# VALIDATION REPORT

## BioHeat International B.V.

## Josapar Pelotas Biomass Electricity Generation Project

**SGS Climate Change Programme**
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| Date of issue: | Project No.: |
|---|---|
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| Project title | Organisational unit: |
| Josapar Pelotas Biomass Electricity Generation Project | SGS Climate Change Programme |
| Revision number | Client: |
| 05 | BioHeat International B.V. |

Summary
SGS has performed a validation of project: Josapar Pelotas Biomass Electricity Generation Project. The validation was performed on the basis of the UNFCCC criteria and host country criteria, as well as criteria given to provide consistent project operations, monitoring and reporting.
Using a risk based approach, the validation of the project design documentation and the subsequent follow-up interviews have provided SGS with sufficient evidence to determine the fulfilment of the stated criteria.

The SGS will request the registration of the Josapar Pelotas Biomass Electricity Generation Project as a CDM project activity, once the written approval by the DNA of the participating Parties and the confirmation by the DNA of Brazil that the project assists in achieving sustainable development has been received.

The Letter of Approval from the Government of Brazil was issued on 4th May 2007.

| Subject.: | | | Subject.: |
|---|---|---|---|
| CDM validation | | | |
| Work carried out by | | | Work carried out by |
| Fabian Gonçalves – Lead Assessor | | | |
| Technical review | | | Technical review |
| | | | |
| Authorized signatory | | | Authorized signatory |
| | | | |
| Date of final decision: | Number of pages: | D | Number of pages: |
| | 28 | | |

## Abbreviations

| | |
|---|---|
| AM | Approved Methodology |
| CAR | Corrective Action Request |
| CER | Certified Emission Reduction |
| DNA | Designated National Authority |
| MP | Monitoring Plan |
| NIR | New Information Request |
| PDD | Project design Document |
| SGS | Société Générale de Surveillance |
| EF | Emission Factor |

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# 1. Introduction

## *1.1 Objective*

The Bioheat International B.V. has commissioned SGS to perform the validation of the project: Josapar Pelotas Biomass Electricity Generation Project with regard to the relevant requirements for CDM project activities. 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 relevant UNFCCC and host country criteria are validated in order to confirm that the project design as documented is sound and reasonable and meets the stated requirements and identified criteria. Validation is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of Certified Emission Reduction (CER). UNFCCC criteria refer to the Kyoto Protocol criteria and the CDM rules and modalities and related decisions by the COP/MOP and the CDM Executive Board.

## *1.2 Scope*

The scope of the validation is defined as an independent and objective review of the project design document, the project's baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against Kyoto Protocol requirements, UNFCCC rules and associated interpretations. SGS has employed a risk-based approach in the validation, focusing on the identification of significant risks for project implementation and the generation of CERs.

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

## *1.3 GHG Project Description*

Josapar Pelotas is a rice mill located in Pelotas city, Rio Grande do Sul state, Brazil. The core business of Josapar is the production of paddy rice and parboiled rice for the market in Brazil and exporting markets. Josapar is the second rice company in Rio Grande do Sul state.
The purpose of the project is to eliminate electricity demand from the grid and sell the small surplus generated to the grid and provide process steam to the rice mill.

The project will eliminate electricity demand from the grid, using only rice husks as fuel, complying with Josapar energy demand and exporting surplus. With this new thermal power plant, Josapar will deactivate the old boiler used only to produce process steam. The company doesn´t depend on external sources of biomass to maintain the power plant fully operational.

Total amount of emission reductions for the first crediting period is 74,648 tCO2e

Baseline Scenario:
No investment in clean power generation; electricity generation by fossil fuel sources.

With-project scenario:
Construction of a new biomass cogeneration unit of 8MW and 17.6MW thermal of installed capacity, using rice husks as fuel. With project implementation 59,125 tonnes per year of rice husks will be consumed.

Leakage:
No leakage is anticipated.

Environmental and social impacts:
The project will promote sustainable development by increasing employment opportunities, implementation of new source of electricity generation, optimization in the use of natural resources; avoid new uncontrolled waste disposal places, using a large amount of rice residues.
The Josapar Pelotas rice mill is accomplished to local environmental license; it has authorization for installation according the law.

### *1.4 The names and roles of the validation team members*

| ***Name*** | ***Role*** |
|---|---|
| *Fabian Gonçalves – SGS Brazil* | *Lead Assessor* |

Statement of Competence of team members are attached at Annex IV.

## 2. Methodology

### *2.1 Review of CDM-PDD and additional documentation*

The validation is performed primarily as a document review of the publicly available project documents. The assessment is performed by trained assessors using a validation protocol.

A site visit is usually required to verify assumptions in the baseline. Additional information can be required to complete the validation, which may be obtained from public sources or through telephone and face-to-face interviews with key stakeholders (including the project developers and Government and NGO representatives in the host country). These may be undertaken by the local SGS affiliate. The results of this local assessment are summarized in Annex 1 to this report.

### *2.2 Use of the validation protocol*

The validation protocol used for the assessment is partly based on the templates of the IETA / World Bank Validation and Verification Manual and partly on the experience of SGS with the validation of CDM projects. It serves the following purposes:

- it organises, details and clarifies the requirements the project is expected to meet; and
- it documents both how a particular requirement has been validated and the result of the validation.

The validation protocol consists of several tables. The different columns in these tables are described below.

| ***Checklist Question*** | ***Means of verification (MoV)*** | ***Comment*** | ***Draft and/or Final Conclusion*** |
|---|---|---|---|
| *The various requirements are linked to checklist questions the project should meet.* | *Explains how conformance with the checklist question is investigated. Examples of means of verification are document review (DR) or interview (I). N/A means not applicable.* | *The section is used to elaborate and discuss the checklist question and/or the conformance to the question. It is further used to explain the conclusions reached.* | *This is either acceptable based on evidence provided (**Y**), or a **Corrective Action Request (CAR)** due to non-compliance with the checklist question (See below). **New Information Request (NIR)** is used when the validation team has identified a need for further clarification.* |

The completed validation protocol for this project is attached as Annex 2 to this report

### *2.3 Findings*

As an outcome of the validation process, the team can raise different types of findings

In general, where insufficient or inaccurate information is available and clarification or new information is required the Assessor shall raise a **New Information Request (NIR)** specifying what additional information is required.

Where a non-conformance arises the Assessor shall raise a **Corrective Action Request (CAR).** A CAR

is issued, where:

I. mistakes have been made with a direct influence on project results;

II. validation protocol requirements have not been met; or

III. there is a risk that the project would not be accepted as a CDM project or that emission reductions will not be verified.

The validation process may be halted until this information has been made available to the assessors' satisfaction. Failure to address a NIR may result in a CAR. Information or clarifications provided as a result of an NIR may also lead to a CAR.

**Observations** may be raised which are for the benefit of future projects and future verification or validation actors. These have no impact upon the completion of the validation or verification activity.

Corrective Action Requests and New Information Requests are raised in the draft validation protocol and detailed in a separate form (Annex 3). In this form, the Project Developer is given the opportunity to "close" outstanding CARs and respond to NIRs and Observations.

### *2.4 Internal quality control*

Following the completion of the assessment process and a recommendation by the Assessment team, all documentation will be forwarded to a Technical Reviewer. The task of the Technical Reviewer is to

check that all procedures have been followed and all conclusions are justified. The Technical Reviewer will either accept or reject the recommendation made by the assessment team.

## 3. Determination Findings

### *3.1 Participation requirements*

Host Party: Brazil is listed as the host Party. Brazil has ratified the Kyoto Protocol on 23rd August 2002.

Annex 1: Netherlands has ratified the Kyoto Protocol on 31st May 2002.

(http://unfccc.int/files/essential_background/kyoto_protocol/application/pdf/kpstats.pdf)

CAR 1 was raised: No letter of approval from Annex I country has been provided to the validator.

Letter received, dated on 06/07/2006. CAR 1 was closed out.

At time of the validation, no Letter of Approval from the host country had been provided. The Letter of Approval will be signed when the DNA of Brazil has received the validation report.

The letter of Approval from Brazil was issued on 4th May 2007, after that some change were necessary related to the template (version 3) of the PDD.

### *3.2 Baseline selection and additionality*

This activity confirms with category I.D Renewable electricity generation for a grid, that comprises renewable energy generation units that supply electricity to an electricity distribution system that is or would have been supplied by at least one fossil fuel or non-renewable biomass fired generation unit.

The project comprises the use of rice husks, which is a renewable biomass to be used to supply electricity to and displace electricity from the south-southeast-midwest Brazilian grid. The unit uses only rice husks, which is renewable biomass. The plant maximum output of heat (17.6MW th) and power (8.0 MWe), the sum of these if below the limit of 45 MWthermal. This is the first biomass power plant to be installed in Josapar Pelotas. The project is not a retrofitted or modified facility, the old non-environmental boiler will be deactivate; the biomass plant will be a new facility and will produce a maximum 8 MW that is below the limit of 15 MW.

Verified that the other companies (that consumes the rice husks generated by Josapar Pelotas) will continue to use wood as fuel or surplus rice husks from other companies in the region. The project is located in the biggest rice producers region. Josapar Pelotas will increase the rice production and this increase was considered under project scenario. This information was obtained with Josapar and PTZ consider this in the calculation.

It is conclude that category AMS I.D is applicable to the small scale project activity.

It was checked that the project is not a debundled component of a larger activity.There is no other registered project with the same characteristics.

According to simplified methodologies, project participants shall provide an explanation to show that the project activity would not have occurred anyway due to at least one pre-defined barrier.

The project demonstrated additionality by using the Attachment A to Appendix B from the CDM EB (barrier analysis). The project described two scenarios, continuation of current activities (scenario 1) and construction of a renewable energy plant (scenario 2). The investment barrier in scenario 2 was select because this barrier would prevent that the project would have occurred. During validation assessment

the worksheets with investment analysis, formula used, equipment quotation were verified; The discount rate was cross checked with national rate and without project implementation the biomass will continue to be disposed in the landfill and the energy consumed from de grid.

NIR 3 was raised: To correct the NPV and discount tax in the PDD according to the financial analysis worksheet verified during site visit.

The PDD was revised and copy of the worksheet was provided. NIR 3 was closed out.

The IRR presented represents a financial barrier for the project activity. The IRR without carbon credit is 7.9% and considering carbon credit is 10.0%. The IRR is lower than discount rate (9.75%) without carbon credit.

In order to perform the analysis using IRR, the discount rate applied was the TJLP (Taxa de Juros de Longo Prazo – Long term interest rate http://www.bndes.gov.br/produtos/download/tjlp_evolucao.xls), set by the BNDES bank.
It was demonstrated that the IRR of 7.9% was lower than discount rate indicating that the project is not a financially attractive option.
The assumptions and data used for NPV calculation (without and with CERs) were provided in the PDD. The spreadsheets with the detailed analysis and data were verified during the validation process.

The investment analysis demonstrates that carbon credits are necessary to continue with project implementation and it was concluded that the project is additional.

### *3.3 Application of Baseline methodology and calculation of emission factors*

The methodology applied to this Small Scale Project activity is Type I, Category I.D version 10 – grid connected renewable electricity generation.

In the methodology, the simplified baseline is the kWh produced by the renewable generating unit multiplied by an emission coefficient calculated in a transparent and conservative manner as: the average of the “approximate operating margin” and the “build margin”.

The baseline emission factor is calculated as a combined margin, consisting of the operating margin and the build margin of the relevant electricity system. For the purpose of determining the build margin and the operating margin emission factors, a project electricity system is defined by the spatial extent of the power plants that can be dispatched without significant transmission constraints. Similarly a connected electricity system is defined as one that is connected by transmission lines to the project and in which power plants can be dispatched without significant transmission constraints.
During validation assessment CAR 2 was raised: To correct the emission factor using the most recent value available (until 2005).
The PDD was revised and calculation of the new emission factor was verified, copy was provided. CAR 2 was closed out.

Emission reductions for category I.D is the emission reduction due to grid connected renewable electricity production = baseline emissions of electricity generations.

The emission reduction of the project activity is: ER = Electricity production by project activity * Emission factor

### *3.4 Application of Monitoring methodology and Monitoring Plan*

The monitoring methodology is in line with the monitoring methodology mentioned in category I.D version 10.

The monitoring plan encompasses metering the electricity generated by rice husk combustion regarding category I.D.

### *3.5 Project design*

The project applies the correct PDD format.

One observation was raised to include the date and version in the PDD. The PDD was revised and the observation was closed out.

### *3.6 Environmental Impacts*

The project has the legally required environmental licenses. Installation license issued by Fepam (LI number 834/2004-DL, 18/11/2004).
No environmental impact expected. The project will contribute to displace more carbon intensive electricity generation sources from the south-southeast-midwest grid, promoting the use of renewable fuel (rice husk) for electricity generation.
The project will improve the local environmental condition due to the adequate treatment of rice husks residues.

### *3.7 Local stakeholder comments*

Local stakeholders have been invited by letters to comment on the Josapar Pelotas Biomass Electricity Generation Project.

The invitation was sent to specific stakeholders, considered representative of the general public (according Resolution 1 of the DNA):

- City Hall of Pelotas;
- Chamber of Pelotas;
- Environmental agencies from the state and Local Authority;
- The Brazilian NGO Forum;
- District Attorney;
- Local communities' associations.

Copies of the letters sent to stakeholders and records of receiving were verified (formal records from the post office). Comment from stakeholders was received and a summary of the comment and the report on how due account was taken was provided during validation assessment, and in the PDD.

## 4. Comments by Parties, Stakeholders and NGOs

In accordance with sub-paragraphs 40 (b) and (c) of the CDM modalities and procedures, the project design document of a proposed CDM project activity shall be made publicly available and the DOE shall invite comments on the validation requirements from Parties, stakeholders and UNFCCC accredited non-governmental organizations and make them publicly available. This chapter describes this process for this project.

### *4.1 Description of how and when the PDD was made publicly available*

The PDD and the monitoring plan for this project were made available on the SGS website http://cdm.unfccc.int/Projects/Validation/DB/8KJH6CBTOOTI617ND0W6MJ0EJVZ5AW/view.html and were open for comments from 15 Mar 2006 until 14 Apr 2006. Comments were invited through the UNFCCC CDM homepage.

### *4.2 Compilation of all comments received*

| *Comment number* | *Date received* | *Submitter* | *Comment* |
|---|---|---|---|
| 0 | | | |

### *4.3 Explanation of how comments have been taken into account*

No comments received.

## 5. Validation opinion

Steps have been taken to close out 3 findings and one observation.

SGS has performed a validation of project: Josapar Pelotas Biomass Electricity Generation Project. The validation was performed on the basis of the UNFCCC criteria and host country criteria, as well as criteria given to provide consistent project operations, monitoring and reporting.
Using a risk based approach, the validation of the project design documentation and the subsequent follow-up interviews have provided SGS with sufficient evidence to determine the fulfilment of the stated criteria.

By using rice husk as biomass to electricity generation, the project results in reducing greenhouse gas emissions that are real, measurable and give long-term benefits to the mitigation of climate change. A review of the investment barrier presented demonstrates that the proposed project activity was not a likely baseline scenario. Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity. If the project is implemented as designed, the project is likely to achieve the estimated amount of emission reductions.
The validation is based on the information made available to SGS and the engagement conditions detailed in the report. The validation has been performed using a risk based approach as described above. The only purpose of this report is its use during the registration process as part of the CDM project cycle. Hence SGS can not be held liable by any party for decisions made or not made based on the validation opinion, which will go beyond that purpose.

## 6. List of persons interviewed

| *Date* | *Name* | *Position* | *Short description of subject discussed* |
|---|---|---|---|
| 7-8th June, 2006 | Diego Machado Silveira | Project developer | Technical issues, operational issues, findings, monitoring plan, baseline, quality procedures, licenses. |
| 7-8th June, 2006 | Marie Bertolucci Ehrengerger | Lawyer | Licenses, stakeholder consultation process, findings. |
| 8th June, 2006 | Luiza Termignoni | Project developer | Validation process and findings. |
| 8th June, 2006 | Teobaldo Grabin | Project developer | Validation process and findings. |

## 7. Document references

Category 1 Documents (documents provided by the Client that relate directly to the GHG components of the project, (i.e. the CDM Project Design Document, confirmation by the host Party on contribution to sustainable development and written approval of voluntary participation from the designated national authority):

/1/ Project Design Document, Josapar Pelotas Biomass Electricity Generation Project, version 01, 08/02/2006; version 02, 08/06/2006; version 03, 27/06/2006; version 04, 19/10/2006; version 05, 25/01/2007; version 06, 30/03/2007; version 07, 16/07/2007.

/2/ Simplified baseline and monitoring methodologies for selected small scale CDM project activity – AMS ID Grid connected renewable electricity generation, version 10, 23 December 2006.

Category 2 Documents (background documents used to check project assumptions and confirm the validity of information given in the Category 1 documents and in validation interviews):

/3/ ANEEL license: Rosolução number 177, 30/04/2004. Authorize Josapar Pelotas to produce 8 MW.

/4/ Rice husks worksheet 2003-2005. Worksheet with quantity of rice husks generated and consumed.

/5/ LI number 834/2004-DL, 18/11/2004 issued by Fepam. Installation license.

/6/ Josapar Pelotas, June 2006. CDM project management planning.

/7/ Financial analysis. Worksheets with financial analysis.

/8/ Invoice December/2005 and worksheet with energy consumption 2003-2005. Energy invoice for the year 2005.

/9/ CERs Josapar Pelotas project. Worksheets with data of biomass decay parameters, project emissions, electricity displace, baseline emissions.

/10/ “Comunicato técnico, 26/04/2006 Dryeration” (temperature control of the rice deposit). Technical information.

/11/ Emission factor 2003-2005. Emission factor data, ONS data (National Operator of the electricity system).

/12/ "Ensaio em casca de arroz", number 17136/55654, 13/01/2006 issued by Cientec. Rice husk analysis to determine the ash content, humidity.

/13/ Potencial Bioenergético do Setor Arrozeiro do RS, 2001. Universidade Federal RS. Study that confirms the ash content in the rice rusk, %of husk and humidity of the rice.

# Annex 1 - Local assessment checklist

## CDM.Val0214e

This checklist is designed to provide confirmation of in-country data and information provided in the Project Design Document. It serves as a "reality check" on the project. It is to be completed by SGS Brazil.

| Issue | Findings | Source /Means of Verification | Further action / clarification / information required? |
|---|---|---|---|
| Investment barrier: verify financial analysis. | NIR 3 was raised: To correct the NPV and discount tax in the PDD according to the financial analysis worksheet verified during site visit.<br>The PDD was revised and copy of the worksheet was provided. NIR 3 was closed out. | Site visit/DR/I | NIR 3 was closed out.<br>Ok |
| Verify emission factor document: "Fator de Redução de Emissões no Grid Interconectado do Sistema Sul-Sudeste-Centro-Oeste". | CAR 2 was raised: To correct the emission factor using the most recent value available (until 2005).<br>The PDD was revised and calculation of the new emission factor was verified, copy was provided. CAR 2 was closed out. | Site visit/DR/I | CAR 2 was closed out.<br>Ok |
| Verify ANEEL license. | Verified ANEEL license: Rosolução number 177, 30/04/2004, that authorize Josapar Pelotas to produce 8 MW. | Site visit/DR | No |
| To verify the project like described in the PDD. | It was verified controls, worksheets and invoices that was used in the project:<br>"Comunicado técnico, 26/04/2006 issued by Dryeration" (temperature control of the rice deposit).<br>Worksheet 2003-2005 with electricity imported form the grid.<br>Worksheet 2003-2005 with rice husks generated and rice produced control.<br>Verified invoices and worksheet that prove the transportation of rice husks to | Site visit | No |

| Issue | Findings | Source /Means of Verification | Further action / clarification / information required? |
|---|---|---|---|
| | landfill. | | |

## ANNEX 2 - VALIDATION PROTOCOL

THIS VALIDATION PROTOCOL IS DESIGNED TO ENSURE THAT THE PROJECT MEETS THE REQUIREMENTS FOR CDM PROJECTS THAT ARE DETAILED IN PARAGRAPH 37 OF THE CDM MODALITIES AND PROCEDURES. EACH REQUIREMENT IS COVERED IN A SEPARATE TABLE. THE FOLLOWING REQUIREMENTS ARE DISCUSSED IN THIS PROTOCOL:

| Requirement | Description | |
|---|---|---|
| Participation requirements | The participation requirements as set out in Decision 17/CP7 need to be satisfied | Covered in table 1 |
| Baseline and monitoring methodology | The baseline and monitoring methodology complies with the requirements pertaining to a methodology previously approved by the Executive Board | Baseline methodology is covered in table 2<br>Monitoring methodology is covered in table 4 |
| Additionality | The project activity is expected to result in a reduction in anthropogenic emissions by sources of greenhouse gases that are additional to any that would occur in the absence of the proposed project activity | Covered in table 3 |
| Monitoring plan | Provisions for monitoring, verification and reporting are in accordance with relevant decisions of the COP/MOP | Covered in table 5 |
| Environmental impacts | Project participants have submitted to the designated operational entity documentation on the analysis of the environmental impacts of the project activity, including transboundary impacts and, if those impacts are considered significant by the project participants or the host Party, have undertaken an environmental impact assessment in accordance with procedures as required by the host Party; | Covered in table 6 |
| Comments by local stakeholders | Comments by local stakeholders have been invited, a summary of the comments received has been provided, and a report to the designated operational entity on how due account was taken of any comments has been received; | Covered in Table 7 |
| Other requirements | The project activity conforms to all other | Covered in Table 8 |

requirements for CDM project activities in relevant decisions by the COP/MOP and the Executive Board.

**TABLE 1 PARTICIPATION REQUIREMENTS FOR CLEAN DEVELOPMENT MECHANISM (CDM) PROJECT ACTIVITIES (REF PDD, LETTERS OF APPROVAL AND UNFCCC WEBSITE) ALL CDM PROJECT ACTIVITIES**

| REQUIREMENT | MoV | Ref | Comment | Draft finding | Concl |
|---|---|---|---|---|---|
| 1.1 The project shall assist Parties included in Annex I in achieving compliance with part of their emission reduction commitment under Art. 3 and be entered into voluntarily. | DR | PDD | No letter of approval from Annex I country (Netherlands) was provided to the validator.<br>Letter received, dated on 06/07/2006.<br>CAR 1 was closed out. | CAR 1 | Ok |
| 1.2 The project shall assist non-Annex I Parties in achieving sustainable development and shall have obtained confirmation by the host country thereof, and be entered into voluntarily | DR | PDD | No letter of approval from non Annex I, Brazil. The letter of approval from the Government of Brazil was issued on 4th May 2007, after that some changes were necessary related to the template (version 3) of the PDD. | Send the validation report to DNA | |
| 1.3 All Parties (listed in Section A3 of the PDD) have ratified the Kyoto protocol and are allowed to participate in CDM projects | DR | UNFCCC web site | Yes.<br>Brazil 23 Ago 02<br>Netherlands 31 May 02 | Ok | Ok |
| 1.4 The project results in reductions of GHG emissions or increases in sequestration when compared to the baseline; and the project can be reasonably shown to be different from the baseline scenario | DR | PDD | The project will eliminate the electricity consumption from the grid and will sell the small surplus generated. | Ok | Ok |
| 1.5 Parties, stakeholders and UNFCCC accredited NGOs shall have been invited to comment on the validation requirements for minimum 30 days (45 days for AR projects), and the project design document and comments have | DR | PDD / UNFCCC web site | PDD public available: 15 Mar 2006 until 14 Apr 2006<br>http://cdm.unfccc.int/Projects/Validation/DB/8KJH6CBTOOTI617ND0W6MJ0E | Ok | Ok |

| REQUIREMENT | MoV | Ref | Comment | Draft finding | Concl |
|---|---|---|---|---|---|
| been made publicly available | | | JVZ5AW/view.html<br>No comments received. | | |
| 1.6 The project has correctly completed a Project Design Document, using the current version and exactly following the guidance | DR | PDD | Yes. The project use version 02, 8 July 2005. | Ok | Ok |
| 1.7 The project shall not make use of Official Development Assistance (ODA), nor result in the diversion of such ODA | DR | PDD | There is no use of ODA.<br>No ODA was used in this project. The financial plan was verified and do not consider ODA, the project will use private bank financing. | Ok | Ok |
| 1.8 For AR projects, the host country shall have issued a communication providing a single definition of minimum tree cover, minimum land area value and minimum tree height. Has such a letter been issued and are the definitions consistently applied throughout the PDD? | | | NA | NA | NA |
| 1.9 Does the project meet the additional requirements detailed in:<br>Table 9 for SSC projects<br>Table 10 for AR projects<br>Table 11 for AR SSC projects | DR | PDD | Yes, see table 9. | Ok | Ok |
| 1.10 Is the current version of the PDD complete and does it clearly reflect all the information presented during the validation assessment. | DR | PDD | Yes, used the current version. | Ok | Ok |
| 1.11 Does the PDD use accurate and reliable information that can be verified in an objective manner? | DR | PDD | Yes. To be confirmed by local assessor.<br>Data, emission factor and applicable values were verified and discussed during site visit. Copy of the documents mentioned in the PDD was provided. | Verify | Ok |

**TABLE 2 BASELINE METHODOLOGY (IES) (REF: PDD SECTION B AND E AND ANNEX 3 AND AM) NORMAL CDM PROJECTS ONLY - NA**

**Table 3 Additionality (Ref: PDD Section B3 and AM) Normal CDM projects only - NA**

**Table 4 Monitoring methodology (PDD Section D and AM) Normal CDM projects only - NA**

**Table 5 Monitoring plan (PDD Annex 4) Normal CDM projects only - NA**

**Table 6 Environmental Impacts (Ref PDD Section F and relevant local legislation) Normal CDM projects only - NA**

**Table 7 Comments by local stakeholders (Ref PDD Section G) All CDM projects activities**

| | | | | | |
|---|---|---|---|---|---|
| 7.1 Have relevant stakeholders been consulted? | PDD | DR | Yes. | Ok | Ok |
| 7.2 Have appropriate media been used to invite comments by local stakeholders? | PDD | DR | Verify letter sent to stakeholders.<br>Letters were sent in local language. | Verify | Ok |
| 7.3 If a stakeholder consultation process is required by regulations/laws in the host country, has the stakeholder consultation process been carried out in accordance with such regulations/laws? | PDD | DR | Verify letters.<br>Verified letters dated on 08/05/2006 and 20/06/2006 sent to local stakeholders and delivery receipt received on 30/06/2006 and 03/07/2006: (copy was provided)<br>City Hall of Pelotas;<br>Chamber of Pelotas;<br>Environmental agencies from the state and local authority;<br>Brazilian NGO forum;<br>District Attorney;<br>Local communities. | Verify | Ok |
| 7.4 Is a summary of the stakeholder comments received provided? | PDD | DR | To be confirmed by local assessor.<br>The project received one comment from Brazilian NGO Forum, copy of the comment was provided. | Verify | Ok |
| 7.5 Has due account been taken of any stakeholder comments received? | PDD | DR | Yes, it was describe in section G.3 of the PDD. | Ok | Ok |

## TABLE 8 OTHER REQUIREMENTS. ALL CDM PROJECT ACTIVITIES

| |
|---|
| **8.1 Project Design Document** |

| | | | | | |
|---|---|---|---|---|---|
| 8.1.1 Editorial issues: does the project correctly apply the PDD template and has the document been completed without modifying/adding headings or logo, format or font. | PDD | DR | They used the current version, no changes have been observed. | Ok | Ok |
| 8.1.2 Substantive issues: does the PDD address all the specific requirements under each header. If requirements are not applicable / not relevant, this must be stated and justified | PDD | DR | Yes. | Ok | Ok |
| **8.2 Technology to be employed** | | | | | |
| 8.2.1 Does the project design engineering reflect current good practices? | PDD | DR | Yes. | Ok | Ok |
| 8.2.2 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? | PDD | DR | Yes, the project uses state of art convencional Rankine cycle. Combustion of the fuel will be performed with proven technologies as a medium pressured boiler. The power plant control will be supervised by a high standard LPCs and computers. | Ok | Ok |
| 8.3 Is the project technology likely to be substituted by other or more efficient technologies within the project period? | PDD | DR | No. | Ok | Ok |
| 8.2.4 Does the project require extensive initial training and maintenance efforts in order to work as presumed during the project period? | PDD | DR | PTZ is responsible for training to operators before the project starts. | Verify | Ok |
| ***8.3 Duration of the Project/ Crediting Period*** | | | | | |
| 8.3.1 Are the project's starting date and operational lifetime clearly defined and reasonable? | PDD | DR | Starting date: 01/05/2008<br>Lifetime: 30 years | Ok | Ok |
| 8.3.2 Is the assumed crediting time clearly defined and reasonable (renewable crediting period of max. two x 7 years or fixed crediting period of max. 10 years)? | PDD | DR | Renewable crediting period, 7 years.<br>The first crediting period will start: 01/12/2009 | Ok | Ok |
| 8.3.3 Does the project's operational lifetime exceed the crediting period | PDD | DR | Yes. | Ok | Ok |

## TABLE 9 ADDITIONAL REQUIREMENTS FOR SSC PROJECTS

| | | | | | |
|---|---|---|---|---|---|
| SSC projects use the SSC PDD and simplied baseline and monitoring methodologies as detailed in Appendix B (to the Modalities and Procedures for Small scale CDM projects, Annex II to Decision 21/CP.8) Indicative simplied baseline and monitoring methodologies for selected small scale CDM project activity categories | | | | | |
| 9.1 Does the project qualify as a small scale CDM project activity as defined in paragraph 6 (c) of decision 17/CP.7 on the modalities and procedures for the CDM? | PDD | DR | Yes. The project comprises combustion of renewable rice husks in a biomass boiler for electricity generation (8 MW), which is below the limit for type I projects. The maximum output of heat (17.6 MWh) and power (8 MWh) is below the limit of 45 MWthermal required for small scale projects. | Ok | Ok |
| 9.2 The project conforms to one of the categories listed in Appendix B to Annex II to Decision 21/CP8 | PDD | DR | Yes.<br>Categories ID, the project comprises the use of rice husks, renewable biomass to be used to supply electricity to the grid, and displace electricity from the Brazilian grid. | Ok | Ok |
| 9.3 The small scale project activity is not a debundled component of a larger project activity? | PDD | DR | The project is not debundled of a larger project activity. Project participant does not have any other CDM project activity in the same site and category. It was confirmed in the unfccc website that there is no other registered project in the same place. | Ok | Ok |
| 9.4 PDD has been prepared in accordance with appendix A of Annex II to Decision 21/CP8 | PDD | DR | Yes. The current version was used. | Ok | Ok |
| 9.5 The project uses a simplified baseline and monitoring methodology specified in Appendix B. If not, they may propose changes | PDD | DR | They use simplified baseline and monitoring methodology. The choice of the applicable baseline | Ok | Ok |

| | | | | | |
|---|---|---|---|---|---|
| to the meths or a new SSC project category | | | calculation for the project category is justified on the PDD, section B2. The project complies with the applicability conditions. The monitoring plan presents good monitoring practice appropriate to the circumstances of the project activity. Worksheets with baseline data were verified. See list of documents consulted. | | |
| 9.6 Is there any bundling of SSC activities into one PDD? If so, does the monitoring plan consider sampling of activities? Refer to para 19 of Annex II. Also, note bundling provisions in SSC Briefing Note and SSC meths I C / I D and III D and Para 22e of Appendix B | PDD | DR | No, the proposed project activity is not bundling of small scale activities. | Ok | Ok |
| 9.7 Is EIA required by host party? If not, none is required irrespective of SHC. If yes, has one been performed consistent with local requirements? | PDD | DR | Verify the license issued by State environmental agency.<br>Verified the environmental license (installation), and the state environmental agency did not require an EIA. LI number 834/2004-DL, 18/11/2004 issued by Fepam. When the project starts will be necessary to comply with requirements of the environmental agency. | Verify | Ok |
| 9.8 The project results in emission reductions that area additional in accordance with the following requirements:<br>(para 26) The project is additional if emissions are reduced below those in the absence of the project<br>(Para 27) Simplified baseline can be used; if not, baseline proposed shall cover all gases, sectors and sources listed in Annex A to the KP<br>Para 28) One or more barriers as detailed in attachment A to Appendix B to Annex II will be used to demonstrate that the project would not proceed without the CDM | PDD | DR | Yes, emissions are reduced below in the absence of the project.<br>They uses simplified baseline.<br>They use attachment A to appendix B.<br>The investment barrier would prevent that the project would have occurred. During validation assessment the worksheets with | Ok | Ok |

| | | | | | |
|---|---|---|---|---|---|
| | | | investment analysis, formula used, equipment quotation were verified; The discount rate was cross checked with national rate and without project implementation the biomass will continue to be disposed in the landfill and the energy consumed from de grid. The investment analysis demonstrates that carbon credits are necessary to continue with project implementation and it was concluded that the project is additional. See list of documents consulted.<br>The other scenario presented was the continuation of current activities, verified that there is no legal requirement to implement the project activity, the project can continue to use energy from the grid and the environmental agency do not require conditions related to landfill the rice husks. | | |
| 9.9 Leakage is calculated according to the provisions of the SSC methodologies in Appendix B (http://cdm.unfccc.int/Projects/pac/sslistmeth.pdf) | PDD | DR | Leakage is not applicable. | Ok | Ok |
| 9.10 The project boundary shall be constructed in accordance with the requirements of the SSC meths in Appendix B | PDD | DR | The project boundary encompasses the physical, geographical sites of the rice mills. | Ok | Ok |
| 9.11 The Monitoring plan shall be consistent with the requirements of the SSC methodology in Appendix B and shall provide for the collection and archiving of data needed to determine project emissions, baseline emissions and leakage. | PDD | DR | Yes. The monitoring plan presents the necessary requirements to collect, record, archive, QA/AC for project emissions and baseline emissions. | Ok | Ok |
| 9.12 The monitoring plan shall present good monitoring practice appropriate | PDD | DR | Yes. Section D.4 of the PDD presents the QA/QC | Ok | Ok |

| | | | | | |
|---|---|---|---|---|---|
| to the circumstances of the project activity (para 33) | | | and section D.5 presents the management structure. It was prepared a management procedure for Josapar Pelotas project, which defines project organization, how to collect monitoring data, data processing, management quality and troubleshooting. See list of documents consulted. | | |
| 9.13 If project activities are bundled, separate monitoring plan shall be prepared for each of the activities or an overall plan reflecting good monitoring practice will be prepared, consistent with the above requirements | PDD | DR | Not bundled. | Ok | Ok |

**TABLE 10ADDITIONAL REQUIREMENTS FOR AR PROJECTS - NA**

**TABLE 11ADDITIONAL REQUIREMENTS FOR SSC AR PROJECTS - NA**

**TABLE 12ADDITIONAL INFORMATION TO BE VERIFIED BY LOCAL ASSESSORS / SITE VISIT**

| | | | | | |
|---|---|---|---|---|---|
| Investment barrier: verify financial analysis. | Site visit | DR/I | NIR 3 was raised: To correct the NPV and discount tax in the PDD according to the financial analysis worksheet verified during site visit.<br>The PDD was revised and copy of the worksheet was provided. NIR 3 was closed out. | NIR 3 | Ok |
| Verify emission factor document: “Fator de Redução de Emissões no Grid Interconectado do Sistema Sul-Sudeste-Centro-Oeste”. | Site visit | DR/I | CAR 2 was raised: To correct the emission factor using the most recent value available (until 2005).<br>The PDD was revised and calculation of the new emission factor was | CAR 2 | Ok |

| | | | | | |
|---|---|---|---|---|---|
| | | | verified, copy was provided. CAR 2 was closed out. | | |
| Verify ANEEL license. | Site visit | DR | Verified ANEEL license: Rosolução number 177, 30/04/2004, that authorize Josapar Pelotas to produce 8 MW. | Ok | Ok |
| To verify the project like described in the PDD. | Site visit | DR/I | It was verified controls, worksheets and invoices that was used in the project:<br>"Comunicado técnico, 26/04/2006 issued by Dryeration" (temperature control of the rice deposit).<br>Worksheet 2003-2005 with electricity imported form the grid.<br>Worksheet 2003-2005 with rice husks generated and rice produced control.<br>Verified invoices and worksheet that prove the transportation of rice husks to landfill.<br>Verified that the other companies (that consumes the rice husks generated by Josapar Pelotas) will continue to use wood as fuel or surplus rice husks from other companies in the region. The project is located in the biggest rice producers region. Josapar Pelotas will increase the rice production and this increase was considered under project scenario. This information was obtained with Josapar and PTZ consider this in the calculation. | Ok | Ok |

## Annex 3 - FINDINGS OVERVIEW

**Findings from validation of josapar Pelotas Biomass Electricity Generation Project – CDM.Val0214e**

Each Table below represents a finding from the validation assessment. The findings are numbered consecutively, approximately in the order that they have been identified.

Description of table:

| | |
|---|---|
| Type | Findings are either New Information Requests (NIR) or Corrective Action Requests (CAR). CARs are items that must be addressed before a project can receive a recommendation for registration. NIRs may lead to the raising of CARs. Observations are included at the end and may or may not be addressed. They are primarily to act as signposts for the verifying DOE. |
| Issue | Details the content of the finding |
| Ref | refers to the item number in the Validation Protocol |
| Response | Please insert response to finding, starting with the date of entry. |

Rows for comments and further response will be appended to the table until the Findings has been addressed to the satisfaction of the Lead Assessor.

Please note that this is an open list and more findings may be added as validation progresses.

Date: 23/03/2006 Raised by: Fabian Gonçalves

| No. | Type | Issue | Ref |
|---|---|---|---|
| 1 | CAR | No letter of approval from Annex I country, Natherlands was provided to the validator. | 1.1 |
| Date:<br>[Comments] | | | |
| Date: 27/07/2006 – Fabian Gonçalves.<br>[Acceptance and close out] Letter received, dated on 06/07/2006.<br>CAR 1 was closed out. | | | |

Date: 07/06/2006 Raised by: Fabian Gonçalves

| No. | Type | Issue | Ref |
|---|---|---|---|
| 2 | CAR | To correct the emission factor using the most recent value available (until 2004). | Table 12 |
| Date:<br>[Comments] | | | |
| Date: 27/07/2006 – Fabian Gonçalves.<br>[Acceptance and close out] The PDD was revised and calculation of the new emission factor was verified, copy was provided. CAR 2 was closed out. | | | |

Date: 07/06/2006 Raised by: Fabian Gonçalves

| No. | Type | Issue | Ref |
|---|---|---|---|
| 3 | NIR | To correct the NPV and discount tax in the PDD according to the financial analysis worksheet verified during site visit. | Table 12 |
| Date:<br>[Comments] | | | |
| Date: 27/07/2006 – Fabian Gonçalves.<br>[Acceptance and close out] The PDD was revised and copy of the worksheet was provided. NIR 3 | | | |

| |
|---|
| was closed out. |

Observations:

1- To insert date and version in the PDD.

| |
|---|
| Date: 27/07/2006 – Fabian Gonçalves.<br>[Acceptance and close out] The PDD was revised. Observation was closed. |

## Annex 4 - Statement of Competence

Name: SGS Affiliate:

Status

- Product Co-ordinator ☒
- Operations Co-ordinator ☐
- Technical Reviewer ☐
- Expert ☐

| | Validation | Verification |
|---|---|---|
| - Local Assessor | ☒ | ☒ |
| - Lead Assessor | ☒ | ☒ |
| - Assessor / Trainee Lead Assessor | ☒ | ☒ |

Scopes of Expertise

1. Energy Industries (renewable / non-renewable) ☒
2. Energy Distribution ☐
3. Energy Demand ☐
4. Manufacturing ☒
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 Sulphur Hexafluoride ☐
12. Solvent Use ☐
13. Waste Handling and Disposal ☒
14. Afforestation and Reforestation ☐
15. Agriculture ☐

Approved Member of Staff by Date:

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