclusions can be summarised as follows:

- The project is in line with all relevant host country criteria (Brazil) and all relevant UNFCCC requirements for CDM. At the time of the completion of the validation the LoA is pending. For the Brazilian DNA a positive validation opinion is a prerequisite for the host government approval and thus the LoA could not be considered at the present validation stage. The request for registration will not be made until the LoA is issued by the Brazilian DNA and verified by the validation team.
- The project additionality is sufficiently justified in the PDD.
- The monitoring plan is transparent and adequate.
- The calculation of the project emission reductions is carried out in a transparent and conservative manner, so that the calculated emission reductions of 923,369 tCO_2e are most likely to be achieved within the 21 years (consisting of three periods of 7 years each and to be renewable at the end of each crediting period) of crediting period (2013-01-01 to 2033-12-31).

The conclusions of this report show, that the project, as it was described in the project documentation, is in line with all criteria applicable for the validation. The request for registration will not be submitted before the Letter of Approval (LoA) is issued by the Brazilian and German DNAs.

Sao Paulo, 2012-02-24

Ricardo Lopes

TÜV NORD JI/CDM CP

Validation Team Leader

Essen, 2012-02-24

Rainer Winter

TÜV NORD JI/CDM CP

Final Approval

7 REFERENCES

Table 7-1: Documents provided by the project participant

Reference	Document
/BIO/	Rice husk market study: "Casca de arroz – estudio de Mercado" by IRGA („Rice-institut" Rio Grande do sul), December 2008
/BNE/	Brazilian National Energy Balance
/PC/	Prior consideration: Selling Memorandum between KfW and MPC Bioenergie GmbH & Co KG on 2008/07/14 Contract with ATA for CDM services file: *Contract with ATA, signed 02.10.2008.pdf* Ancillary Asset purchase Agreement between new and old project companies, file: *Asset_purchase_agreement_20081222.pdf* Mail from Bureau Veritas, File: *BV_Notice_of_project_status_2008_10_08.pdf* Cancellation of the contract with BV, file:*Project Cancellation 10.01.10.pdf* Assignment of TÜV Nord, file:*CDM_Validation_Proposal_BRS-92106_01_2010.pdf* Turn key contract with equipment supplier CCC Machinery 2009-07-17 old PDD by Perspectives GmbH, file: *PDD_GSP_SaoBorja_060330*, dated 2nd April 2006 Positive validation by TÜV Süd (source: validation report, file:*(6a) 1_VR_CCC-SaoBorja_260606_1_compl.pdf*) Technical DD, file*: 01[1].01.01.01 Technical Due Diligence Report of BC Projetos.pdf* Selling memorandum 2007-09-06, file (CDM and revenues from CERs are an essential part of the memorandum)
/FD/	Financial data:

Reference	Document
	ELEKTRA Selling Memorandum dated 2007-09-06 Contract with Rice Husk Supplier 12, §1.1.1, dated 2008-06-03 ANEEL license http://www.aneel.gov.br/cedoc/dec20045163.pdf Art. 2 - § 1 - Clause 1 Economist Intelligence Unit, Country Report Brazil, June 2008 p.8 IMF, World Economic Outlook, April 2008, Database http://www.imf.org/external/pubs/ft/weo/2008/01/weodata/weoseladv.aspx?a=&c=223%2c111&s=PCPIPCH WACC: A. Damodaran, Applied Corporate Finance: A User's Manual , Chapter 5, p.5.56 http://www.moodys.com/credit-ratings/Brazil-Government-of-credit-rating-114650# http://people.stern.nyu.edu/adamodar/pdfiles/acf3E/book/ch5.pdf http://www.imf.org/external/pubs/ft/weo/2008/01/weodata/weoseladv.aspx?a=&c=223%2c111&s=PCPIPCH Loan_Interim_Financing: Proposal Sparkasse 2008-05-23 Energy price: CCEE auction: http://www.ccee.org.br/cceeinterdsm/v/index.jsp?vgnextoid=b01b9f733d60b010VgnVCM1000005e01010aRCRD CCEE- average PLD (spot) prices: http://www.ccee.org.br/cceeinterdsm/v/index.jsp?vgnextoid=6e6596f102913210VgnVCM1000005e01010aRCRD O&M Proposal by Evonik dated 2008-02-26 (E-Mail) O&M Proposal by Dalkia dated 2008-12-18, p.18 Taxes/fees: Fee for electricity distribution system: http://www.aneel.gov.br/cedoc/reh2007555.pdf Anexo II-A Quadro P, p.7 http://www.aneel.gov.br/cedoc/adsp20073731_2.pdf http://www.ccee.org.br/vgnexttemplating/v/index.jsp?vgnextoid=2110a19c3853c010VgnVCM1000005e01010aRCRD&vgnextfmt=default&cpsextcurrchannel=1 Energy Broker Proposal dated 2009-03-27

Reference	Document
	Expert Opinion: Taxation of domestic private investors 2009-08-27 Other Taxes: http://www.kpmg.com.br/publicacoes/tax/Investment_Brazil10a_2008.pdf Rice husk-ash ratio, IRGA article 2007-02-16 Technical description by AREVA
/LEGIS/	- Law # 07, 1970-09-08 - Law # 70, 1991-12-30 - Law # 9718, 1998 - Law # 9249 – Rules of CSLL and Additional Income Tax – 1995-12-26 - Law # 9430 – Rules of CSLL – 1996-12-27 - Law # 10637 – Rules of PIS and PASEP – 2002-12-30 - Law # 10833 – Rules of COFINS – 2003-12-29 Normative Instruction # 247 – Federal Revenue Bureau of Brazil – Rules of PIS, PASEP and COFINS – 2002-11-21, altered by Normative Instruction #464 on 2004-10-21
/LoA/	Letter of Approval, Brazil (Date, Institution) Letter of Approval, Germany (Date, Institution)
/PDD/	Final PDD version 7 dated 2012-02-13
/SD/	Purchase and Participation Agreement between KfW and MPC Bioenergie GmbH & Co KG dated on 2008/07/14
/TD/	Sales contract between the equipment supplier CCC Machinery GmbH and UTE São Borja Geradora de Energia Elétrica S.A 2009-07-17 Test report on rice husk: No. 995 126-203
/ES/	Request (study) for issuing installation licence including environmental study on water and air pollution from Hamburgo Energia Participacoes Ltda (former project owner) to State of Rio Grande do Sul Authority on 2006-11-29.
/SH/	Letter send to stakeholder in May 2009 Confirmation of receipt from different stakeholders
/XLS/	CERs calculation speadsheet Financial analysis spreadsheet

Table 7-2: Background investigation and assessment documents

Reference	Document
/AMS I.D/	AMS I.D: Grid connected renewable electricity generation (version 17)
/AMS III.E/	AMS III.E: Avoidance of methane production from decay of biomass through controlled combustion, gasification or mechanical/thermal treatment (version 16)
/CPM/	TÜV NORD JI / CDM CP Manual (incl. CP procedures and forms)
/GCP/	UNFCCC: Guidelines for completing CDM-PDD
/GT/	UNFCCC: CDM Glossary of Terms
/IPCC-GP/	IPCC Good Practice Guidance & Uncertainty Management in National Greenhouse Gas Inventories, 2000
/IPPC-RM/	Revised 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Reference Manual
/KP/	Kyoto Protocol (1997)
/MA/	Decision 3/CMP. 1 (Marrakesh – Accords & Annex to decision (17/CP.7))
/PDD-T/	Project Design Document Form (CDM SSC PDD) - Version 03.1
/R7/	Resolution #7 of CIMGC of 05/05/2008
/R8/	Resolution #8 of CIMGC of 26/05/2008
/TEF/	“Tool to calculate the emission factor for an electricity system” (Version 2.2.1).
/TME/	“Tool to determine methane emissions avoided from disposal of waste at a solid waste disposal site” (Version 04).
/GLK/	“General guidance on leakage in biomass project activities” (Version 03).
/VVM/	Validation and Verification Manual - Version 1.2, EB 55/Annex 1

Table 7-3: Websites used

Reference	Link	Organisation
/aneel/	http://www.aneel.gov.br/	National Agency of Electric Energy
/bcb/	http://www.bcb.gov.br/	Brazilian Central Bank
/bndes/	http://www.bndes.gov.br/	Brazilian National Bank of Sustainable Development
/conama/	http://www.mma.gov.br/	Brazilian National Commission of Environment
/dam/	http://pages.stern.nyu.edu/~adamodar/	Professor Damodaran webpage. He holds M.B.A. and Ph.D. degrees from the University of California, Los Angeles, as well as a B.Com. in Accounting from Madras University and a PGDM from the Indian Institute of Management Bangalore His web page has been online since 1998 and the published information is widely use for financial analysis all over the world.
/dna/	http://www.mct.gov.br/	Brazilian DNA – Brazilian Ministry of Science and Technology
/facenda/	www.receita.fazenda.gov.br http://www.receita.fazenda.gov.br/Aliquotas/ContribPj.htm	Federal Revenue Bureau of Brazil
/elbras/	http://www.eletrobras.com/	A Major Brazilian Power Utility
/ipcc/	www.ipcc-nggip.iges.or.jp	IPCC publications
/kpmg/	http://www.kpmg.com.br/publicacoes/tax/Investment_Brazil10a_2008.pdf	KPMG
/mme/	http://www.mme.gov.br/	Brazilian Ministry of Mines and Energy
/ons/	http://www.ons.org.br/home/	Brazilian National Operator of the Electric System

Reference	Link	Organisation
/unfccc/	http://cdm.unfccc.int	UNFCCC

Table 7-4: List of interviewed persons

Reference	MoI[1]		Name	Organisation / Function
/IM01/	V E	☒ Mr. ☐ Ms	Ricardo Audi Filho	ATA / Director (no longer PP)
/IM02/	V E	☒ Mr. ☐ Ms	Albert Ramcke	UTE São Borja / CEO
/IM03/	V	☒ Mr. ☐ Ms	Markus Storbeck	MPC Capital
/IM03/	V	☒ Mr. ☐ Ms	Jenny Kunk	MPC Capital
/IM04/	V	☒ Mr. ☐ Ms	Marius Bossen	Greenstream Biogas (Consultant)
/IM04/	V	☒ Mr. ☐ Ms	Thomas Eccard	Greenstream Biogas (Consultant)
/IM04/	V	☐ Mr. ☒ Ms	Christiane Vogell	Greenstream Biogas (Consultant)

[1] Means of Interview: (**T**elephone, **E**-Mail, **V**isit)

ANNEX

A1: Validation Protocol

A2: Assessment of Baseline Identification

A3: Assessment of Financial Parameters

A4: Assessment of Barrier analysis

A5: Outcome of the GSCP

A6: Appointment certificates of the team members

ANNEX 1: VALIDATION PROTOCOL

Table A-1: Requirements Checklist

Checklist Item (incl. guidance for the validation team)	**Validation Team Comments** (justification and substantiation of information, data and evidences)	**Ref.**	**Draft Concl.**	**Final Concl.**
A. General Description of Project Activity				
A.1. Approval *The written approval of the parties involved is a mandatory requirement*				
A.1.1. Has the project provided written approvals of all parties involved? (EB 55 Annex 1, § 44) *Indicate whether a letter of approval has been received, with a clear reference to the supporting documentation.* *Indicate whether this letter was provided to the DOE by the project participants or directly by the DNA*	*Description:* Written approvals have not been provided yet. *Justification of evidences:* see below *Conclusion:* **(CAR A1)** Please provide the Brazilian and German LoA for the project with the exact project title as in the PDD (identical to section A.1) and precise name of the project participants (identical to section A.3 of the PDD).	/PDD/ /dna/ /R1/ /R7/	~~CAR A1~~	OK
A.1.2. Are the approvals issued from orgainsations listed as DNAs on the UNFCCC CDM website?	*Description:* See comment in A.1.1 above. *Justification of evidences:*	/PDD/ /dna/ /R1/	~~CAR A1~~	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
(EB 55 Annex 1, §§ 44, 47, 48, 49 (b), 49 (c), 53) *Indicate the means of validation employed to assess the authenticity, i.e. in case of doubt whether LoA has been verified with the DNA. Further describe which entity submitted the LoA for validation.*	*Conclusion:*	/R7/		
A.1.3. Do the written approvals confirm that the corresponding party is a Party to the Kyoto Protocol? (EB 55 Annex 1, § 45(a))	*Description:* See comment in A.1.1 above. *Justification of evidences:* *Conclusion:*	/PDD/ /dna/ /R1/ /R7/	~~CAR A1~~	OK
A.1.4. Do the written approvals confirm that the participation is voluntary? (EB 55 Annex 1, § 45(b))	*Description:* See comment in A.1.1 above. *Justification of evidences:* *Conclusion:*	/PDD/ /dna/ /R1/ /R7/	~~CAR A1~~	OK
A.1.5. Does the written approval from the host country confirm7 that the project contributes to the sustainable development in the country? (EB 55 Annex 1, § 45(c))	*Description:* See comment in A.1.1 above. *Justification of evidences:* *Conclusion:*	/PDD/ /dna/ /R1/ /R7/	~~CAR A1~~	OK
A.1.6. Do the written approvals refer to the precise	*Description:* See comment in A.1.1 above.	/PDD/ /dna/	~~CAR~~	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
project title in the PDD submitted for registration or an additional specification of the project activity, e.g. PDD version number? (EB 55 Annex 1, §§ 45(d), 50)	*Justification of evidences:* *Conclusion:*	/R1/ /R7/	~~A1~~	
A.1.7. Are the written approvals unconditional with regard to A.1.3 to A.1.6? (EB 55 Annex 1, § 46)	*Description:* See comment in A.1.1 above. *Justification of evidences:* *Conclusion:*	/PDD/ /dna/ /R1/ /R7/	~~CAR A1~~	OK
A.1.8. Is the information regarding the project participants listed in section A3 and in Annex 1 of the PDD internally consistent to each other? (EB 55 Annex 1, § 51)	*Description:* Yes, they are internally consistent. *Justification of evidences:* PDD version 1. *Conclusion:* Project complies with requirements.	/PDD/	OK	
A.1.9. Are all project participants listed in the PDD approved at least by one Party involved? (EB 55 Annex 1, § 51) *Indicate whether the participation of the project participant(s) has been approved by a Party to the Kyoto Protocol.* *Describe the means of validation employed to draw this conclusion.*	*Description:* See comment in A.1.1 above. *Justification of evidences:* PDD version 1. *Conclusion:* project complies with requirement.	/PDD/ /dna/ /R1/ /R7/	~~CAR A1~~	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
A.1.10. Are any other project participants approved but not listed in the PDD? (EB 55 Annex 1, § 52)	*Description:* See comment in A.1.1 above. *Justification of evidences:* *Conclusion:*	/PDD/ /dna/	~~CAR A1~~	OK
A.1.11. Does the DOE has a direct contractual relationship with the PP? (EB 55 Annex 1, § 51; EB 50 Annex 48, §§ 7–9) *Check whether the PPs listed in the published PDD are still listed in the PDD going to be submitted to request for registration.*	*Description:* The DOE TÜV NORD CERT GmbH has a direct contractual relationship with UTE Sao Borja Geradora de Energia Electrica S.A. who is listed as PP in the PDD and MoC submitted for validation. *Justification of evidences:* Signed contract, /PDD/ /MoC/ During site visit the PP has been confirmed. *Conclusion:* In line with the requirements the PP has contractual relationship with the DOE.	/PDD/ /MoC/ /LoA/	OK	
A.2. Contribution to Sustainable Development *The project's contribution to sustainable development is assessed.*				
A.2.1. Has the host country confirmed that the project assists it in achieving sustainable	*Description:* See comment in A.1.1 above.	/PDD/ /dna/ /R8/	~~CAR A1~~	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
development? (EB 55 Annex 1, §§ 125–127) *Contains a statement confirming whether the letter of approval by the DNA of the host party confirmed the contribution of the project to the sustainable development of the Host Party.*	*Justification of evidences:* *Conclusion:*	/R7/		
A.2.2. Will the project create other environmental or social benefits than GHG emission reductions? (EB 55 Annex 1, §§ 125–127) *Describe the other positive aspects not related to GHG emission reduction on the environment.*	*Description:* The rice husks based energy plants contributes to the development of the rice regions by making use of this residue that today causes environmental problems and extra costs to the producers due to the local obligation of waste storage. The importance of biomass residues based energy is noted on the Brazilian National Climate Change Plan, promoted by the Minister of Science and Technology. This project activity also contributes to social development of the region by creating new jobs in a region where these jobs didn't exist before the project activity. *Justification of evidences:* The Brazilian National Balance could be checked and it could be confirmed that there are very few biomass waste based electricity generation in the host country. Moreover, this information could be cross-checked by interviewing local people and authorities. *Conclusion:* The project results in social benefits beyond emission reductions.	/PDD/ /IM01/	OK	

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
A.3. PDD editorial aspects *The PDD used as a basis for validation shall be prepared in accordance with the latest template and guidance from the CDM Executive Board available on the UNFCCC CDM website.*				
A.3.1. Has the latest version of the PDD form been applied? (EB 55 Annex 1, § 55)	*Description:* Yes, the latest version of the CDM-PDD template (version 03) has been applied. No deviations thereof have been observed. *Justification of evidences:* The UNFCCC website has been checked *Conclusion:* The project complies with the requirements	/PDD/ /unfccc/	OK	
A.3.2. Has the PDD been duly filled in accordance with the latest guidance(s)? (EB 55 Annex 1, §§ 56–57)	*Description:* In general, the PDD has been dully filled. Minor editorial issues have been identified in respective CARs and CLs. *Justification of evidences:* The PDD has been checked in detail and compared against the latest guidance, especially /GCP/. *Conclusion:* The PDD was dully filled.	/PDD/ /unfccc/ /GCP/	OK	

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
A.4. Technology to be employed *Validation of project technology focuses on the project engineering, choice of technology and competence/ maintenance needs. The DOE should ensure that environmentally safe and sound technology and know-how is used.*				
A.4.1. Does the PDD contain a clear, accurate and complete project description? (EB 55 Annex 1, §§ 58–59, 64) *The PDD shall contain a clear description of the project activity which provides the reader with a clear understanding of the precise nature of the project activity and the technical aspects of its implementation.* *Pl. consider esp.* chapters *A.2, A.4.2 and A.4.3 (in case of LSC PDD) for assessment.* *§64 (a) Describe the process undertaken to validate the accuracy and completeness of the project description.* *§64 (b) Contain the DOE's opinion on the accuracy and completeness of the project description.*	*Description:* No, not all project details as it could be evidenced during on-site visiting were detailed in PDD section A.4.2. *Justification of evidences:* The PDD and technical data of the plant's equipments were reviewed in detail. Interviews were performed with the PPs and a plant tour was realized during on-site visiting. *Conclusion:* **(CL A1)** In section A.4.2, please provide more detailed information including all boilers, steam and gas turbines and generators. Please detailed fill in table 2 given in section A.4.2 of the PDD including information on the efficiency of the equipments applied in the project scenario.	/PDD/ /TD/ /IM01/	~~CL A1~~	OK
A.4.2. Is this description in accordance with the real situation or (in case of greenfield projects) is it most likely that the project will be implemented acc to the project description?	*Description:* Yes, in general the project description is in accordance with the real situation. Therefore, please see comment in A.4.1 above. *Justification of evidences:*	/PDD/ /TD/ /IM01/	~~CL A1~~	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	Conclusion:			
A.4.3. In case the project involves alteration of the existing installation or process, is a clear description available regarding the differences between the project and the pre-project situation? (EB 55 Annex 1, §§ 63–64) *Describe the steps taken to validate this issue.*	Not applicable to the project activity which consists of the implementation of a new power plant for electricity generation based on rice husk residues.		NA	
A.4.4. Does the project design engineering reflect current good practices? *Consider the equipment specifications, literature (e.g. EU BREF papers) and professional experiences. Describe the process undertaken to assess the engineering.*	*Description:* Yes, the equipments to be installed are manufactured by very well known worldwide companies in the sector which has several successfully implemented equipments around the globe. *Justification of evidences:* Technical data of the plant's equipments were reviewed. *Conclusion:* The project design reflects current good practices and the equipments are safe and sound.	/PDD/ /TD/	OK	

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
A.4.5. Does the project use state of the art technology or would the technology result in a significantly better performance than any commonly used technologies in the host country? *Describe the process undertaken to assess the state of the art technology.*	*Description:* The project utilizes state of the art technology (see comment above). *Justification of evidences:* The Brazilian National Energy Balance could be checked and it could be confirmed that there are very few biomass residues based electricity generation in the host country. Moreover the equipment's technical data and the website of the manufacture could be checked. *Conclusion:* The project uses a new technology which is not the common practice in the host country and the new technology installed will result in an environmentally sustainable technology which is not the common practice in the host country.	/PDD/ /CNE/ /TD/	OK	
A.4.6. Does the project make provisions for meeting training and maintenance needs? *Describe the process undertaken to assess the maintenance and training needs.*	*Description:* UTE São Borja has firmed a contract with a third part company, Dalkia, which will be responsible for the plant operational, including training and maintenance needs. *Justification of evidences:* Preventive Maintenance contract signed between UTE São Borja and Dalkia was reviewed and representatives of the PP were interviewed. *Conclusion:* The project maintenance and training needs are foreseen.	/PDD/ /IM01/ /FD/	OK	

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
A.5. Small scale project activity *It is assessed whether the project qualifies as small-scale CDM project activity*				
A.5.1. Does the project qualify as a small scale CDM project activity as defined in decision 4 / CMP.1 annex II? (EB 55 Annex 1, §§ 135–136 (a))	*Description:* Yes, the project qualifies as a small scale CDM as the installed capacity of power plant to be installed (12.3 MW) does not exceed the limit of 15MW according to the generators capacity. *Justification of evidences:* Contract signed between São Borja and CCMC. *Conclusion:* The project activity can be classified as a small scale CDM project activity.	/PDD/ /FD/ /TD/	OK	
A.5.2. Does the project apply one of the approved small scale categories and any methodology and tool referred therein? (EB 55 Annex 1, § 136 (b)) *Check, if applicable the expiry dates of the applied methodology. Further, take into consideration the general guidance to the methodologies[3], which provide guidance on equipment capacity, equipment performance, sampling and other monitoring related issues.*	*Description:* Yes, the project applies the latest version of the approved methodology AMS I.D. and AMS III.E. *Justification of evidences:* The UNFCCC website was checked. *Conclusion:* The project applies the last version of the approved methodology..	/PDD/ /unfccc/	OK	

[3] http://cdm.unfccc.int/methodologies/SSCmethodologies/approved.html

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
A.5.3. Is the small scale project activity not a debundled component of a larger project activity? (EB 55 Annex 1, § 136 (c)) *Describe the steps taken to validate this issue. Pl refer to the Compendium of guidance on debundling (EB ~~36, Annex 27~~ 54, Annex 13).*	*Description:* There is not a project activity registered or an application for register a SSC project activity with the same PPs in the host country. *Justification of evidences:* The UNFCCC website was checked. *Conclusion:* The project activity is not a dubundled component of a large project activity.	/PDD/ /unfccc/	OK	
A.5.4. Is an assessment of the environmental impacts of the proposed SSC CDM project activity required by the host Party? (EB 55 Annex 1, § 136 (d))	*Description:* The host government does not request for an EIA for this specific project activity. To be in line with Brazilian Laws and requirements an Environmental Study was performed at the time of the Environmental Licenses issuance. According to Brazilian legislation an Environmental Study is necessary at the time of Environmental License issuance, which is the initial step for the implementation of an Enterprise in the host country. At that moment, an Environmental Study must be taken to assure that the company operation is environmentally safe and sound. Considering that the Brazilian local Environmental bodies have issued the Installation Environmental license for the plant predicted to operate in the proposed project activity, the validation team assumes that the Environmental Study was appropriately assessed. Additionally, no transboundary impacts could be identified for the proposed project activity. *Justification of evidences:* Brazilian Environmental Legislation and Installation License	/PDD/ /conama/ /ES/	OK	

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	Conclusion: No Environmental Impact Studies are required for this project activity according the host country laws and regulations. Please refer to section D of this checklist for detailed assessment on Environmental Impacts.			
B. Project Baseline, Additionality and Monitoring Plan				
B.1. Application of the Methodology				
B.1.1. Does the project apply an approved and applicable CDM methodology and a valid version thereof? (EB 55 Annex 1, § 65) *Describe the steps taken to validate this issue.*	*Description:* Please refer to comment in topic A.5.2 above. *Justification of evidences:* To ensure that the applied methodology is approved by the executive board and the PP has chosen the available versions at the methodologies section of UNFCCC CDM website (http://cdm.unfccc.int/methodologies/PAmethodologies/approved.html). *Conclusion:* The project applies an approved and applicable version of a CDM methodology	/PDD/ /AMS I.D./ /AMS III.E./ /unfccc/	OK	
B.1.2. Is the applied CDM methodology identical with the version available on the UNFCCC website? (EB 55 Annex 1, §§ 65, 70)	*Description:* The methodology applied by the PPs follows stipulations of the version available on UNFCCC website. Please refer to comment in topic A.5.2 above.	/PDD/ /AMS I.D./ /AMS	OK	

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
Describe the steps taken to validate this issue.	*Justification of evidences:* The PDD was reviewed against the stipulations of the methodology. *Conclusion:* The stipulations of the published version were followed.	III.E./ /unfccc/		
B.1.3. Are all applicability criteria in the methodology, the applied tools or any other methodology component referred to therein fulfilled? (EB 55 Annex 1, §§ 66(a)–(b), 68, 71, 76) *Describe for <u>each</u> applicability criterion listed in the selected approved methodology the steps taken to assess the information contained in the PDD.*	*Description:* The following conditions from AMS I.D. and AMS III.E. make the proposed project activity applicable as a CDM under the methodological framework mentioned: **<u>AMS I.D. applicability conditions:</u>** **1+2** — **This category comprises renewable energy generation units, such as photovoltaics, hydro, tidal/wave, wind, geothermal and renewable biomass: (A) Supplying electricity to a national or regional grid: or (B) Supplying electricity to an identified consumer facility via national/regional grid through a contractual arrangement such as wheeling.** The project activity consists of renewable energy generation based on biomass residues (rice husk) to be dispatched to the national grid (option (A)) and as per illustration of table 2 of AMS I.D. **3** — **This methodology is applicable to project activities that (a) install a new power plant at a site where there was no renewable energy power plant operating prior to the implementation of the project activity**	/PDD/ /AMS I.D./ /AMS III.E./ /TD/ /IM01/ /unfccc/	~~CL B1~~	OK

Checklist Item (incl. guidance for the validation team)		Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
		(Greenfield plant); (b) involve a capacity addition; (c) involve a retrofit of (an) existing plant(s); or (d) involve a replacement of (an) existing plant(s). The project is new power plant at a site where there was no renewable energy power plant operating prior to the implementation of the project activity			
	4	**Hydro power plants with reservoirs that satisfy at least one of the following conditions are eligible to apply this methodology:** The project is no hydro power project			
	5	**If the new unit has both renewable and non-renewable components (e.g.,. a wind/diesel unit), the eligibility limit of 15 MW for a small-scale CDM project activity applies only to the renewable component. If the new unit co-fires fossil fuel1, the capacity of the entire unit shall not exceed the limit of 15 MW.** There is no non-renewable component in this project activity. The project has a capacity of 12.3MW below 15MW.			
	6	**Combined heat and power (co-generation) systems are not eligible under this category.** The project will not generate heat but elec. power.			
	7	**In the case of project activities that involve the addition of renewable energy generation units at an existing renewable power generation facility, the added capacity of the units added by the project**			

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	should be lower than 15 MW and should be physically distinct from the existing units. The project does not include the addition to an existing unit.			
	8 **In the case of retrofit or replacement, to qualify as a small-scale project, the total output of the retrofitted or replacement unit shall not exceed the limit of 15 MW.** This project is a new project and does not include any retrofit or replacement			
	AMS III.E. applicability conditions:			
	1 **This project category comprises measures that avoid the production of methane from biomass or other organic matter that:** **a)Would have otherwise been left to decay under clearly anaerobic conditions throughout the crediting period in a solid waste disposal site without methane recovery, or** **b)Is already deposited in a waste disposal site without methane recovery.** Option (a) is applicable to this project activity. The rice husk used in the project scenario would have been disposed at open dumps without any treatment and methane recovery system.			

Checklist Item (incl. guidance for the validation team)		Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	2	**Due to the project activity, decay of the wastes of type referred to in paragraph 1(a) above is prevented through one of the following measures:** **a) Controlled combustion;** **b) Gasification to produce syngas/producer gas;** **c) Mechanical/thermal treatment to produce refuse-derived fuel (RDF) or stabilized biomass (SB)1. An example of a mechanical/thermal treatment process is the pelletization of wood particles.** Option (a) is applicable to this project acticity. The rice husk used in the prioject scenario will be controlled combusted in the boiler acquired for the power plant operation.			
	3	**The produced RDF/SB shall be used for combustion either on site or off-site.** The project activity does not foreseen the use or produce of RDF/SB. Rice husk will be used as fuel.			
	4	**In the case of stockpiles of wastes baseline emissions calculations as described in the "Tool to determine methane emissions avoided from disposal of waste at a solid waste disposal site" shall be adjusted. Stockpiles can be characterized as waste**			

Checklist Item (incl. guidance for the validation team)		Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
		disposal sites that consist of wastes of a homogenous nature with similar origin (e.g, rice husk, empty fruit bunches of oil palm, sawmill waste, etc). The rice husk disposal in the baseline scenario is considered as stockpiles of waste. The indicated tool is applied in the emission reduction calculation.			
	5	**Measures are limited to those that result in emission reductions of less than or equal to 60 kt CO2 equivalent annually.** As detailed given in PDD section A..4.3 the estimated emission reduction is less than the defined limit.			
	6	**Where in the baseline usually there is a reduction in the amount of waste through regular open burning or removal for other applications, the use of the "Tool to determine methane emissions avoided from disposal of waste at a solid waste disposal site" shall be adjusted to take account of this burning or removal in order to estimate correctly the baseline emission.** As clearly indicated in the study of the rice husk characteristcs and use at the project region, here is no others possibles/feasibles uses of the biomass resisues.			
	7	**The project activity does not recover or combust methane unlike AMS-III.G. Nevertheless, the location**			

Checklist Item (incl. guidance for the validation team)		Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
		and characteristics of the disposal site in the baseline condition shall be known, in such a way as to allow the estimation of its methane emissions. There is no methene recovery in the baselien and project scenarios. The rice husks open dumps could be propper evidenced during site visiting and its undoubtedly a non managed stock piled.			
	8	**If the project activity involves combustion, gasification or mechanical/thermal treatment of partially decayed waste mined (i.e., removed) from a solid waste disposal site in addition to freshly generated waste the project participants shall demonstrate that there is adequate capacity of the combustion, gasification or mechanical/thermal treatment facility to treat the newly generated wastes in addition to the partially decayed wastes removed from the disposal site. Alternately justifications for combusting, gasifying or mechanically/thermally treating the partially decayed wastes instead of the newly generated wastes shall be provided.** The project activity will only burn newly produced hice rusks waste originated at nears located rice producers. Please refer to the contracts of rice husk supply available at section 7.1.			
	9 to 15	**9. If the combustion facility, the produced syngas, producer gas or RDF/SB is used for heat and**			

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	electricity generation within the project boundary, that component of the project activity shall use a corresponding methodology under Type I project activities. **10. In case of RDF/SB production, project proponents shall provide evidence that no GHG emissions occur, other than biogenic CO2, due to chemical reactions during the thermal treatment process for example limiting the temperature of thermal treatment to prevent the occurrence of pyrolysis and/or the stack gas analysis.** **11. In case of gasification, the process shall ensure that all the syngas produced, which may contain non-CO2 GHG, will be combusted and not released unburned to the atmosphere. Measures to avoid physical leakage of the syngas between the gasification and combustion sites shall also be adopted.** **12. In case of RDF/SB processing, the produced RDF/SB should not be stored in such a manner as resulting in high moisture and low aeration favoring anaerobic decay. Project participants shall provide documentation showing that further handling and storage of the produced RDF/SB does not result in anaerobic conditions and do not lead to further absorption of moisture.** **13. In case of RDF/SB processing, local regulations do not constrain the establishment of RDF/SB production plants/thermal treatment plants nor**			

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	the use of RDF/SB as fuel or raw material. **14. During the mechanical/thermal treatment to produce RDF/SB no chemical or other additives shall be used.** **15. In case residual waste from controlled combustion, gasification or mechanical/thermal is stored under anaerobic conditions and/or delivered to a landfill emissions from the residual waste shall to be taken into account using the first order decay model (FOD) described in AMS-III.G.** Considering that the project activity is not producing syngas, producer gas, RDF/SB or biodegradable organic residual waste and that the only purpose of burning the residual rice husk is electricity energy generation, none of the applicability conditions listed above are within this project scope and can, therefore, be neglected. *Justification of evidences:* In order to assess the applicability of the project, the PDD was reviewed and the applicability determination of the PDD was counterchecked against the criteria given in the applicability section of the methodologies. The information in the			

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	PDD was checked during on-site visit to proof that such information is valid and reflects the reality of the project. *Conclusion:* The justification of the compliance of the project with applicability criteria of the methodology is described in section B.1 of the PDD. However, CAR B1 was raised. See below. **(CL B1)** Please include and assessment of all project applicability conditions listed in AMS III.E (paragraphs 1 – 15) and applied tools.			
B.1.4. In case one or more applicability criteria have not been met, has the validation team requested clarification to, revision of or deviation from the methodology in accordance with the latest guidelines? (EB 55 Annex 1, §§ 72–75)	Not applicable		N/A	
B.1.5. Is the project in accordance with every other stipulation or requirement mentioned in all sections of the methodology and in guidances for approved methodologies provided by the CDM EB? (EB 55 Annex 1, § 69, 71) *Describe the steps taken to check whether the proposed project activity meets all the other possible stipulations and*	*Description:* The project activity applies the approved methodologies AMS I.D. and AMS.III. E. According to the "Tool to calculate project or leakage CO2 emissions from fossil fuel combustion" Option (b) was applied for the CO2 emission coefficient calculation utilized for the CO2 emissions calculation of the on-site fossil fuel usage. *Justification of evidences:* The PDD was reviewed and all methodological requirements were checked.	/PDD/ /AMS I.D./ /AMS III.E./ /TD/ /IM01/	OK	

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
/or limitations mentioned in all sections of the approved methodology selected.	*Conclusion:* All further stipulations and limitations were attended and no deviation could be found to this project activity.			
B.2. Project Boundaries *Project Boundaries are the limits and borders defining the GHG emission reduction project*				
B.2.1. Are the project's spatial boundaries (geographical) clearly defined? (EB 55 Annex 1, §§ 67(a), 78–80) *Provide information on how the validation of the geographical boundary has been performed either based on reviewed documented evidence or by describing what was observed/viewed during a site visit.*	*Description:* It is defined in section B.3 of the PDD that the spatial extent of the project boundary includes the physical and geographical sites where: • The renewable energy in generated – UTE São Borja facility; • The biomass residues would have been disposed in the baseline scenario – Rice husks disposal sites at the rice mills suppliers site; • The controlled combusted process of the biomass occurs – UTE São Borja power plant; • The ashes generated during the controlled burning will be disposed – UTE São Borja ashes disposal site installed inside the plant facility; • The itineraries between the rice husks suppliers and UTE São Borja facility. *Justification of evidences:* according to AMS I.D. and AMS III.E. the project boundary is the physical site of the renewable energy generation, the rice husks disposal site (rice mills), the generated ashes disposal site (UTE São Borja) and itineraries between the rice husks suppliers and UTE São Borja power plant.	/PDD/ /AMS I.D./ /AMS III.E./	OK	

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	Conclusion: The project boundary was correctly determined.			
B.2.2. Are all sources and GHGs included in the project boundary as required in the applied methodology? (EB 55 Annex 1, §§ 67(a), 78–80) *Provide information on how the validation of the GHGs and sources has been performed either based on reviewed documented evidence or by describing what was observed/viewed during a site visit.*	*Description:* Yes, all sources and GHGs required by AMS I.D. and AMS III.E. are included in the table in section B.3 of the PDD. *Justification of evidences:* The PDD was reviewed against the applied methodologies emissions considered emission sources. *Conclusion:* The sources are in compliance with the applied methodology as well as with the real situation. This could be validated by reviewing the PDD, AMS I.D. and AMS III.E. during the on-site visit.	/PDD/ /AMS I.D./ /AMS III.E./	OK	
B.2.3. In case the methodology allows to choose whether a source and/or gas is to be included, is the choice sufficiently explained and justified? (EB 55 Annex 1, §§ 67(a), 78–80) *Confirm if the justification provided by the PPs is reasonable, based on assessment of supporting documented evidence provided by the PPs or by onsite observations.*	*Description:* Yes, all methodological choices are clearly described in section B.6.3 of the PDD. *Justification of evidences:* The PDD was reviewed against the applied methodologies emissions considered emission sources *Conclusion:* All indicated sources are in compliance with the applied methodologies. This could be validated by reviewing the PDD, AMS I.D. and AMS III.E. during the on-site visit.	/PDD/ /AMS I.D./ /AMS III.E./	OK	

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
B.3. Baseline Identification *The choice of the baseline scenario will be validated with focus on whether the baseline is a likely scenario, and whether the methodology to define the baseline scenario has been followed in a complete and transparent manner.*				
B.3.1. What possible baseline scenarios have been considered? (EB 55 Annex 1, §§ 67(b), 83) *Fill in all alternatives in table A-2.*	*Description:* In the first version of the PDD the baseline has been described as requested in the Combined tool. Later the PP decided to not using the tool and defined the baseline correctly as per the applied methodology. The baseline is determined as per the applicable methodologies. Due to update of the latest EB requirements of this checklist the verification team decided to include the new baseline assessment in this chapter. AMS I.D: "…the baseline scenario is the electricity delivered to the grid by the project activity that otherwise would have been generated by the operation of grid-connected power plants and by the addition of new generation sources." AMS III.E: "Situation where, in absence of project activity, organic waste matter is left to decay within the project boundary and methane is emitted to the atmosphere. The yearly baseline emissions are the amount of methane that would have been emitted from the decay of the cumulative quantity of the waste diverted or removed from the disposal site, to date, by the project activity, calculated as the methane generation potential using the "Tool to determined methane emissions avoided from disposal of waste at a solid waste	/PDD/ /AMS I.D./ /AMS III.E./	OK	

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	disposal site." *Justification of evidences:* Section B.4 of the PDD provides an exact transcript of the baseline *Conclusion:* The baseline was determined by the methodologies.			
B.3.2. Is the list of alternatives complete? (EB 55 Annex 1, §§ 67(b), 83) *Describe how it was validated that all alternatives are plausible and no plausible alternative is excluded from the consideration*	☒ All plausible alternative scenarios listed in the approved methodology have been considered. In the course of document review and site visit, it has been validated that no other alternatives which supply comparable outputs and / or services are to be taken into consideration. Thus no plausible scenario has been omitted. ☐ The following alternative scenarios/options have been omitted. Corresponding CAR(s)/CL(s) has /have been issued	/PDD/ /AMS I.D./ /AMS III.E./	OK	
B.3.3. What has been identified as the baseline scenario? (EB 55 Annex 1, §§ 81–82, 86) *Describe the chosen BL scenario, taking into consideration the technology that would be employed and / or the activities that would take place in the absence of the proposed CDM project activity.*	*Description:* See B.3.1 *Justification of evidences:* *Conclusion:*	/PDD/ /AMS I.D./ /AMS III.E./	OK	
B.3.4. Has the baseline scenario been determined according to the methodology?	For details of the assessment regarding the evaluation of the baseline scenario pl. refer to table A-2.	/PDD/	OK	

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
(EB 55 Annex 1, §§ 82, 87(e)) *Describe how it is validated that the identification of the most plausible baseline scenario is carried out in accordance with the applied methodology and applied methodological tools. Please refer to table A-2.*	☒ The determination has been carried out as per the procedure contained in the applied methodology. ☐ The following CARs / CLs have been identified with respect to the selection of the baseline scenario:	/AMS I.D./ /AMS III.E./		
B.3.5. Has any plausible alternative scenario been excluded? (EB 55 Annex 1, § 83) *Describe how it is validated that no plausible alternative scenario has been excluded.*	For details of the assessment regarding the evaluation of the baseline scenario pl. refer to table A-2. ☒ No plausible baseline scenario has been excluded. ☐ The following plausible baseline scenarios have been excluded though no adequate justification has been provided for elimination. The following CARs / CLs have been issued:	/PDD/ /AMS I.D./ /AMS III.E./	OK	
B.3.6. Is the identified baseline scenario reasonable and has the baseline scenario been determined using conservative assumptions where possible, including relevant references and sources? (EB 55 Annex 1, §§ 84–86(a)–(c)) *Describe whether the choice of the identified baseline scenario is reasonable by validating the key assumptions, calculations and rationales used in the PDD. Describe whether these are listed, relevant and conservatively interpreted in the PDD.*	☒ The baseline scenario is reasonable and has been determined using conservative assumptions where possible. Please refer to comments in table A-2 and sections B.3.2 to B.3.5 above. ☐ The following CARs / CLs have been issued because assumptions used in the baseline determination have been assessed to be not conservative	/PDD/ /AMS I.D./ /AMS III.E./	OK	

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
B.3.7. Does the baseline scenario sufficiently take into account relevant national and/or sectoral policies, macro-economic trends and political aspirations? (EB 55 Annex 1, §§ 85, 87(d)) *Describe whether the PP has shown that all relevant policies and circumstances have been identified and correctly considered in the PDD in accordance with the guidance by the Board. Pl. consider the guidance EB 22 annex 3 (regarding E+ and E- policies).*	*Description:* Yes, all applicable National and local Laws and Regulation were taken into account. *Justification of evidences:* The baseline scenario is given in section B.4 of the PDD and it is clearly described. *Conclusion:* The PDD clearly described the laws and regulation existent for the baseline scenario and that they have been taken into account for baseline determination.	/PDD/ /AMS I.D./ /AMS III.E./	OK	
B.3.8. Is the baseline scenario determination compatible with the available data and are all literature and sources clearly referenced? (EB 55 Annex 1, § 87(a)–(c)) *Describe whether the documents and sources referred to in the PDD are correctly quoted and clearly referenced.*	*Description:* All data and literature do underline the plausibility of the baseline scenario. Further the baseline is pre-determined for the methodologies. *Justification of evidences:* Literature and host country experience. Definition by methodology *Conclusion:* The baseline has been defined correctly.	/PDD/ /AMS I.D./ /AMS III.E./	OK	
B.3.9. Does the PDD contain a *verifiable* description of the identified baseline scenario, including a description of the technology that would be employed and/or the activities that would take place in the absence of the proposed CDM project activity.	*Description:* Yes, the PDD contains verifiable description of the baseline. Further the baseline is pre-determined for the methodologies. In the absence of the CDM only the status quo would continue to exist. *Justification of evidences:* /PDD/	/PDD/ /AMS I.D./ /AMS III.E./	OK	

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
(EB 55 Annex 1, § 86)	*Conclusion:* The baseline description in the PDD is verifiable and correct.			
B.4. Additionality Determination *The assessment of additionality will be validated with focus on whether the project itself is not a likely baseline scenario.*				
B.4.1. Methodology				
B.4.1.1. Does the PDD describe how the project is additional and does the additionality justification follow the requirements of the applied methodology and/or methodological tools? (EB 55 Annex 1, §§ 67(d), 94–95) *Describe how it is validated that additionality justification is carried out in accordance with the applied methodology and/or applied methodological tools. Further focus your assessment on the reliability and credibility of data, rationales and assumptions, justifications and documentations provided by the PP.*	*Description:* The version 1 of the PDD uses the combined tool to determine baseline and additionality. Later they have been changed to apply the Attachment A to Appendix B for SSC projects. Raised findings needs to be closed before the validation team issues an definitive opinion, *Justification of evidences:* It was provided during site visit the financial spreadsheet with all supporting documents referenced. Additionally, the barrier analysis is detailed given in section B.5 of the PDD. *Conclusion:* **(CAR B1)** \ 1. All the parameters applied in the financial assessment (step 3 of section B.5 – Investment Analyses) should be detailed	/PDD/ /AMS I.D./ /AMS III.E./ /FD/	~~CAR B1~~ ~~CL B2~~	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	evidenced indicating the title of document/website/link referenced, page, paragraph, etc used for the identification of the parameter. Additionally, the period of the financial analysis adopted is lower than the identified 25 years of project lifetime based on the technical lifetime of the main equipments. Therefore, revision of the financial analyses lifetime or inclusion a fair value as a cash inflow at the end of the analysis period is necessary. (**CL B2)** Please reconsider whether the indicated barriers in section B.5 can be claimed for the project activity and if so, please revise the argumentation, in line with EB 50 Annex 13. Specially the following identified barriers are not yet convincing: • Extra pre-operating expenses related to the project activity due to longer fund raising period Please include reference of the given information and detailed analyses in the PDD table 9 for a proper assessment of all claimed barriers.			
B.4.2. Consideration of CDM before project start				
B.4.2.1. Is the project starting date reported in accordance with the CDM glossary of terms? (EB 55 Annex 1, § 99, 104(a)) *Assess why the chosen starting date can be considered as the earliest date at which either the implementation or construction or real action of a project has begun or will begin.*	*Description:* The project starting date was determined based on the issuing date of the close-end fund that will invest on the project (2009/08/26). *Justification of evidences:* Project funding prospectus. *Conclusion:* Please refer to the raise CL C1.	/PDD/ /SD/ /FD/	~~CAR C1~~	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
Check that no other activities related to the project that happened before the identified start date can be considered as start date. In this context please also take into consideration infrastructural expenses if they are relevant (in terms of costs and importance for the project implementation) in the specific context of the project activity. Appropriate evidence should be given.	**(CAR C1)** Section C.1.1: According to the CDM glossary of terms the proposed starting date cannot be the date when the prospectus was available to the investors. The PP is requested to change the starting date in accordance with the CDM glossary of terms. Further in the PDD it is stated that the construction start was on 17/07/2009 which is earlier than the publication of the fund prospectus.			
B.4.2.2. In case the project start date is on or after 2nd August 2008 has the PP informed the DNA and UNFCCC about the intension to seek CDM status? (EB 55 Annex 1, §§ 99–101) *Describe whether such a notification has been provided by the project participants within six months of the project activity start date; if NOT it shall be determined that the CDM was not seriously considered.*	*Description:* The project starting date is after 2nd August 2008. Therefore, it was sent formal notification of the intention to proceed with the project implementation both for the local DNA and UNFCCC. This changed after all CARs were closed. Real project start date is before 2nd August 2008. See section 4 +5 of the report. *Justification of evidences:* During on site visit it was provided the proof of receipt of the letter sent to the local DNA and the UNFCCC website was consulted confirming the formal communication to this organization. *Conclusion:* The intention to seek CDM status was correctly informed to UNFCCC and the local DNA. However, the finding below was raised. (CAR B2) It could be evidenced that the previous CDM notice sent to UNFCCC on 2009/4/17 states a different project name than the one indicated in the PDD. For consistency and transparency of the validation process the indicated names in PDD and previous CDM consideration must be identical. Revision is necessary.	/IM01/ /PC/ /unfccc/	~~CAR B2~~	OK
B.4.2.3. In case the project start date is before	*Description:* Not applicable as the project starting date (2009/08/26)	/PDD/	NA	

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
commencing of validation and 2nd August 2008, was the incentive from the CDM seriously considered and are details given in the PDD? (EB 55 Annex 1, §§ 100, 102) *Describe whether the evidence to support such consideration is adequately and transparently described in the PDD.*	is after the assignment of the validation process (2010/01/06). This changed after all CARs were closed. Real project start date is before 2nd August 2008. See section 4 +5 of the report. *Justification of evidences:* Project funding prospectus. *Conclusion:* Requirement not applicable.	/PC/ /FD/		
B.4.2.4. How and when was the decision to proceed with the project taken? *Describe the steps taken to validate the starting date.*	*Description:* please refer to raised CAR C1. This changed after all CARs were closed. Real project start date is before 2nd August 2008. See section 4 +5 of the report. *Justification of evidences:* *Conclusion:*	/PDD/ /SD/ /GCP/	~~CAR C1~~	OK
B.4.2.5. Is the project start date consistent with the available evidences? (EB 55 Annex 1, § 102) *Describe the evidence assessed regarding the prior consideration of the CDM (if necessary). Describe whether the evidence to support such consideration is adequately and transparently described in the PDD.*	*Description:* Please refer to raised CAR C1. This changed after all CARs were closed. Real project start date is before 2nd August 2008. See section 4 + 5 of the report. *Justification of evidences:* *Conclusion:*	/PDD/ /GCP/ /SD/	~~CAR C1~~	OK
B.4.2.6. Was the decision to proceed with the project taken by a person which has the	*Description:* Yes, the CEO (Albert Ramcke).	/PDD/	~~CAR C1~~	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
authority to do so? (EB 55 Annex 1, § 102(a) *Describe the steps taken to validate this issue.*	This changed after all CARs were closed. Real project start date is before 2nd August 2008. See section 4 + 5 of the report. *Justification of evidences:* Project funding prospectus. *Conclusion:* The decision was taken by people with authority to do so.	/SD/		
B.4.2.7. How was the CDM involved in the decision making process? (EB 55 Annex 1, § 102) *Describe why CDM was a decisive factor in the decision making process.*	*Description:* Please refer to raised CAR C1. This changed after all CARs were closed. Real project start date is before 2nd August 2008. See section 4 + 5 of the report. *Justification of evidences:* *Conclusion:*	/PDD/ /GCP/ /SD/	~~CAR C1~~	OK
B.4.2.8. Do the evidences provided doubtlessly prove that continuous and real actions were taken in order to secure the CDM status? (EB 55 Annex 1, § 102; EB 62 Annex 13 § 7)	*Description:* Please refer to raised CAR C1. This changed after all CARs were closed. Real project start date is before 2nd August 2008. See section 4 + 5 of the report. *Justification of evidences:* *Conclusion:*	/PDD/ /GCP/ /SD/	~~CAR C1~~	OK
B.4.2.9. Is the gap of documented evidences to secure the CDM status less than 3 years and are the evidences relevant for	*Description:* Please refer to raised CAR C1. This changed after all CARs were closed. Real project start date is before 2nd August 2008. See section 4 + 5 of the report.	/PDD/ /GCP/	~~CAR C1~~	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
substantiating the action taken, credible, reliable and complete? (EB 62 Annex 13 § 8)	*Justification of evidences:* *Conclusion:*	/SD/		
B.4.2.10. Did implementation of the project ceased after its commencement and did implementation recommence after consideration of the CDM? (EB 62 Annex 5, § 7) *Describe the reasons for ceasing the project and explain why the incentive from CDM was necessary to recommence the implementation.*	*Description:* Please refer to raised CAR C1. This changed after all CARs were closed. Real project start date is before 2nd August 2008. See section 4 + 5 of the report. *Justification of evidences:* *Conclusion:*	/PDD/ /GCP/ /SD/	~~CAR C1~~	OK
B.4.2.11. Can the CDM involvement in the decision assessed as serious? (EB 55 Annex 1, § 104(b)–(c)) *Describe whether or not the project would have been undertaken without the incentive of the CDM.*	*Description:* Please refer to raised CAR C1. This changed after all CARs were closed. Real project start date is before 2nd August 2008. See section 4 + 5 of the report. *Justification of evidences:* *Conclusion:*	/PDD/ /GCP/ /SD/	~~CAR C1~~	OK
B.4.3. Identification of alternatives Step 1 (in case of SSC projects pl. skip steps 1 and 2 if appropriate)				
B.4.3.1. Does the list of alternatives contain the status-quo situation, the project not undertaken as a CDM project as well as all	*Description:* Not applicable as it is a small scale project activity.	NA		

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
other viable means of supplying the outputs or sevices that are to be supplied by the proposed CDM project activity? (EB 55 Annex 1, §§ 105–107) *Describe the steps taken to validate this issue on the basis of your local and sectoral knowledge.*	*Justification of evidences:* *Conclusion:*			
B.4.3.2. Have all realistic alternatives been identified to the project? (EB 55 Annex 1, §§ 105–107) *Describe whether the list of alternatives is credible and complete. Describe how it is validated that the alternatives are realistic.*	*Description:* Not applicable as it is a small scale project activity. *Justification of evidences:* *Conclusion:*	NA		
B.4.3.3. Do all identified alternatives comply with enforced legislations? (EB 55 Annex 1, §§ 106(c)) *Describe the steps taken to validate this issue. Refer to the legislations.*	*Description:* Not applicable as it is a small scale project activity. *Justification of evidences:* *Conclusion:*	NA		
B.4.4. Investment analysis Step 2				

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
In case the investment analysis as per step 2 is chosen to justify the additionality Annex 2 "Assessment of Financial Parameters" has to be used to provide additonal details of the the calculation parameters..				
B.4.4.1. Does the PDD provide evidence that the project would not be the most economically or financially attractive alternative or economically / financially feasable without the revenues from the sale of CERs? (EB 55 Annex 1, § 108)	*Description:* So far no assessment of the provided investment analysis calculation is possible. Please see CAR B1. Follow complete assessment of investment analysis in section B.5 and list of parameters in annex of this report. *Justification of evidences:* *Conclusion:* **(CAR B1)** \ All the parameters applied in the financial assessment (step 3 of section B.5 – Investment Analyses) should be detailed evidenced indicating the title of document/website/link referenced, page, paragraph, etc used for the identification of the parameter. Proper and transparent formulas shall be applied. Additionally, the period of the financial analysis adopted is lower than the identified 25 years of project lifetime based on the technical lifetime of the main equipments. Therefore, revision of the financial analyses lifetime or inclusion a fair value as a cash inflow at the end of the analysis period is necessary.	/XLS/ /PDD/	~~CAR B1~~	
B.4.4.2. Is an appropriate analysis method chosen	*Description:* So far no assessment of the provided investment	/XLS/	~~CAR~~	

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
for the project (simple cost analysis, investment comparison analysis or benchmark analysis)? (EB 55 Annex 1, § 108; EB 39 Annex 10) *Describe why the selected analysis method is appropriate under consideration of potential revenues and costs, potential project alternatives and potential available benchmark values.*	analysis calculation is possible. Please see CAR B1 *Justification of evidences:* *Conclusion:*	/PDD/	~~B1~~	
B.4.4.3. Is a clear, viewable and unprotected Excel spreadsheet available for the investment calculation? (EB 55 Annex 1, § 110; EB 51, Annex 58, §8) *Describe the steps taken to validate this issue.*	☐ Yes, a clear, viewable and unprotected Excel spreadsheet is available. ☒ No, a respective Excel spreadsheet needs to be made available for investment calculation. In this context the following additional findings have been identified: CAR B1	/XLS/ /PDD/	~~CAR B1~~	
B.4.4.4. Does the period chosen for the investment analysis reflect the technical lifetime of the project activity or in case a shorter period is chosen, is the fair value of the project activity's assets at the end of the investment analysis period (as a cash inflow) included? (EB 55 Annex 1, § 109; EB 62 Annex 5, § 3 – 4) *Describe how the technical lifetime / period chosen for*	*Description:* See CAR B1 *Justification of evidences:* *Conclusion:*	/XLS/ /PDD/	~~CAR B1~~	

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calculating financial parameter(s) is reviewed and which documents were utilised in the course of review. Describe furthermore the approach used to check the inclusion of a potential fair value.				
B.4.4.5. Is the (remaining) technical lifetime of existing or project equipment defined in accordance with the guidance of the *Tool to determine the remaining lifetime of equipment*? (EB 50 Annex 15)	*Description:* See CAR B1 *Justification of evidences:* *Conclusion:*	/XLS/ /PDD/	~~CAR B1~~	
B.4.4.6. Is the fair value calculated in accordance with local accounting regulations (where available) or international best practice? (EB 55 Annex 1, § 109; EB 62 Annex 5, § 4) *State the accounting regulations applied for calculating the fair value and describe why these are applicable under the project specific circumstances. Describe potential mismatches between regulations and the approach applied for calculating the fair value.*	*Description:* See CAR B1 *Justification of evidences:* *Conclusion:*	/XLS/ /PDD/	~~CAR B1~~	
B.4.4.7. Is the book value as well as the expectation of the potential profit or loss included in the fair value calculation? (EB 55 Annex 1, § 109; EB 62 Annex 5, § 4)	*Description:* See CAR B1 *Justification of evidences:*	/XLS/ /PDD/	~~CAR B1~~	

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	Conclusion:			
B.4.4.8. Are depreciation and other non-cash related items only considered in the tax calculation and not as cash outflow? (EB 55 Annex 1, § 109; EB 62 Annex 5, § 5)	*Description:* See CAR B1 *Justification of evidences:* *Conclusion:*	/XLS/ /PDD/	~~CAR B1~~	
B.4.4.9. Were the input values used in the investment analysis valid and applicable at the time of the investment decision? (EB 55 Annex 1, § 109,112; EB 62 Annex 5, § 6) *In case the basis for input values is a Feasibility Study Report (FSR) describe how it has been ensured that the period in time between the finalisation of the FSR and the investment decision is sufficiently short so that it is unlikely that input values would have materially changed. Further confirm the consistency of values in FSR and PDD.*	*Description:* See CAR B1 *Justification of evidences:* *Conclusion:*	/XLS/ /PDD/	~~CAR B1~~	
B.4.4.10. Is the plant load factor (PLF) chosen in a conservative manner, taking into account that the PLF may be different in the framework of demonstrating additionality and calculating the ex-ante ER? (EB 48, Annex 11)	*Description:* See CAR B1 *Justification of evidences:* *Conclusion:*	/XLS/ /PDD/	~~CAR B1~~	
B.4.4.11. In case of project IRR: Are the costs of financing expenditures (loan repayments	☐ N/A	/XLS/	~~CAR B1~~	

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and interests) excluded from the calculation of project IRR? (EB 55 Annex 1, § 109; EB 62 Annex 5, § 9)	☐ Yes, the costs of financing expenditures have been included. ☐ No, this requirement is not met. In this context the following additional findings have been identified: See CAR B1	/PDD/		
B.4.4.12. In cases where a post-tax benchmark is applied please ensure that actual interest payable is taken into account in the calculation of income tax. (EB 55 Annex 1, § 109; EB 62 Annex 5, § 11) *If this is not the case, ensure that taxation is excluded from the investment analysis.* *As per the guidance it is recommended to select a pre tax benchmark in order to describe the steps taken in assessing this requirment.*	☐ N/A ☐ Yes, the interest has been taken into account. ☐ No, this requirement is not met. In this context the following additional findings have been identified: See CAR B1	/XLS/ /PDD/	~~CAR B1~~	
B.4.4.13. In case of equity IRR: Is the part of the investment costs, which is financed by equity, considered as net cash outflow and is the part financed by debt excluded in net cash outflow? (EB 55 Annex 1, § 109; EB 62 Annex 5, § 10)	☐ N/A ☐ Yes, in- and outflows have been considered correctly. ☐ No, this requirement is not met. In this context the following additional findings have been identified: See CAR B1	/XLS/ /PDD/	~~CAR B1~~	
B.4.4.14. Is the type of benchmark chosen appropriate for the type of IRR calculated (e.g. local commercial lending rates or	*Description:* See CAR B1	/XLS/ /PDD/	~~CAR B1~~	

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weighted average costs of capital for project IRR; required/expected returns on equity for equity IRR)? (EB 55 Annex 1, § 111; EB 62 Annex 5, §§12 – 18) *In case risk premiums are applied precisely describe its suitability to reflect the risks associated with the project activity, considering the project type and market situation.*	*Justification of evidences:* *Conclusion:*			
B.4.4.15. Is the benchmark value suitable for the project activity and is it reasonable to assume that no investment would be made at a rate of a lower return than the benchmark? (EB 55 Annex 1, § 109; EB 62 Annex 5, §§13 – 18) *Describe whether it is reasonable to assume that a lower rate of return would consequently result in the baseline scenario.*	*Description:* See CAR B1 *Justification of evidences:* *Conclusion:*	/XLS/ /PDD/	~~CAR B1~~	
B.4.4.16. Is it ensured that the project cannot be developed by other developers than the PP? (EB 55 Annex 1 § 109; EB 62 Annex 5, §§ 13 – 14) *Describe why the benchmark does not include the subjective profitability expectations or risk profile of the project developer. If applicable assess the past financial behavior of the entity during at least the last 3 years in relation to similar projects.*	*Description:* See CAR B1 *Justification of evidences:* *Conclusion:*	/XLS/ /PDD/	~~CAR B1~~	
B.4.4.17. Was the benchmark consistently used in the past for similar projects with similar	*Description:* See CAR B1	/XLS/ /PDD/	~~CAR B1~~	

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
risks? (EB 55 Annex 1, § 112(c))	*Justification of evidences:* *Conclusion:*			
B.4.4.18. Does the PDD and related spreadsheets contain a sensitivity analyis and does the same contain variation of parameters which may vary throughout the project lifetime, (EB 55 Annex 1, §§ 109–110(e); EB 62 Annex 5, § 20-21) *Describe relevance of parameters used in the sensitivity analysis as well as their likeliness to vary during the project's lifetime. Parameters which are fixed on the basis of contracts, PPAs etc. may not be subject to variation and not adequate.*	*Description:* See CAR B1 *Justification of evidences:* *Conclusion:*	/XLS/ /PDD/	~~CAR B1~~	
B.4.4.19. Were only variables that constitute more than 20% of either total project costs or total project revenues subjected to reasonable variation? (EB 55 Annex 1, § 109; EB 62 Annex 5, § 20)	*Description:* See CAR B1 *Justification of evidences:* *Conclusion:*	/XLS/ /PDD/	~~CAR B1~~	
B.4.4.20. Have parameters, constituting less than 20% of total project costs or revenues, been identified with potential material impact on the financial parameter?	*Description:* See CAR B1 *Justification of evidences:*	/XLS/ /PDD/	~~CAR B1~~	

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
(EB 55 Annex 1, § 109; EB 62 Annex 5, § 20) *Describe whether those parameters are considered in the sensitivity analysis?*	*Conclusion:*			
B.4.4.21. Is the range of variation reasonable in the specific context of the project activity, taking into consideration historic trends in the business sector? (EB 55 Annex 1, § 109; EB 62 Annex 5, § 21) *Describe whether the range of variation is appropriate with focus on historic developments, e.g. price of oil / labour etc., energy potential in the region in question.*	*Description:* See CAR B1 *Justification of evidences:* *Conclusion:*	/XLS/ /PDD/	~~CAR B1~~	
B.4.5. **Barrier analysis Step 3 or SSC additionality assessment**				
B.4.5.1. Are there any barriers given which have a clear and direct impact on the financial returns of the project? (EB 55 Annex 1, §§ 115, 134, 137) *In case of LSC projects those issues cannot be considered as barriers and shall be assessed in the investment analysis. In case of SSC projects the same fundamentals as for LSC projects shall apply, i.e. the assessment of the investment barrier according to EB 62 Annex 5.*	*Description:* Yes, the investment barrier gives a clear and direct impact on the financial returns. A detailed description and assessment of the barriers is carried out in Annex 4 below, Table A-4. A detailed assessment of the investment barrier is carried out in Annex 3, Table A-3. *Justification of evidences:* A detailed description and assessment of the barriers and evidences is carried out in Annex 4, Table A-4 and Annex 3, Table A-3. *Conclusion:* The financial barrier has a clear and direct impact on the financial returns of the project and it is assessed according to	/PDD/ /FD/ /IM01/ /XLS/	~~CL B2~~	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	the "Combined tool to identify the baseline scenario and demonstrate additionality" and the financial parameters are assessed in detail in Table A-3 of Annex 3 below. However, the following findings were raised: **(CL B2)** Please reconsider whether the indicated barriers in section B.5 can be claimed for the project activity and if so, please revise the argumentation, in line with EB 50 Annex 13. Specially the following identified barriers are not yet convincing: • Extra pre-operating expenses related to the project activity due to longer fund raising period Please include reference of the given information and detailed analyses in the PDD table 9 for a proper assessment of all claimed barriers.			
B.4.5.2. Are the barriers described risk related (e.g technology failure, other performance related risks)? (EB 55 Annex 1, §§ 116, 134, 137) *Are there other barriers or barriers due to prevailing practice existent which would have led to higher emissions?*	*Description:* Not all claimed barriers could be properly assessed. Therefore, CL B2 was raised. Please refer to topic above. *Justification of evidences:* A detailed description and assessment of the barriers and evidences is carried out in Annex 4, Table A-4 and Annex 3, Table A-3. *Conclusion:* CL B2 was raised.	/PDD/ /IM01/	~~CL B2~~	OK
B.4.5.3. Has the unavailabilty of means of finance for the proejct been described and adequately substantiated? Do evidences doubtlessly prove that the financing of the	*Description:* A detailed description and assessment of the barriers is carried out in Annex 4 below, Table A-4. However, CAR B1 and CL B2 were raised. Please see comment just above.	/PDD/ /FD/ /IM01/	~~CL B2~~	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
project was assured only due to the benefit of the CDM? (EB 55 Annex 1, §§ 116, 137, EB 50 Annex 13, § 9)	*Justification of evidences:* A detailed description and assessment of the barriers is carried out in Annex 4, Table A-4 below. *Conclusion:* Some findings have been raised and need to be closed to reach a conclusion.	/XLS/		
B.4.5.4. How is it justified and evidenced that the barriers given in the PDD are real? (EB 55 Annex 1, § 116(a))	*Description:* A detailed description and assessment of the barriers is carried out in Annex 4 below, Table A-4. However, CAR B1 and CL B2 were raised. Please see comment just above. *Justification of evidences:* A detailed description and assessment of the barriers is carried out in Annex 4, Table A-4 below. *Conclusion:* Some findings have been raised and need to be closed to reach a conclusion.	/PDD/ /FD/ /IM01/ /XLS/	~~CL B2~~	OK
B.4.5.5. How is it justified that one or a set of real barriers prevent(s) the implementation of the project activity and do not prevent the implementation of at least one of the alternatives? (EB 55 Annex 1, § 116(b))	*Description:* A detailed description and assessment of the barriers is carried out in Annex 4 below, Table A-4. However, CAR B1 and CL B2 were raised. Please see comment just above. *Justification of evidences:* A detailed description and assessment of the barriers is carried out in Annex 4, Table A-4 below. *Conclusion:* Some findings have been raised and need to be closed to reach a conclusion.	/PDD/ /FD/ /IM01/ /XLS/	~~CL B2~~	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
B.4.5.6. Does the review of relevant background information on the nature of the company(ies) and entitiy(ies) involved in the financing and implementation of the project sufficiently justify that the barriers related to the lack of access to capital, technologies and skilled labour are real? (EB 50 Annex 13, § 4)	*Description:* No such barriers have been observed for the project activity. *Justification of evidences:* *Conclusion:*	NA	NA	
B.4.5.7. Has it been demonstrated in an objective way how the CDM alleviates each of the identified barriers to a level that the project is not prevented anymore from occurring by any of the barriers? (EB 50 Annex 13, § 5)	*Description:* A detailed description and assessment of the barriers is carried out in Annex 4 below, Table A-4. However, CAR B1 and CL B2 were raised. Please see comment just above. *Justification of evidences:* A detailed description and assessment of the barriers is carried out in Annex 4, Table A-4 below. *Conclusion:* Some findings have been raised and need to be closed to reach a conclusion.	/PDD/ /FD/ /IM01/ /XLS/	~~CL B2~~	OK
B.4.5.8. Would provision of additional financial means lead to the mitigation of the barrier(s) demonstrated? (EB 50 Annex 13, § 7) *Describe why provision of additional financial means would not lead to mitigation of the barrier(s) demonstrated and hence analysing the project's additionality within the framework of an investment analysis is inappropriate. .*	The barrier is a financial barrier, it has been shown using an investment analysis, thus this point is not applicable to the project activity.	NA	NA	

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
B.4.6. Common practice analysis Step 4 (in case of SSC projects skip this step)				
B.4.6.1. Is the defined region for the common practice analysis appropriate for the technology/industry type? (EB 55 Annex 1, § 120(a)) *Describe why the project activity is not common practice in a transparent and unambiguous manner. If a region other than the entire host country is chosen, describe why this region is more appropriate.*	*Description:* No Common practice analysis has been carried out. This is appropriate for SSC CDM project activities. *Justification of evidences:* *Conclusion:*	NA		
B.4.6.2. To what extent similar projects have been undertaken in the relevant region? (EB 55 Annex 1, § 120(b))	*Description:* No Common practice analysis has been carried out. This is appropriate for SSC CDM project activities. *Justification of evidences:* *Conclusion:*	NA		
B.4.6.3. In case similar projects are identified, are there any key differences between the proposed project and existing or ongoing projects and what kind of differences are observed? (EB 55 Annex 1, § 120(c))	*Description:* No Common practice analysis has been carried out. This is appropriate for SSC CDM project activities. *Justification of evidences:* *Conclusion:*	NA		

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
B.5. Ex-Ante Calculation of GHG Emission Reductions *It is assessed whether the ex-ante calculations of project emissions, baseline emissions, leakage emissions are stated according to the methodology and whether the argumentation for the choice of default factors and values – where applicable – is justified. Furthermore calculation of emission reductions shall be assessed.*				
B.5.1. Are the equations applied correctly according to the applied approved methodology? (EB 55 Annex 1, §§ 67(c), 89–90, 92) *Describe clearly the steps taken to assess whether the methodology has been applied correctly to calculate project emissions, baseline emissions, leakage and emission reductions. Further take into consideration that all estimates of the baseline emissions can be replicated using the data and parameter values provided in the PDD.*	☐ The equations applied for calculation are correctly applied according to the approved methodology. ☒ The following mistakes have been identified in this context: *Description:* For further transparency, CL B3 was raised. See below. *Justification of evidences:* See findings raised below. *Conclusion:* **(CL B3)** In section B.6.1, please include an assessment of all possible project activity emissions as defined in paragraph 17 of AMS III.E; In case fossil fuel are used at the project site option (c) of the methodology should be considered. Clarification is necessary and revision of PDD if applicable.	/PDD/ /AMS I.D./ /AMS III.E./	~~CL B3~~	OK
B.5.2. In case the methodology allows for different	*Description:* According AMS I.D, the CO2 emission factor for the	/PDD/	OK	

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
methodological choices, are the equations applied properly justified and have they been used reflecting the other methodological choices (i.e. baseline identification)? (EB 55 Annex 1, §§ 90–91) *Assess the correct selection and application of methodological choices. Describe whether proper justification has been provided (based on the choice of the baseline scenario, context of the project activity and other evidence provided) and whether the correct equations have been used reflecting the relevant methodological choices.*	electricity displaced from the grid was calculated applying the "Tool to calculate the emission factor for an electricity system" and it is used for the baseline emission identification. The Brazilian DNA is responsible for the calculation of the build and operating margins of the National grid EF. According to the tool mentioned above projects that are not wind or solar power based, for the first crediting period $\mathbf{w_{OM}}$ **=**$\mathbf{w_{BM}}$ = 0.5. Additionally, the latest available data from the Brazilian DNA (2008) shows the value of 0,1458 for the $\mathbf{EF_{grid,BM,y}}$ and average of 0,476575 for the $\mathbf{EF_{grid,OM,y}}$. Therefore, the identified combined margin emissions factor ($\mathbf{EF_{grid,CM,y}}$) is 0,3112. AMS III. E. indicates that the CO2 emission coefficient $\mathbf{COEF_{i,y}}$ can be calculated using two different options. Option (b) – based on net calorific value and CO2 emission factor of the fossil fuel type – was used. The baseline emissions for AMS.III.E have been correctly calculated as per the first order decay model to calculate methane avoidance over the CP. *Justification of evidences:* Project developer choices reported on the PDD. *Conclusion:* The option made considering the applied methodologies were correctly done. No deviation could be found.	/AMS I.D./ /AMS III.E./		
B.5.3. Have conservative assumptions been used when calculating the project emissions? (EB 55 Annex 1, §§ 90–91) *Describe clearly the steps taken to assess whether all the assumptions and data used by the PP are listed in the PDD*	*Description:* According to AMS I.D. renewable energy generation projects project emission can be neglected. However, AMS III.E. indicates three different types of project emissions, which are separately assessed bellow: **d. CO2 emissions related to the gasification and combustion**	/PDD/ /AMS I.D./ /AMS III.E./	~~CL B3~~	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
including references and sources and are conservatively interpreted in the PDD.	**of the non-biomass carbon content of the waste (plastics, rubber and fossil derived carbon) or RDF/SB and auxiliary fossil fuels used in the combustion, gasification or mechanical/thermal treatment facility;** The project activity is only burning rice husk. The auxiliary fuel used for the plant start up is consider in option (c) bellow. Therefore this PE is not considered. **e. CO_2 emissions from the incremental distances between the collection points of the rice husk to the project site as compared to the baseline disposal site and CO_2 emissions from the transportation of combustion residues and final waste from controlled burning to disposal site ($PE_{y,transp}$),** Four different types of emission sources are considered for the CO2 emission related to the incremental distance. Since this project acticity does not predict to produce RDF/ SB and the produced ashes will be internally stored, the only emission source considered is the incremental distance of the rice husk transportation in the project scenario compared with the baseline scenario. The distances considered were conservatively identified. **f. CO2 emissions related to the fossil fuel and/or electricity consumed by the project activity facilities ($PE_{y,power}$).** The "Tool to calculate project or leakage CO2 emissions from fossil fuel combustion" is applied for this emission source calculation. As mentioned above, the parameter **$COEF_{i,y}$** will be detremined applying option (b) of the tool. The applied values of net calorific value and CO2 emission factor of the fuel were conservatively identified in the ER calculation.			

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	Justification of evidences: PDD and supporting evidences [provided. Please refer to table 7-1. *Conclusion:* **(CL B3)** In section B.6.1, please include an assessment of all possible project activity emissions as defined in paragraph 17 of AMS III.E; In case fossil fuel are used at the project site option (c) of the methodology should be considered. Clarification is necessary and revision of PDD if applicable.			
B.5.4. Does the implementation of the project activity lead to GHG emissions within the project boundary which are expected to contribute more than 1% of the overall expected average annual emission reductions, which are not addressed by the methodology? (EB 55 Annex 1, § 77)	*Description:* No other emission sources than those described in the methodology have been identified. *Justification of evidences:* The PDD was reviewed and the project site was inspected during site visit. *Conclusion:* It can be reasonably assumed that there are no GHG emissions within the project boundary which are expected to contribute to more than 1% of the overall expected average annual emission reductions.	/PDD/ /AMS I.D./ /AMS III.E./ /IM01/	OK	
B.5.4.1. Has a plant load factor (PLF) been defined ex-ante and considered for determination of baseline emissions? (EB 48 Annex 11, §§ 1, 3–4) *Describe why the PLF is conservative in the framework of calculating emissions reductions and whether the PLF is the same in the framework of demonstrating additionality by applying the investment analysis. Note, in order to be conservative in both*	*Yes, a plant load factor has been defined ex-ante in for of operation hours per year. 7,387 h per year have been determined as running hours of the plant. This reflects 10 month per year of operation.* *In the rice production there is a two month long break in production due to growth and harvesting conditions during the year. In these two month the rice farmers keep their rest stock of rice husk by themselves to dry rice.*	/PDD/ /FD/	OK	

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
cases the PLF may be different.	*This rice husk availability has also been set down in the delivery contracts between the PP and the producers. It must be assumed that within two moth of the year no rice husk combustion will take place. This gap will be used by the PP for maintenance of the plant.* *The verification team considers the given PLF as realistic.*			
B.5.5. Are all data sources and assumptions appropriate and parameters which remain fixed throughout the crediting period correct, applicable to the project and will lead to a conservative estimation of emission reductions? (EB 55 Annex 1, § 91) *Describe clearly the steps taken to assess whether the values used for the fixed parameters are considered reasonable, correct and applicable in the context of the project activity. Check esp. chapter 6.2 of the PDD.*	*Description:* More detailed information was solicited regarding the fixed parameters identification. CL B4 was raised. *Justification of evidences:* See CL B4 below. *Conclusion:* **(CL B4)** In section B.6.2, please: • Exclude the parameter **f**, "*Fraction of methane captured at the SWDS and flared combusted or used in another manner*", as this is a monitored parameter and should be indicated in section B.7.1. • Include the parameter **specific fuel consumption** as requested by the applied methodology paragraph 18 AMS I.D. • Include the **MCF factor** as requested by the "*Tool to determine methane emissions avoided from disposal of waste at a solid waste disposal site*" applicable to AMS III.E. Moreover, please exclude the parameter of section B.7.1 of PDD. • Include the parameter $\mathbf{w_{OM}}$, $\mathbf{w_{BM}}$ as solicited in the applicable tool "*Tool to calculate emission factor from an electricity system*". • The parameter **GWPCH4** should be mentioned in section B.7.1	/PDD/ /AMS I.D./ /AMS III.E./ /IM01/	~~CL B4~~	OK

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	instead of B.6.2 as it is monitored according to the applicable methodology. Revesion is necessary.			
B.5.6. Are all ex-ante calculation values for monitoring parameters (as defined as per chapter B.7.1) reasonable? (EB 55 Annex 1, § 91) *Describe clearly the steps taken to assess whether the values used for the monitoring parameters are considered reasonable, applicable and conservative in the context of the project activity*	☐ All "Values of data to be applied for the purpose of calculating expected emissions reductions" are considered to be reasonable, applicable and conservative. ☒ The following mistakes have been identified in this context: **(CL B5)** In section B.7.1, please: • Exclude the **MCF factor** as it is not a monitored parameter. • Include more detailed information with respect to the monitoring equipments (meters and balance): type (model or at least specify accuracy class or max error range), quantity, function (main and backup), location, nature (uni or bidirectional). • Refer to paragraph 28 of AMS III.E. It is necessary to include the parameter $\mathbf{Q_{,non\text{-}biomass}}$ as monitored. • Include the parameter **GWPCH4** as monitored parameters as requested by the "*Tool to determine methane emissions avoided from disposal of waste at a solid waste disposal site*". • Include the parameter "**f**" as requested by the "*Tool to determine methane emissions avoided from disposal of waste at a solid waste disposal site*". • Include the parameters $\mathbf{Q_{y,ash}}$ and $\mathbf{CT_{y,ash}}$ as monitored parameters as defined in the applied methodology AMS III.E. • The EF of the grid is calculated as a combined margin based	/PDD/ /AMS I.D./ /AMS III.E./ /IM01/	~~CL B5~~	OK

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	on the weighted average of the build and operation margins. Therefore, please include the build and operation margins EFs as monitored parameters. Additionally, the parameter **$EF_{grid,CO2}$** can be excluded from this section as its calculation approach is clearly described in section B.6.3 of the PDD.			
B.5.7. Are the emission reductions real, measurable and give long-term benefits related to the mitigation of climate change. *Describe the steps taken to validate this issue.*	*Description:* Several CARs and CLs have been raised and have to be closed out before forming an opinion. *Justification of evidences:* see comment above. *Conclusion:* please refer to the CARs and CLs raised.	/PDD/ /XLS/	~~Not OK~~	OK
B.6. Monitoring of Emission Reductions *It is assessed whether the monitoring plan is appropriate for the project activity and in line with the applied methodology.*				
B.6.1. Are all monitoring parameters required by the applied methodology contained in the monitoring plan? (EB 55 Annex 1, §§ 67(e), 121, 123(a), 124) *Assess whether all applicable parameters listed in the methodology are included in the monitoring plan.* *Pl. check further whether the selection of parameters not to be monitored (section B.6.2) is appropriate and in line with*	*Description:* Almost all of the requested monitoring parameters are correctly described in section B.7.1 of the PDD. However, CL B5 was raised soliciting more detailed information regarding the monitoring plan. *Justification of evidences:* The PDD and technical data of the project was reviewed in detail.	/PDD/ /AMS I.D./ /AMS III.E./ /IM01/	~~CL B5~~	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
the applied methodology. *In case of different approaches can be chosen acc. to the methodology assess whether the selection of parameters is justified and correct.*	*Conclusion:* CL B5 was raised.			
B.6.2. Are the means of monitoring of all parameters contained in the monitoring plan feasible and in accordance with the requirements of the applied methodology? (EB 55 Annex 1, § 123(a)–(b), 124) *Assess whether the provided information for all parameters w.r.t.* *a) Label (name of the data / parameter)* *b) data unit* c) *description* d) *source of data* e) *measurement equipment / method / procedure* f) *monitoring frequency* g) *QA/QC procedures* *are appropriately described and in compliance with the requirements of the methodology..*	*Description:* As detailed above, CL B5 was raised requesting more information regarding the monitoring parameters. Moreover, the monitoring plan given in section B.7.2 of the PDD needs to be more precisely given as solicited in the raised CL B6. *Justification of evidences:* the PDD was reviewed in detail against the requirements of AMS I.D., AMS. III.E. and considering the context of the project. *Conclusion:* **(CL B6)** In section B.7.2, please include brief statement about data substitution procedures (backup monitoring procedures/equipments).	/PDD/ /AMS I.D./ /AMS III.E./ /IM01/	~~CL B5~~ ~~CL B6~~	OK
B.6.3. Are all parameters presented as per international standards? *a) Format: Standard format (e.g. 1,000 representing*	☐ Standard formats have been used ☐ SI units were used – or added	/PDD/ /XLS/	CL B11	

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
one thousand and 1.0 representing one). *b) Units: Values shall be directly given in SI units – or additionally to original units transferred to SI.* *c) Short scale naming system: (Only) million = 10^6 and billion 10^9 shall be used.* *Please refer to the International System of Units (SI) as published within Guidance 11/08.*	☐ The short scale naming is correct In this context the following additional findings have been identified: A CL has been opened to include Si format to all data and values in the PDD.			
B.6.4. Have all means of implementing the monitoring plan, e.g. equations necessary for ex-post emission reduction calculation, been described clearly and in line with the methodology? (EB 55 Annex 1, §§ 123(b), 124) *Check whether all necessary equations have been provided in the PDD. Pl. consider that ex-post and ex-ante calculations might be different.* *Please consider that additional equations might be necessary to calculate auxiliary parameters.*	*Description:* Equations for ER calculation have been clearly described in the PDD. Further CL B5 and B6 were raised. See below. *Justification of evidences:* the PDD was reviewed in detail against the requirements of AMS I.D., AMS. III.E. and considering the context of the project. *Conclusion:* Equations and formulas are ok, NeverthelessCL B5 and CL B6 were raised.	/PDD/ /AMS I.D./ /AMS III.E./ /IM01/	~~CL B5~~ ~~CL B6~~	OK
B.6.5. Is it likely that the monitoring arrangements described in the PDD can properly be implemented in the context of the project activity? (EB 55 Annex 1, § 124(c)) *Assess whether the described monitoring arrangements are sufficient and realistic to enable a thorough monitoring. Pl.*	*Description:* Findings above need to be closed before forming an opinion. *Justification of evidences:* Sections B.7.1 and B.7.2 was reviewed in detail.	/PDD/ /AMS I.D./ /AMS	~~CL B5~~ ~~CL B6~~	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
consider also special monitoring conditions, e.g. downtimes of monitoring equipment etc.	*Conclusion:* Not yet possible to reach a conclusion.	III.E./ /IM01/		
B.6.6. Are the QA/QC procedures appropriate sufficient to ensure the emission reductions achieved from the project activit can be reported ex-post and verified? (EB 55 Annex 1, § 124(b)) *Please consider the description given in section B.7.2. Describe which QA/QC provisions are considered. Address Quality Management System provisions, calibration and maintenance of equipment. Address further any review procedures.*	*Description:* It is important to note that UTE hired a third party company (Dalkia) to be responsible for the plant operation and data management plan. However, CLs B5 and B6 were raised above. Please refer to it. *Justification of evidences:* See CL B5 and CL B6 *Conclusion:* CL B5 and CL B6 were raised.	/PDD/ /AMS I.D./ /AMS III.E./ /IM01/	~~CL B5~~ ~~CL B6~~	OK
B.6.7. Are procedures identified for data management? (EB 55 Annex 1, § 124(b)) *Check whether appropriate provisions are considered for data management including responsibilities, what records to keep, storage area of records and how to process performance documentation* *Check further the data archiving provisions for the project activity and ensure that provisions are made to archive data for the whole crediting period + 2 years.*	*Description:* Yes, procedures are described in section B.7.2 of the PDD. As explained just above, UTE hired Dalkia to be responsible on the plant operation and data recording. *Justification of evidences:* Section B.7 of the PDD was reviewed in detail and interviews were performed with representatives of the PP. *Conclusion:* CL B6 was raised.	/PDD/	~~CL B6~~	OK
C. Duration of the Project/ Crediting Period *It is assessed whether the temporary boundaries of the*				

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
project are clearly defined.				
C.1. Is the project's operational lifetime clearly defined and evidenced? *Check whether the project lifetime is correctly defined. Consider the guidance on the assessment of investment analysis (annex to the additionality tool).* *Check in case of phased implementation this has been reflected throughout the whole PDD incl. the financial assessment, if applicable.*	*Description:* The operational lifetime of equipment is clearly defined by the equipment supplier with 25 years. In the investment analysis 17 years have been analysed. CER B1 has been opened. *Justification of evidences:* /PDD/ /unfccc/ *Conclusion:* The operational lifetime of the equipment is 25 years. This is longer than the 21 years of crediting period. In terms of investment analysis a conservative assessment over 25 years had been finally applied. The lifetime is further in accordance with the tool to determine technical lifetime of equipment.	/PDD/ /unfccc/	~~CAR B1~~ ~~CL C1~~	OK
C.2. Is the start of the crediting period clearly defined and reasonable? *Check whether the envisaged starting date of the crediting period is realistic, taking into consideration the times needed for validation and registration.*	*Description:* The start date of the Cp has been proposed in the future as the date of plant commissioning. This is not appropriate as validation needs to be concluded before CP start. *Justification of evidences:* /PDD/ *Conclusion:* CL C1 has been opened: Data for the beginning of the crediting period indicated in section C.2.1.1 are not conservative as the validation process may have	/PDD/	~~CLC1~~	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	not be finished until the indicated date. Additionally, in saction C.1.2 the exact operational lifetime given e.g. by the manufacturer/supplier of the boiler shall be given. The value 25 years+ cannot be accepted.			
D. Environmental Impacts *Documentation on the analysis of the environmental impacts will be assessed, and if deemed significant, an EIA should be provided to the DOE.*				
D.1.1. Are there any Host Party requirements for an Environmental Impact Assessment (EIA)? (EB 55 Annex 1, §§ 131–133) *Check the host party regulations, regarding EIA.*	*Description:* In Rio Grande do Sul state there is an environmental law, enforced through FEPAM (Environmental Agency of Rio Grande do Sul), that obliges rice producers to deposit rice husks on licensed disposal site, which are usually located at the rice mills facility. The ashes produced during the controlled burn will be stores at UTE São Borja plant in a licensed landfill by FEPAM. The emission standards of the state Rio Grande do Sul will be met and it is important to mention that the rice husk is not dangerous and is not expected to emit pollutant on its combustion. Additionally, it will be installed a filter that will be located after the controlled combustion of the rice husk to control the quality of the gas emitted to the atmosphere. The host government does not request for an EIA for this specific project activity. To be in line with Brazilian Laws and requirements an Environmental Study was performed at the time of the Environmental Licenses issuance. According to Brazilian legislation an Environmental Study is necessary at the time of Environmental License issuance, which is the initial step for the implementation of an Enterprise in the host country. At that moment, an Environmental Study must be taken to assure that the company operation is environmentally safe and sound. Considering that the	/PDD/ /conama/ /ES/ /IM01/	OK	

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	Brazilian local Environmental bodies have issued the Installation Environmental license for the plant predicted to operate in the proposed project activity, the validation team assumes that the Environmental Study was appropriately assessed. Additionally, no transboundary impacts could be identified for the proposed project activity. *Justification of evidences:* Brazilian Environmental Legislation and Installation License *Conclusion:* The project complies with the requirements and obtained approval from the national environmental authority.			
D.1.2. In case an Environmental Impact Assessment (EIA) is requested by the host party, has it been carried out and if applcable duly approved? (EB 55 Annex 1, §§ 131–133) *Check the EIA and its approval, if applicable.*	*Description:* an Environmental Study was performed at the time of the Environmental Licenses issuance. See explanation above. *Justification of evidences:* see above. *Conclusion:* project has obtained environmental approval.	/PDD/ /conama/ /ES/ /IM01/	OK	
D.1.3. Has an analysis of the environmental impacts of the project activity been sufficiently described and in line with the host party environmental legislation? (EB 55 Annex 1, §§ 130–132) *Check the PDD (section D). Check whether the project will create any adverse environmental effects.*	*Description:* see comment above *Justification of evidences:* see above. *Conclusion:* project has obtained environmental approval.	/PDD/ /conama/ /ES/ /IM01/	OK	

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
Check the relevant national environmental legislation.				
D.1.4. Are transboundary environmental impacts considered in the analysis? (EB 55 Annex 1, §§ 131–133) *Check the documents and local official sources / expertise regarding transboundary environmental impacts.*	*Description:* No, there are no transboundary environmental impacts envisaged for this project activity. *Justification of evidences:* NA *Conclusion:* There are no transboundary environmental impacts envisaged for this project activity.	/PDD/ /conama/ /ES/ /IM01/	OK	
E. Stakeholder Comments *The DOE should ensure that stakeholder comments have been invited with appropriate media and that due account has been taken of any comments received.*				
E.1. Have relevant local stakeholders been invited to consultation prior to the publication of the PDD? (EB 55 Annex 1, § 128) *Check by means of document review and interviews with local stakeholders if and when a local stakeholder consultation process has been carried out.*	*Description:* Yes, stakeholders were invited to invite comment related to the project activity through a invitation letter sent on June 2008. The letter was sent prior to the publication of PDD for global stakeholder consultation. The considered Stakeholders are liste bellow: • Rio Grande do Sul State Government • São Borja City Hall	/PDD/ /IM01/ /SH/ /dna/	OK	

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	• City Councilor's Chamber • State Environment Foundation • Municipal Environment Foundation • State Public Prosecutors • Federal Public Prosecutors • Várzea Neighborhood Association • Vila Goulart Neighborhood Association • Vila São Francisco Neighborhood Association • Brazilian Forum of NGO´s and Social Movements for the Environmental and Development Besides, the above main Stakeholders, a Private local stakeholders and the local community have been invited to raise comments on the project at an organized one day meeting to present the project activity. *Justification of evidences:* The attendance list of the meeting was submitted and reviewed by the validation team. Moreover, the letters confirmation receipts could be checked. *Conclusion:* Relevant stakeholders attended the meeting which confirms the adequacy of the invitation method.			

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
E.2. Can the local stakeholder consultation process be assessed as adequate? (EB 55 Annex 1, § 129(a)–(c)) *Describe what assessment steps have been undertaken to assess the adequacy of the stakeholder consultation process. Give a final opinion on the adequacy.* *Please consider the following requirements in this context:* *(a) Comments by local stakeholders that can reasonably be considered relevant for the proposed CDM project activity, have been invited;* *(b) The summary of the comments received as provided in the PDD is complete;* *(c) The project participants have taken due account of any comments received and have described this process in the PDD.*	*Description:* Yes, the stakeholder consultation was conducted in form of letters sent to stakeholders including description of the project activity, with proof of receipt. All proof of receipt could be checked during on-site visiting and no deviation could be detected. No comments were received for the proposed project activity. *Justification of evidences:* The evidences about the stakeholder consultation process were reviewed, as explained above in E.1. Section E of the PDD was reviewed. *Conclusion:* The Stakeholder consultation process was adequately conducted. As until now no comment has been received by the stakeholders.	/PDD/ /IM01/ /SH/	OK	

ANNEX 2: ASSESSMENT OF BASELINE IDENTIFICATION

Table A-2: Assessment of Baseline Identification (EB 55 Annex 1 §§83 – 86)

☒	Baseline is not identified, it is given by the SSC methodology
☐	Assessment of baseline see below

Baseline Alternatives identified	In line with the Methodology?	Eliminated	Reasons for elimination / non-elimination from list of alternatives	Evidence used	DOE Assessment	
					Appropriateness of elimination	Assessment of validation team (results and means of assessment)
	☐	☐			☐	
	☐	☐			☐	
	☐	☐			☐	
	☐	☐			☐	
	☐	☐			☐	
	☐	☐			☐	

ANNEX 3: ASSESSMENT OF FINANCIAL PARAMETERS

Table A-3: Assessment of Financial Parameters (EB 55 Annex 1, §§ 111, 112, 114/ in case financial parameters stem from FSR §113,)

☐	No financial parameters are used for additionality justification
☒	Assessment of all financial parameters see below

Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT	
					Correctness of value applied	Comment
General comment on investment parameters: The investment decision and project start date was on 2008-07-14. All financial parameters have been sourced before this date. The most important parameters come from the selling memorandum prepared in 2007. As the project implementation start was planned for 2009 all these values from 2007, that were the latest available in 2008 have been adjusted by the inflation rate to project a reasonable investment figure for 2009. Thus it can be possible that figures in the selling memorandum differ from the real applied value that has been adjusted by the Brazilian inflation rate. The inflation rate (a long term average of 4.5%) is taken from the source IMF, World Economic Outlook April 2008 as requested by EB 65 Annex 5.						
Power Generation						
Installed Capacity	12.33	MW	According to plant specification, Selling Memorandum p.52 2007-09-06	ELEKTRA_Selling_Memorandum.pdf	☒	Both references, the selling memorandum (2007-09-06) as well as the sales contract (2009-07-17)/FD/, have been reviewed by the DOE. The gross electrical output of the installed capacity is planned with 12.33 MW to produce electrical energy. Another contract has been closed with Dalkia (2008-12-18)/FD/ for the O&M also stating 12.33MW as the installed capacity of the plant. From the initial project planning in 2006 until today always an

☐	No financial parameters are used for additionality justification
☒	Assessment of all financial parameters see below

Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT	
					Correctness of value applied	Comment
						installed capacity of 12.33 MW was basis for the development and financial analysis of the project activity. For the **investment decision on 2008-07-14** the selling memorandum dated 2007-09-06 was basis for decision making.
Self Consumption	10	%	According to plant specification, Selling Memorandum p.52 2007-09-06	ELEKTRA_Selling_Memorandum.pdf	☒	The selling memorandum from 2007-09-06 clearly specifies a self electricity consumption of the project of 10% of total generated electricity. This was a basic assumption of the investment analysis. The later elaborated O&M contract with Dalkia (2008-12-18)/FD/ specifies an auxiliary consumption of about 12%. As 10% is the more conservative assumption this value is accepted by the validation team.
Cable Loss	1	%	Calculation, by changing the voltage of the project (69 kV) and considering the current (126A), the cable (336,4 MCM CCA), electrical resistance transmission line distance (10 km) the cable loss will be 80 kW or about 1%.	Losses are calculated by the formula: Losses: Current*Current*Electrical resistance*Distance of Transmission	☒	Losses are calculated by the formula: Losses: Current*Current*Electrical resistance*Distance of Transmission line*3(Phases) Which is the same as commonly applied formula: $P=R*I^2$ (*3) Applying the formula above to the project, the losses can range from 1 to 5%. It is assumed 1% as a reasonable loss. The calculation approach to determine transmission losses is correctly applied as per a technical expert opinion from TÜV

☐	No financial parameters are used for additionality justification
☒	Assessment of all financial parameters see below

Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT	
					Correctness of value applied	Comment
				line*3		NORD (Mr. Hoferichter). The applied loss of 1% is acceptable as it is a conservative assumption.
Operating Hours	7,387	hours	There are two months when the rice husk suppliers are exempted from their delivery obligation, see contract with Rice Husk Supplier 12 § 1.1.1. During this period the supplier need the rice husks themselves using the husks for drying their harvest. Instead of subtracting 60 days from the maximum production period (24hrs x 305 days = 7,320 operating hours) the total amount of tons supplied (96,000 t) has been divided by the amount of rice husk needed per operating hour (12.995 t /hr).	Contract with Rice Husk Supplier 12, §1.1.1, dated June 3rd, 2008 (Contract Rice Husk Supply.pdf)	☒	The contracts with the rice husk suppliers have been checked. They have been valid at the time of investment decision, dated 2008-06-03. Indeed it can be confirmed that in this region in two month time of a year the rice husk producers can not sell their own rice husk as it will be needed for own drying purposes. For the project activity an overall amount of biomass of 96,000t has been contracted. Assuming that 12.996 t/h of rice husk is needed for full operation of the boiler this leads to an overall operation time of 7,387 h per year. Further this two month, where the plant will not be able to operate, is reserved for maintenance of the equipment. The validation team confirms the appropriateness of this parameter. /FD/
Need of Rice Husk per Operating Hour	12.995	T tons per hour	According to plant specification, Selling Memorandum p.52	ELEKTRA_ Selling_Memorandum.	☒	The value has been taken from the selling memorandum that was available at the time of investment decision, dated 2007-09-06. The value is given under the technical specifications of the boiler.

☐	No financial parameters are used for additionality justification
☒	Assessment of all financial parameters see below

Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT	
					Correctness of value applied	Comment
			2007-09-06	pdf		The same value can be found on the technical description of AREVA, the equipment supplier. The validation team confirms the correctness of the applied value. /FD/
Annual Energy Generation	81,154	MWh	Calculation: Installed Capacity x (1-Self consumption) x (1- Cable Loss) x Operating Hours		☒	The validation team confirms the correctness of the calculation and the final result with 81,154 MWh of annual energy generation based on the above assessed parameters. The same has been applied in the financial analysis. /xls/
Annual Energy contracted for sale by PPA	96,390	MWh	The ANEEL license allows to sell the maximum amount of electricity which can be at maximum be generated by the power plant, i.e. 11.097 MW x 24 hrs x 365 days minus cable loss of the power plant (=820 MWh).	http://www.aneel.gov.br/cedoc/dec20045163.pdf Art. 2 - § 1 - Clause 1	☒	As per ANEEL decree Nº 5.163, 2004-07-20 Art. 2 - §1-Clause1 /FD/ the PP is requested to sell energy as per the maximum installed capacity. Thus after getting the operation license for installed capacity minus self consumption the PP needs to deliver the respective amount of energy to the grid (96,390 MWh). In case the PP may not be able to produce the full amount of electricity he must buy missing electricity from the grid. This is the case for the two month where no biomass is available and the boiler is stopped for maintenance purposes. The expenses for electricity sold from the grid that is other than self consumption a separate assessment follows below. The validation team confirms the correctness of the applied parameter.
Financial data						

☐	No financial parameters are used for additionality justification
☒	Assessment of all financial parameters see below

Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT	
					Correctness of value applied	Comment
Exchange Rate BRL/EUR 2009	2.63	BRL	Economist Intelligence Unit, Country Report Brazil, June 2008 p.8	EIU_Brazil_2008.pdf	☒	The validation team has checked the source of Economist Intelligence Unit, Country Report Brazil from June 2008 and confirms the applicability at the time of investment decision as well as the correctness of the applied value. Following link conforms the appropriateness of the applied exchange rate: http://www.exchangerates.org.uk/EUR-BRL-31_12_2009-exchange-rate-history.html Exchange rate 12/2009 = 2.5021 /FD/
Exchange Rate BRL/USD 2009	1.74	BRL	Economist Intelligence Unit, Country Report Brazil, June 2008 p.8	EIU_Brazil_2008.pdf	☒	The validation team has checked the source of Economist Intelligence Unit, Country Report Brazil from June 2008 and confirms the applicability at the time of investment decision as well as the correctness of the applied value. Following link conforms the appropriateness of the applied exchange rate: http://www.exchange-rates.org/Rate/USD/BRL/11-1-2009 Exchange rate 11/2009 = 1.7383 /FD/
Inflation Brazil	4.5	%	IMF, World Economic Outlook, April 2008, Database	http://www.imf.org/external/pubs/ft/weo/2008/01/weodata/weoseladv.aspx?a=&c=223%2c111&s=PCPIPCH	☒	The source of the world Economic outlook has been checked. In 2008 a long term average of 4.5% inflation for the BRL has been forecasted for years following 2009 until the end of the crediting period. The suitability of this parameter can be confirmed looking at the actual value from 2009 which was of 4.899% found at Index Mundi: http://www.indexmundi.com/brazil/inflation_rate_(consumer_prices).html Thus it can be confirmed that an appropriate inflation rate has been applied in 2008, assuming expectations for 2009 and

☐	No financial parameters are used for additionality justification
☒	Assessment of all financial parameters see below

Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT	
					Correctness of value applied	Comment
						thereafter. [FD]
Cost of Equity (benchmark)	18.9	%	Based on default value, EB 62 Report Annex 5, Appendix Clause 8, Adjusted to lower rating of Brazil at time of project start and to cash flow calculation being in BRL (Source: A. Damodaran, Applied Corporate Finance: A User's Manual , Chapter 5, p.5.56) and norminal terms. Being a 100% equity financed the weighted average cost of capital (WACC) equal the cost of equity.	http://www.moodys.com/credit-ratings/Brazil-Government-of-credit-rating-114650# http://people.stern.nyu.edu/adamodar/pdfiles/acf3E/book/ch5.pdf http://www.imf.org/external/pubs/ft/weo/2008/01/weodata/weoseladv.aspx?a=&c=223%2c111&s=PCPIP	☒	The cost of equity has been calculated based on EB 62 Annex 5. The correct real term value of 11,75% for Group 1 projects (scope 1+13) has been correctly applied as a basis for calculation in nominal terms. "*In situations where an investment analysis is carried out in nominal terms, project participants can convert the real term values provided in the table below to nominal values by adding the inflation rate.*" Before doing this the cost of equity in real terms has been adjusted to cover the higher country risk for Brazil in 2008 by 0,25% as Brazil's rating improved only in September 2009 from Ba1 to Baa3, which is after the investment decision in 2008. Further the cost of equity in real terms needed to be adjusted to Brazilian currency as all project expenses have been made in BRL. This has been done using the following formula: Cost of Capital (BRL)= (1+ Cost of Capital (US$)*((1+ Exp. Inflation Brazil)/(1+ Exp. Inflation US))-1 (A. Damodaran, Applied Corporate Finance: A User's Manual , Chapter 5, p.5.56.) The formula has been correctly applied. Finally the cost of equity in real terms (BRL) has been adjusted by

☐	No financial parameters are used for additionality justification
☒	Assessment of all financial parameters see below

Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT	
					Correctness of value applied	Comment
				CH		adding the inflation rate to come to nominal terms. The chosen inflation rate of 4.46%/FD/ is the 5-year average from 2009 to 2013 based on data from the International Monetary Fund. This is line with EB 62 Annex 5 Appendix Para 7. This assumption is conservative compared to the inflation rate of 4.5%/FD/ applied for the overall inflation for all project parameters that is based on the long term assumption until the end of the CP. The validation team concluded that the benchmark has been correctly calculated for projects with investment decision in 2008 and project expenditures in BRL. All sources have been checked and correctly applied. Other CDM projects have applied Selic rate or BNDES rate as benchmark. These are not applicable to this project as: "The Selic rate is an overnight refinancing rate. At best it could be seen as a risk free rate, one part of the equation for the cost of equity. (The other part of the equation for the cost of equity is the adjustment for risk for investing in a business). The BNDES is the Brazilian Development Bank providing the economy with low interest capital and therefore reflect a lending rate (equivalling the debt side of the WACC equation) and not the cost of equity for an investor. The benchmark for the project has to reflect the the cost of equity as the project is fully equity financed." /IM03/

☐	No financial parameters are used for additionality justification
☒	Assessment of all financial parameters see below

Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT	
					Correctness of value applied	Comment
Dates						
Completion of construction	30.06.10	date			☒	The relevant dates for the project are derived from the internal project planning at the time of investment decision and can be considered as appropriate for the type of project. The validation team confirms the correct application of the dates in the financial analysis spreadsheet. /xls/
Start of income (energy production)	01.07.10	date	The energy production starts with the completion of the construction and after the plant is commissioned and contract for energy sales are in place.		☒	The relevant dates for the project are derived from the internal project planning at the time of investment decision and can be considered as appropriate for the type of project. The validation team confirms the correct application of the dates in the financial analysis spreadsheet. /xls/
Start of income (Rice husk ash)	01.07.11	date	As the market is not developed yet a set-up period is required for developing the business.		☒	The relevant dates for the project are derived from the internal project planning at the time of investment decision and can be considered as appropriate for the type of project. The validation team confirms the correct application of the dates in the financial analysis spreadsheet. /xls/
Start of income (CER)	01.07.11	date	CER income will be 1 year after the project is commissioned.		☒	The relevant dates for the project are derived from the internal project planning at the time of investment decision and can be considered as appropriate for the type of project. The validation team confirms the correct application of the dates in the financial analysis spreadsheet. /xls/

☐	No financial parameters are used for additionality justification					
☒	Assessment of all financial parameters see below					
Parameter	**Value applied**	**Unit**	**Source of Information (please indicate document and page)**	**Reference**	**DOE ASSESSMENT**	
					Correctness of value applied	**Comment**
Investment Costs						
Total Plant Investment	52,985,708	BRL	Investment expenditures required to complete the project according to Selling Memorandum p.37 plus estimate for upgrade of plant design. Due to high cable losses of the original design the plant design has been changed to increase the voltage from 13,8 kV to 69 kV, investing in an own substation and transmission line.	ELEKTRA_Selling_Memorandum.pdf 2007-09-06	☒	The original value for the total plant investment comes from the selling memorandum dated 2007-09-06. It is given with 15,122,000 Euro for equipment and service and with 2,020,000 Euro as contingency margin[/FD/]. To reflect the market situation for 2009 on the Brazilian market the total investment volume has been transferred to Brazilian currency BRL and amended by the inflation rate from 2007 (source date) to 2009 (expected expenditure date). Comparison with other biomass project: The unit investment for this project results in 4,2 Mio/MW including adjustments for a substation and transmission line. Excluding these extra costs the unit investment would be 3,5 Mio/MW. There is only one comparable rice husk project in Brazil applying a benchmark analysis in the CDM database. Project Reg. No. 1089 (5MW, 18,000,000 BRL investment, rice husk, 2007) results in a unit investment of 3,6 Mio/MW. Even though the project Sao Borja has higher unit investment costs than the other rice husk project the difference of 0.6 Mio/MW can be explained by additional investments in an own transmission line and substation. Only comparing equipment and construction costs the investment equals for both projects.

☐	No financial parameters are used for additionality justification
☒	Assessment of all financial parameters see below

Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT	
					Correctness of value applied	Comment
						The validation team confirms that the investment costs are adequate for this projects type. All sources have been checked and correctly applier in the calculations.
Project Development Costs (Interim Financing)	2,885,555	BRL	The interim loan facility shall be paid back after having successfully placed a private equity fund by end of December 2009. Calculation Interim financing costs see spreadsheet "Adjustments", UTESB_20120222.xls	Loan_Interim_Financing.pdf 2008-05-23	☒	Interim financing costs have been evidenced with the financing proposal by the Bank. /FD/ The interim financing is only seen as an in-between financing until the private equity found is placed. The amount is reasonable as per the evidence and the figure has been correctly applied in the calculations. The evidence was valid at the time of investment decision.
Energy Price						
Sales Price per MWh	158	BRL/MWh	CCEE official auction results for newly built thermal power generation (Leilão de Energia Nova - fonte termo) between 2005 (first auction) and 2007 averaged 133 BRL/MWh. An increase by 25 BRL/MWh implies an increase of about 19% on the historic average.	http://www.ccee.org.br/cceeinterdsm/v/index.jsp?vgnextoid=b01b9f733d60b010VgnVCM1000005e01010aRCRD	☒	There were different sources available at the time of investment decision. The selling memorandum from 2007 proposed a price of 180 BRL/MWh. If the price is adjusted to 2009 expected values the result would be **195 BRL/MWh**. As the selling memorandum shall show the project as its best the PP did not accept this value as realistic for the investment decision. Further sources have been taken into account. The source that reflects best the actual market price under Power Purchase Agreements (PPA) in Brazil is the CCEE auction. Taking

☐	No financial parameters are used for additionality justification
☒	Assessment of all financial parameters see below

Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT	
					Correctness of value applied	Comment
						an average of the auction price between 2005 and 2007 (known at the time of investment decision (2008) the result is **133 BRL/MWh**. It is to consider that in the action 2005 the price for 2008 market is fixed and that auctions in 2006 and 2007 reflect a realistic price development for the future. /FD/ In the published PDD and IRR calculation a price for electricity of 165 BRL/MWh has been applied. This price was lower than the assumption of the selling memorandum but higher than the actual market price for that time. After the IRR calculation has been completely revised as explained in chapter 5 of this report, the PP decided to further calculate with the assumed price of 165 BRL instead of changing it to 133 BRL, which would be acceptable as it was the price known at the time of investment decision. The conservativeness of the figure is the reason why the validation team accepts this tariff even without clear reference. The assumption of 180 BRL as explained above was unrealistic and only argument of the selling memorandum. The 165 BRL figure was assumed at first investment decision in 2009 (which was corrected later to 2008). Thus the value reflected a 2010 market price; this was for the actual calculation set down by the inflation rate resulting in **158 BRL/MWh.** The validation team concludes that the figure is conservative and has been correctly applied in the calculations.

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☒	Assessment of all financial parameters see below

Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT	
					Correctness of value applied	Comment
Electricity purchase price during maintenance period	96	BRL/MWh	CCEE- average PLD (spot) prices for the south region were at 110 BRL/MWh. Considering the continuous increase over the past years the calculation of an average has been based on the period 1/2005-6/2008.	http://www.ccee.org.br/cceeinterdsm/v/index.jsp?vgnextoid=6e6596f102913210VgnVCM1000005e01010aRCRD	☒	As per the PPA the project proponed is requested by ANEEL to provide full capacity electricity to the grid. As there are two month in a year where the biomass providers are not able to supply rice husk (they need it to dry their rice) the PP is requested to buy electricity from the grid to cover the two month of no production. This can be read in ANEEL decree Nº 5.163, 2004-07-20 Art. 2 - §1-Clause1. /FD/ For this purpose the spot market price has been assumed to calculate the expenses for each MWh that is not delivered. The price known at the time of investment decision was the average of 2006-2008 (6 month) with **109,65BRL/MWh**. The price assumed in the published PDD was 100 BRL/MWh. The same as been assumed after changing the date of investment decision only amending the price by the inflation rate. As the final assumption of **96 BRL/MWh** is conservative it has been accepted by the validation team. (see also argumentation of sales price above)
Supply biomass costs						
Biomass, ton	96,000	tons/year	Contracts with in total 15 suppliers. Compare list of suppliers in spreadsheet "Biomass Supply", UTESB_20120222.xls		☒	According to the contracts with the 15 biomass suppliers /FD/ a total of 96,000 tons of rice husk can be confirmed by the validation team. The contracts have been compared and the figures are in line with the applier values in the calculation. There are two month in a year where no rice husk can be sold to

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☒	Assessment of all financial parameters see below

Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT	
					Correctness of value applied	Comment
						the plant because the suppliers need the rice husk for own purposes of drying rice. Further it is not possible to contact more suppliers and to store biomass for the two month as additional pool. Rice husk losses very fast its heating value if stored for some days. Thus storing is not possible and biomass availability is reduced to 10 month in a year.
Biomass, transportation cost	14.54	BRL/ton	Transport cost are agreed on at 15 BRL/tons (2008 price) for a volume of 10,000 tons and at 10 BRL/ton (2008 price) for 21,500 for the supplies of Rice Husk Supplier 12. For the remaining 64,500 tons transport costs are estimated at 15 BRL/ton (2008 price). All prices have to be adjusted to inflation.	Contract_Rice_Husk_Supply.pdf	☒	The biomass transport costs are based on contacts with the biomass suppliers. In general the price is 15 BRL/ton of rice husk. One supplier has an exceptional case where after first 10,000 tons supplied the price will decrease to 12 BRL/ton. Adjusting the price respectively to a 2009 expected value is appropriate as it has been set down in the suppliers contract that annually the price will be adjusted. /FD/ In total the biomass price together with the transportation costs will be 19.8 BRL/tons. The only similar CDM project (Reg No. 1089) with investment decision in 2007 has rice husk acquisition costs assumed of 20 BRL/ton. The validation team concludes that the price for acquisition of one ton of rice husk is reasonable and correctly applied.
Biomass price	5.2	BRL	Contracted Price; 5 BRl/ton plus inflation (Base year 2008)	Contract_Rice_Husk_Supply.pdf	☒	The biomass costs are based on contacts with the biomass suppliers. Over all contracts the price is 5 BRL/ton of rice husk. Adjusting the price respectively to a 2009 expected value is

☐	No financial parameters are used for additionality justification
☒	Assessment of all financial parameters see below

Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT	
					Correctness of value applied	Comment
			see §3.2 Contract Rice Husk Supply.pdf			appropriate as it has been set down in the suppliers contract that annually the price of 5 BRL/ton will be adjusted by the inflation rate. /FD/ In total the biomass price together with the transportation costs will be 19.8BRL/tons. The only similar CDM project (Reg No. 1089) with investment decision in 2007 has rice husk acquisition costs assumed of 20 BRL/ton. The validation team concludes that the price for acquisition of one ton of rice husk is reasonable and correctly applied.
Biomass during trial operation required	3,000	t	Estimated at about 1/3 compared to the amount of biomass required when plant runs at full load. This results from standstill periods for technical adjustments and testing of components other than the generator.		☒	The biomass required during the trial period can be accepted as reasonable estimation for the project activity. The Validation team confirms the correct application of the value in the calculations.
Participation RHA business, Rice Husk Supplier 12	50	%	Rice Husk Supplier 12 will receive 50% of the profit realized with the RHA business based on the biomass volume it delivers.	Contract_Rice_Husk_Supply.pdf	☒	The contract with rice husk supplier 12 /FD/ has been reviewed and the assumption made in the investment analysis is reasonable and correct. This participation is only restricted to this one supplier, who delivers the biggest amount of biomass. As the project activity is dependent on this delivery they made respective amendments

☐	No financial parameters are used for additionality justification					
☒	Assessment of all financial parameters see below					
Parameter	**Value applied**	**Unit**	**Source of Information (please indicate document and page)**	**Reference**	**DOE ASSESSMENT**	
					Correctness of value applied	**Comment**
			Compare § 11.9 Contract Rice Husk Supply.pdf. Being a critical supplier for the project these preferential agreements had been negotiated to secure the rice husk produced by Rice Husk Supplier 12			to the contact. It is agreed that the supplier will receive 50% of revenues due to electricity sale and CER income in relation to the rice husk supplied. The validation team confirms the correctness of the applied value.
Operation costs						
Operating & Maintenance	4,560,498	BRL	A proposal obtained by Evonik (Evonik_2008. pdf) offered O&M services for 32.8 Mio BRL p.a. for all four projects acquired by the KfW. Assuming a share of 22.9% for Sao Borja as can be derived from the O&M estimates in the Selling Memorandum p.36 this amounts to annual cost of 7.51 Mio BRL. This offer was more than 3 times higher than the costs indicated in the Selling Memorandum. Therefore	ELEKTRA_ Selling_Memorandum.pdf Proposal_ Dalkia_ Dec2008.pdf Evonik_2008.pdf	☒	At the time of investment decision following references and proposals have been in place to estimate the O&M costs: Selling memorandum (06/2007): 2,100,000 BRL /FD/ Oral Proposal Dalkia (07/2008): ~5,000,000 BRL /FD/ E-Mail proposal by Evonik (02/2008): 7,511,000 BRL /FD/ For the investment decision it was clear that the value from the selling memorandum is far too low and that it is only a selling argument and thus not seen as realistic market price. The two other proposals where assumed to be very high but still be negotiable. Finally is has been decided to apply the double price of the selling memorandum as reasonable price with 4,560,498 BRL.

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☒	Assessment of all financial parameters see below

Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT	
					Correctness of value applied	Comment
			the cost estimates of the Selling Memorandum have been increased by 100%.			Looking at the final revision 3 of the Dalkia proposal from 2008-12-08 a value of 4,336,765 BRL has been finally negotiated, which is very close to the pre-assumed price. The validation team has checked the influence of the actual slightly smaller price to the investment analysis hand found that it has no significant influence to the IRR or sensitivity analysis. Overall it can be concluded that the assumed price for O&M is reasonable and conservative assumed at the time of investment decision.
Administrative Costs	586,363	BRL	Estimate in Selling Memorandum, p. 36. Expenses have only been adjusted to expected inflation.	ELEKTRA_Selling_Memorandum.pdf	☒	The administrative costs have been applied as per the selling memorandum dated 06/2007[/FD/]. The value has been accepted as reasonable estimation. The value from the selling memorandum has been correctly adjusted by the inflation rate to reflect the value for 2009. The source of the selling memorandum can be seen as conservative as in total costs have been underestimated (see also O&M costs).
Insurance	217,171	BRL	Estimate in Selling Memorandum, p. 36. Expenses have only been	ELEKTRA_Selling_Memorandum.pdf	☒	The insurance costs have been applied as per the selling memorandum dated 06/2007[/FD/]. The value has been accepted as reasonable estimation. The value from the selling memorandum has been correctly

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☒	Assessment of all financial parameters see below

Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT	
					Correctness of value applied	Comment
			adjusted to expected inflation.			adjusted by the inflation rate to reflect the value for 2009. The source of the selling memorandum can be seen as conservative as in total costs have been underestimated (see also O&M costs).
Operations cost Ash disposal site	28,800	BRL	For operating the disposal site one employee (BRL 1,500 per month x 13 months= 19,500 BRL which is 66% than the average wage costs in 2008 of 8.44 USD x 1.68 BRL/USD x 8h x 20 days/month x 13 month= 29,493 BRL see www.bls.gov) and fuel cost for one truck (e.g. Caterpillar Cat 924G) to periodically move and compact the ash. Fuel cost of 1.73 BRL/l (1.03 USD/l x 1.68 BRL/USD see www.tradingeconomics.com and EIU_Brazil_2008.pdf), an average consumption of 8 l per hour (lower than	http://www.bls.gov/fls/country/brazil.htm http://www.cat.com/cmms/753091nc http://www.maxhire.com.au/loaders.html http://www.tradingeconomics.com/brazil/pump-price-for-diesel-fuel-us-	☒	There are not much experiences in the market about the costs of rice husk ash disposal. A conservative estimate has thus been provided by the PP assuming 19,500 BRL income per year (29,493 BRL average wage) for one employee and fuel costs for one truck with 9,300 BRL per year. The validation team checked the different sources given by the PP and can confirm the validity at time of investment decision and conservativeness of the assumptions.

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☒	Assessment of all financial parameters see below

Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT	
					Correctness of value applied	Comment
			reference www.maxhire.com) and 56 working hours per month (4 hours per day every 48 hours) have been estimated. Other likely costs e.g. for fulfulling potential environmental requirements have not been calculated.	dollar-per-liter-wb-data.html EIU_Brazil_2008.pdf		
Energy costs during trial operation	123,390	BRL	(0.75 MW x 24 h x 30 d x 228.5 BRL/MWh =123,390) Electricity required is estimated at about 60% of electricity needed when plant operates at full load. This results from standstill periods for technical adjustments and sequential testing of components. The assumed price per MWh is about the average of the industrial and commercial tariff in 2007 published by ANEEL. (see link)	http://www.aneel.gov.br/area.cfm?idArea=507&idPerfil=11	☒	The source of the price has been checked. The average of the region South for commercial and industrial tariff is 228.5 BRL/MWh[/FD/]. The value applied for the total trial operation can be assessed as reasonable and correct. The value has been correctly applied in the calculations.
Fees for the use of electricity distribution system (Encargos do	392,801	BRL	Calculation: Value: 11,097 kW X BRL 2.70 = BRL	http://www.aneel.gov.b	☒	The value has been correctly calculated and applied as per the official source by ANEEL that was valid at the time of investment

☐	No financial parameters are used for additionality justification
☒	Assessment of all financial parameters see below

Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT	
					Correctness of value applied	Comment
Uso do Sistema de Distribuição)p.a. (TUSD)			29,961.90/month PIS/COFINS: BRL 29,889.00 X 9.25% = BRL 2,771.48 Monthly total: BRL 32,733.38	r/cedoc/reh 2007555.pd f Anexo II-A Quadro P, p.7		decision since 2007-10-23. /FD/
ANEEL (Taxa de fiscalização da Aneel) p.a.	29,33.76	BRL	Aneel regulation. Annual fee charged to energy producers and distributors. Annual value - ANEEL: BRL 29,336.76 see Anexo III AO Despacho N° 3.731, de 27 Decembro de 2007, Valores da TFSEE para os Produtores Independentes de Energia Electrica e Cooperatives (see link - p.25 line 7)	http://www. aneel.gov.b r/cedoc/ads p20073731 _2.pdf	☒	The value has been correctly calculated and applied as per the official source by ANEEL that was valid at the time of investment decision since 2007-12-27. /FD/
Taxa Associativa CCEE Câmera de Comercialização de energia elética, p.a.	4,659	BRL	Aneel regulation. Membership fee charged to energy producers and distributors. Value - CCEE R$ 354.16/month fixed + R$ 0.005/MWh commercialized energy.	CCEE (Associatio n fees) http://www. ccee.org.br/ vgn-ext- templating/	☒	The value has been correctly calculated and applied as per the official source by CCEE and ANEEL regulation that was valid at the time of investment decision since 2005-10-14. /FD/

☐	No financial parameters are used for additionality justification
☒	Assessment of all financial parameters see below

Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT	
					Correctness of value applied	Comment
				v/index.jsp?vgnextoid=2110a19c3853c010VgnVCM1000005e01010aRCRD&vgnextfmt=default&cpsextcurrchannel=1		
Fixed fee to broker	60,000	BRL	Lower assumption of two indications received, one from COMERC and one from Diferencial Energia., later confirmed by proposals. See p.6-7 and p.12 of attached document.	Energy_Broker.pdf	☒	At the time of investment decision no written proposal was available for this the electricity broker fee and commission due to energy sales. According to the PP assumptions have been made estimating with a fee of 6,500 BRL/month and 1% energy sales. To give a conservative and most realistic figure finally the value from one proposal from 2009-03-27 prepared by COMERC has been applied to this calculation. They proposed 5,000 BRL/month and 0,75% commission for energy sales. Another proposal valid on 2009-04-23 from Diferencial Energia estimated 6,250 BRL as fee and 1% commission. The validation team accept this more conservative assumption for the estimate of the brokers fee and commission for energy sales.
Commission due to energy sales (in % of	0.75	%	Lower Assumption of two indications received from	Energy_Broker.pdf	☒	At the time of investment decision no written proposal was available for this the electricity broker fee and commission due to

☐	No financial parameters are used for additionality justification					
☒	Assessment of all financial parameters see below					
Parameter	**Value applied**	**Unit**	**Source of Information (please indicate document and page)**	**Reference**	**DOE ASSESSMENT**	
					Correctness of value applied	**Comment**
energy income)			COMERC and Diferencial Energia., later confirmed by proposals. See p.6-7 and p.12 of attached document.			energy sales. According to the PP assumptions have been made estimating with a fee of 6,500 BRL/month and 1% energy sales. To give a conservative and most realistic figure finally the value from one proposal from 2009-03-27 prepared by COMERC has been applied to this calculation. They proposed 5,000 BRL/month and 0,75% commission for energy sales. Another proposal valid on 2009-04-23 from Diferencial Energia estimated 6,250 BRL as fee and 1% commission. The validation team accept this more conservative assumption for the estimate of the brokers fee and commission for energy sales.
RHA – Rice husk ash						
Production of rice husk ash p.a.	19,584	t	According to the plant specificiation (See Turnkey Contract, Annex II, p.122) the amount of ash produced is 18.2%. IRGA, the research institute for rice in Rio Grande do Sul, esitmates the amount of ash at 22.6%. For the calculation the average of these two estimates of 20.4% has been used.	http://www.irga.rs.gov.br/index.php?principal=1&secao=1&id=638 Sales Contract Annex 2.pdf	☒	The source (Notice form IRGA 2007-02-16) for the production of rice husk ash has been checked (22.6%) as well as the technical specifications source (18.2%)[/FD/]. Another source has been found by the validation team: “Basic design of a fluidized bed gasifier for rice husk on a pilot scale” (J.J. Ramirez) published 2007 in Latin American Applier Research Paper. Here the ash amount has been reached 17.6% of the rice husk. Nevertheless considering different circumstances of the analysis and the fact that the amount of ashes will reflect revenues to the project the application of the higher average value of both (18.2%

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☒	Assessment of all financial parameters see below

Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT	
					Correctness of value applied	Comment
						+ 22.6%)/2=20.4% is accepted as a conservative assumption.
Rice Husk Ash sales to premium market	1,000	t	Estimate.		☒	This is an estimate of the project plan. There are no sources available that can underline this assumption. There is no organized market for rice husk ash so far, thus only estimated values can be applied. As the sale of rice husk ash is only potential extra revenue for the project the assumed prices have been accepted as conservative by the validation team. If the rice husk ash will be able to be sold in the market is depended on the quality which will only be known after testing phase is over.
Market price milled risk husk ash (Premium market)	1,000	BRL/t	Estimate. The plastic/rubber processing industry is considered as market, which allows to charge higher prices (premium market) as f.e. in the cement industry.		☒	This is an estimate of the project plan. There are no sources available that can underline this assumption. There is no organized market for rice husk ash so far, thus only estimated values can be applied. As the sale of rice husk ash is only potential extra revenue for the project the assumed prices have been accepted as conservative by the validation team. If the rice husk ash will be able to be sold in the market is depended on the quality which will only be known after testing phase is over.
Market price rice husk ash	100	BRL/t	External oral proposals		☒	This is an estimate of the project plan. There are no sources available that can underline this assumption. There is no organized market for rice husk ash so far, thus only estimated values can be applied. As the sale of rice husk ash is only potential extra revenue for the project the assumed prices have

☐	No financial parameters are used for additionality justification
☒	Assessment of all financial parameters see below

Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT	
					Correctness of value applied	Comment
						been accepted as conservative by the validation team. If the rice husk ash will be able to be sold in the market is depended on the quality which will only be known after testing phase is over.
Production cost per ton rice husk ash	58	BRL/t	Calculated based on costs and expenses related to the ash production.		☒	This is an estimate of the project plan. There are no sources available that can underline this assumption. There is no organized market for rice husk ash so far, thus only estimated values can be applied. As the sale of rice husk ash is only potential extra revenue for the project the assumed prices have been accepted as conservative by the validation team. If the rice husk ash will be able to be sold in the market is depended on the quality which will only be known after testing phase is over.
Production cost per ton milled rice husk ash (premium market)	625	BRL/t	This estimation is based on a calculation elaborated by Cereais Passo, a local producer already active in the market		☒	This is an estimate of the project plan. There are no sources available that can underline this assumption. There is no organized market for rice husk ash so far, thus only estimated values can be applied. As the sale of rice husk ash is only potential extra revenue for the project the assumed prices have been accepted as conservative by the validation team. If the rice husk ash will be able to be sold in the market is depended on the quality which will only be known after testing phase is over.
CER income						

☐	No financial parameters are used for additionality justification
☒	Assessment of all financial parameters see below

Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT	
					Correctness of value applied	Comment
Price per CER	16.00	EUR	Research, estimation based on market information	www.Cf-partners.com www.co2-handel.de www.reuters.com	☒	The sources given have been checked and the assumed CER price can be assessed as reasonable and has been correctly applier in the calculations with CERs. /FD/
CO2-broker fee	3.00	%	Estimated on market information	http://carbonhill.com/carbon-trading/faqs - How much does it cost to use Carbon Hill?	☒	The application of 3% in the calculations can be seen as a realistic assumption for the time at investment decision. The given reference shows that a typical brokerage fee is around 5.5% - 2.75%. The value has been correctly applied in the calculations with CERs. /FD/
Costs CER in % (for UNFCCC)	0.1 0.2	USD/CER	CERs paid for the CDM (Adaptation fund). Up to 15.000 0.1 USD/CER, then 0.2 USD/CER. (see link – p.2 , C 7.)	http://unfccc.int/files/cooperation_and_support/financial_mechanism/financial_mechanism_gef/application/pdf/adaptation_sop.p	☒	Value correctly applied as per UNFCCC adaptation fund /unfccc/ for assumptions with CERs. /FD/

☐	No financial parameters are used for additionality justification
☒	Assessment of all financial parameters see below

Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT	
					Correctness of value applied	Comment
				df		
Verifying process CER, 1st year	54,000	BRL	Estimated.		☒	Reasonable assumption as per DOEs own experience. The value has been correctly applied in the calculations with CERs. /FD/
Verifying process CER, as from 2nd year	27,000	BRL	Estimated.		☒	Reasonable assumption as per DOEs own experience. The value has been correctly applied in the calculations with CERs. /FD/
Tax issues						
Depreciation	12	Years	Indicated by tax advisor (no written source), later confirmed by tax opinion prepared by Watson, Farley and Williams. p. 12	Tax_Opinion.pdf 2009-08-27	☒	The depreciation period chosen by tax advisor at the time of investment decision is deemed acceptable for this kind of project activity. A depreciation rate of 8.33% is the result. Even by changing the depreciation rate to shorter (10 y) or longer period 20 y) will not affect the IRR significantly. Thus the validation team verifies this value to be appropriate. Later a reference was found confirming the value given by the tax opinion (2009-08-27).
IRPJ (lucro real)	15.00 10.00	%	Corporate Income Tax. Profits over 240,000 BRL have to pay an additional tax of 10%. The presumed profit tax rate varies according to	/LEGIS/ /fazenda/ /kpmg/	☒	The rates are correct according to the Brazilian tax legislation. Website of Internal Revenue Service of Brazil (Receita Federal) has been accessed and rates compared against corresponding applicable laws. Corporate Income Tax rate is 15%. Profits over 240,000 BRL have

☐	No financial parameters are used for additionality justification
☒	Assessment of all financial parameters see below

Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT	
					Correctness of value applied	Comment
			activity and is chosen if this option will result in lower tax payments. KPMG, Investment in Brazil 2008, p. 40, p. 42 Law # 9249 – Article 3 Law # 9430 – Article 2 Law # 10637 – Article 46	http://www.kpmg.com.br/publicacoes/tax/Investment_Brazil10a_2008.pdf		to pay an Additional Income tax of 10%. Companies with revenues below R$48,000,000/year might chose the tax modality called “presumed profit”, which will in most cases result in lower taxes to be paid. Under such regime the income tax and additional income tax are calculated based on a percentage of gross sales rather than net income. For the project activity this “presumed” percentage of income is 8% of gross sales. Over this base the tax rates are applied.
CSLL (lucro real)	9.0	%	Law # 7689 – Article 3 KPMG, Investment in Brazil 2008, p. 40	/LEGIS/ /fazenda/ /kpmg/	☒	Social Contribution Tax on Profits. According to corresponding Federal Legislation, CSLL tax rate is 9% over income. In case “presumed” profit tax modality is chosen (see comments above), the “assumed” profit, over each the tax rate is applied, is equal to 12% of gross revenues.
PIS/COFINS	9.25	%	Law # 07, 1970-09-08 Law # 70, 1991-12-30 Law # 9718, 1998 Normative Instruction # 247 – Article 52	/LEGIS/ /fazenda/ /kpmg/	☒	Federal taxes. PIS is the Social Integration Program and COFINS is the Contribution for Financing of Social Security. According to tax modality chosen („real profit“ or „ presumed profit“), the rate of PIS/COFINS to be aplied over gross sales is 9.25% or 3.65% respectively. Hence taxes applied are in line with corresponding tax legislation.

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☒	Assessment of all financial parameters see below

Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT	
					Correctness of value applied	Comment
			Gross Revenue taxes, KPMG, Investment in Brazil 2008, p 44			
Loss Carry forward	30.0	%	KPMG, Investment in Brazil 2008, pp.47	/kpmg/	☒	According to Independent Financial Audit/Tax/Advisory Company KPMG, as stated on page 44 of its publication “Investment in Brazil”, losses can be carried out without limitation in time, but limited to 30% of net book profit of each particular year. The input data is correct and the formulas used for the calculation in the cash flow spreadsheet were reviewed and deemed precise.

ANNEX 4: ASSESSMENT OF BARRIER ANALYSIS

Table A-4: Assessment of Barrier Analysis (EB 55 Annex 1, §118)

☒	No barrier parameters are used for additionality justification
☐	Assessment of barriers see below

Kind of Barrier (invest, tech, other)	Description of Barrier	Evidence used	Assessment of validation team	
			Appropriateness of information source	Explanation of final result
Investment Barrier	The proposed project activity is not attractive in terms of financial return and investment without CDM revenues.	See table A-3 above	☒	A benchmark analysis has been carried out by the PP to demonstrate the additionality of the project. All parameters used in the financial analysis have been assessed to be in accordance with the latest applicable guidance, conservative and correct (please see assessment of each parameter in table A-3 above). As final result the benchmark analysis shows that the expected internal rate of return (IRR) is lower than the assumed benchmark. A sensitivity analysis has been applied to all relevant parameters. All parameters are robust against the 10% variation applied. In all cases the IRR remains below the benchmark. The verification team concludes that the barrier of investment is real, that no third party would invest in a rice husk combustion project in Brazil and that the CDM will help to overcome this barrier.

ANNEX 5: OUTCOME OF THE GSCP

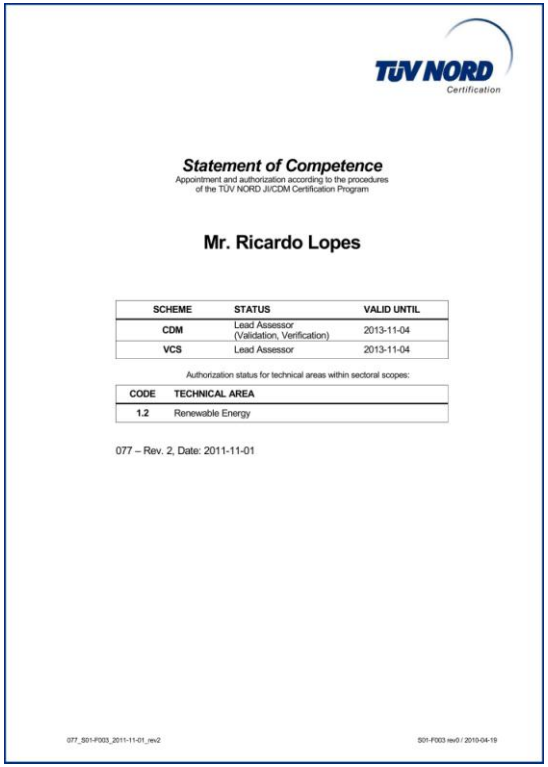
Table A-5: Outcome of the Global Stakeholder Consultation Process
(§§ 40-42, VVM Version 1.2)

☒	No comments were received during the global stakeholder consultation period
☐	Comments were received during the global stakeholder consultation period. The comments (in unedited form) and the consideration/response of the validation team are presented below:

Comment No.:	Comment by:	Inserted on:	Subject	Comment *)	Action taken by the validation team to take due account on the comment *)	Conclusion (incl. CARs CLs or FARs)

*) In case clarifications have been requested by the validation team corresponding rows shall be added

ANNEX 6: STATEMENTS OF COMPETENCE OF ALL INVOLVED PERSONNEL



TÜV NORD Certification

Statement of Competence
Appointment and authorization according to the procedures of the TÜV NORD JI/CDM Certification Program

Mr. Ricardo Lopes

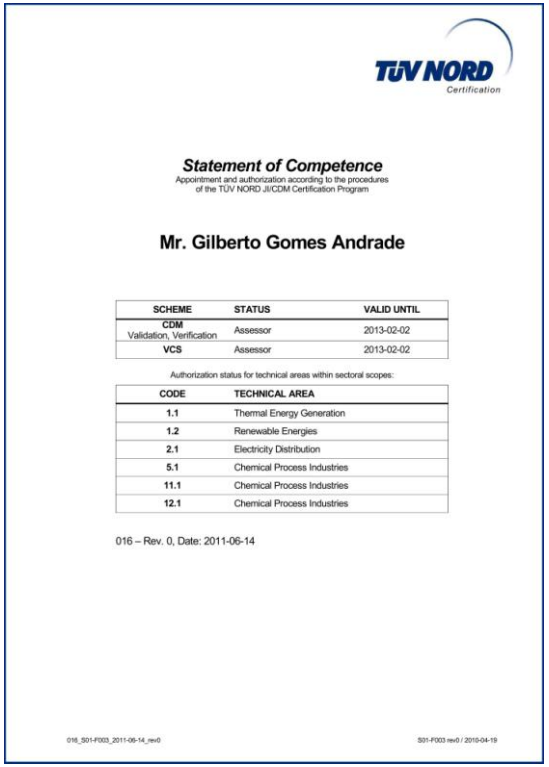
SCHEME	STATUS	VALID UNTIL
CDM	Lead Assessor (Validation, Verification)	2013-11-04
VCS	Lead Assessor	2013-11-04

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
1.2	Renewable Energy

077 – Rev. 2, Date: 2011-11-01

077_S01-F003_2011-11-01_rev2 S01-F003 rev0 / 2010-04-19



TÜV NORD Certification

Statement of Competence
Appointment and authorization according to the procedures of the TÜV NORD JI/CDM Certification Program

Mr. Gilberto Gomes Andrade

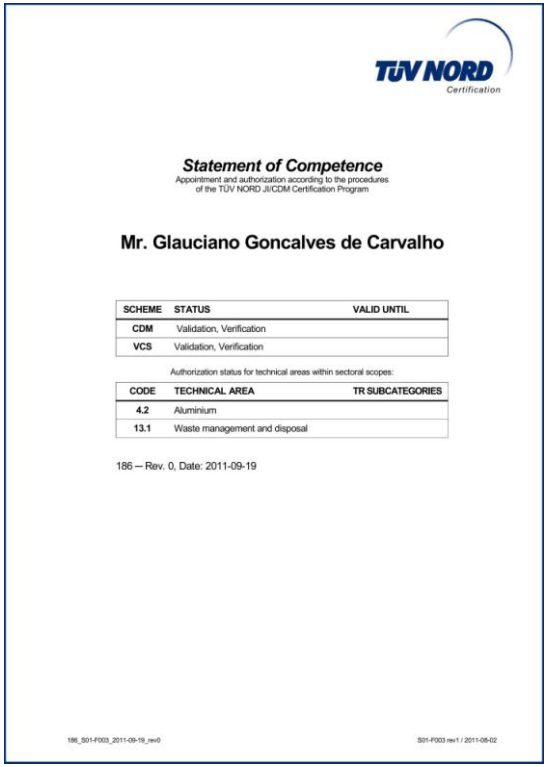
SCHEME	STATUS	VALID UNTIL
CDM Validation, Verification	Assessor	2013-02-02
VCS	Assessor	2013-02-02

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
1.1	Thermal Energy Generation
1.2	Renewable Energies
2.1	Electricity Distribution
5.1	Chemical Process Industries
11.1	Chemical Process Industries
12.1	Chemical Process Industries

016 – Rev. 0, Date: 2011-06-14

016_S01-F003_2011-06-14_rev0 S01-F003 rev0 / 2010-04-19



TÜV NORD Certification

Statement of Competence
Appointment and authorization according to the procedures of the TÜV NORD JI/CDM Certification Program

Mr. Glauciano Goncalves de Carvalho

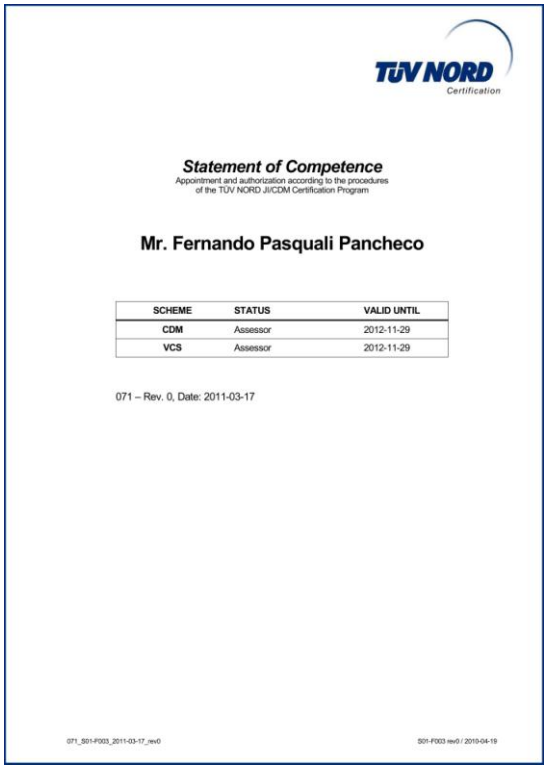
SCHEME	STATUS	VALID UNTIL
CDM	Validation, Verification	
VCS	Validation, Verification	

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA	TR SUBCATEGORIES
4.2	Aluminium	
13.1	Waste management and disposal	

186 – Rev. 0, Date: 2011-09-19

186_S01-F003_2011-09-19_rev0 S01-F003 rev1 / 2011-08-02



Statement of Competence

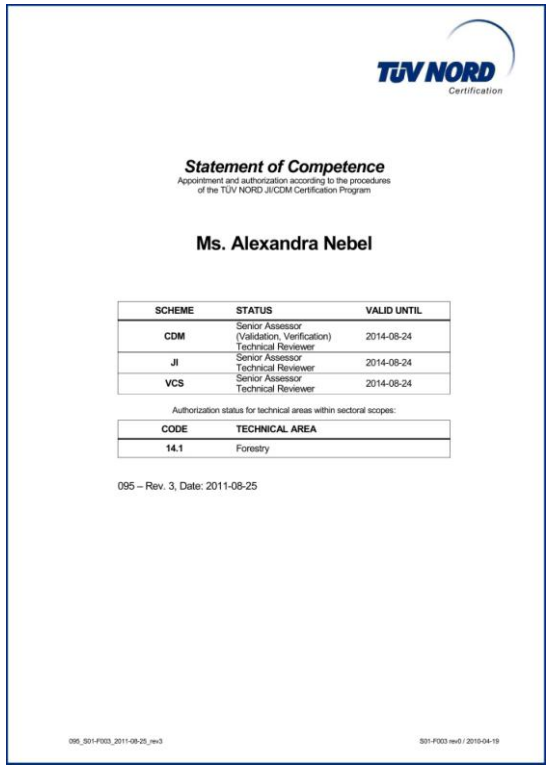
Appointment and authorization according to the procedures of the TÜV NORD JI/CDM Certification Program

Mr. Fernando Pasquali Pancheco

SCHEME	STATUS	VALID UNTIL
CDM	Assessor	2012-11-29
VCS	Assessor	2012-11-29

071 – Rev. 0, Date: 2011-03-17

071_S01-F003_2011-03-17_rev0 S01-F003 rev0 / 2010-04-19



Statement of Competence

Appointment and authorization according to the procedures of the TÜV NORD JI/CDM Certification Program

Ms. Alexandra Nebel

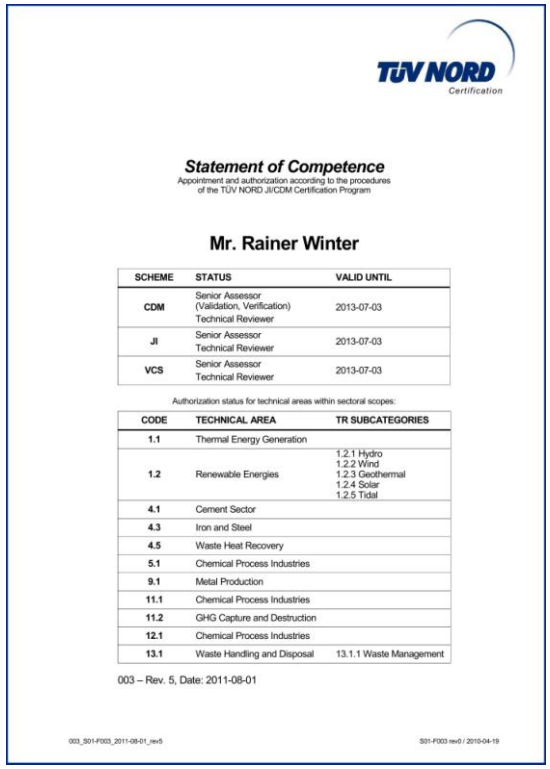
SCHEME	STATUS	VALID UNTIL
CDM	Senior Assessor (Validation, Verification) Technical Reviewer	2014-08-24
JI	Senior Assessor Technical Reviewer	2014-08-24
VCS	Senior Assessor Technical Reviewer	2014-08-24

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
14.1	Forestry

095 – Rev. 3, Date: 2011-08-25

095_S01-F003_2011-08-25_rev3 S01-F003 rev0 / 2010-04-19



Statement of Competence

Appointment and authorization according to the procedures of the TÜV NORD JI/CDM Certification Program

Mr. Rainer Winter

SCHEME	STATUS	VALID UNTIL
CDM	Senior Assessor (Validation, Verification) Technical Reviewer	2013-07-03
JI	Senior Assessor Technical Reviewer	2013-07-03
VCS	Senior Assessor Technical Reviewer	2013-07-03

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA	TR SUBCATEGORIES
1.1	Thermal Energy Generation	
1.2	Renewable Energies	1.2.1 Hydro 1.2.2 Wind 1.2.3 Geothermal 1.2.4 Solar 1.2.5 Tidal
4.1	Cement Sector	
4.3	Iron and Steel	
4.5	Waste Heat Recovery	
5.1	Chemical Process Industries	
9.1	Metal Production	
11.1	Chemical Process Industries	
11.2	GHG Capture and Destruction	
12.1	Chemical Process Industries	
13.1	Waste Handling and Disposal	13.1.1 Waste Management

003 – Rev. 5, Date: 2011-08-01

003_S01-F003_2011-08-01_rev5 S01-F003 rev0 / 2010-04-19