



**CDM Project Activity Registration  
and Validation Report Form**

*(By submitting this form, designated operational entity confirms  
that the proposed CDM project activity meets all validation and  
registration requirements and thereby requests its registration)*

**Section 1: Request for registration**

<b>Name of the designated operational entity (DOE) submitting this form</b>	SGS United Kingdom Ltd.
<b>Title of the proposed CDM project activity (Section A.2 of the attached CDM-PDD) submitted for registration</b>	CAAL Biomass Electricity Generation Project
<b>Project participants (Name(s))</b>	CAAL – Cooperativa Agroindustrial Alegrete Ltda. PTZ BioEnergy Ltd. Bioheat International B.V. Essent Energy Trading B.V.
<b>Sector in which project activity falls</b>	1 Energy industries (renewable - / non-renewable sources) 13 Waste handling and disposal 15 Agriculture
<b>Is the proposed project activity a small-scale activity?</b>	<u>Yes</u> / No

**Section 2: Validation report**

<b>List of documents to be attached to this validation report (please check mark):</b>	
<p><input checked="" type="checkbox"/> The CDM-PDD of the project activity</p> <p><input checked="" type="checkbox"/> An explanation by the submitting designated operational entity of how it has taken due account of comments on validation requirements received, in accordance with the CDM modalities and procedures, from Parties, stakeholders and UNFCCC accredited non-governmental organizations;</p> <p><input type="checkbox"/> The written approval of voluntary participation from the designated national authority of each Party involved, including confirmation by the host Party that the project activity assists it in achieving sustainable development:</p> <p style="padding-left: 40px;"><input type="checkbox"/> (Attach a list of all Parties involved and attach the approval (in alphabetical order)) N/A</p> <p style="padding-left: 40px;">Host Party:</p> <p style="padding-left: 40px;"><input checked="" type="checkbox"/> Brazil</p> <p><input checked="" type="checkbox"/> Other documents, including any validation protocol used in the validation</p> <p style="padding-left: 40px;"><input checked="" type="checkbox"/> comprehensive list of documents attached clearly referenced</p> <p style="padding-left: 40px;"><input checked="" type="checkbox"/> List of persons interviewed by DOE validation team during the validation process</p> <p style="padding-left: 40px;"><input checked="" type="checkbox"/> Any other documents. Please refer to list of documents attached.</p>	

- ☒ Information on when and how the above validation report is made publicly available.
- ☐ Banking information on the payment of the non-reimbursable registration fee
- ☐ A statement signed by all project participants stipulating the modalities of communicating with the Executive Board and the secretariat in particular with regard to instructions regarding allocations of CERs at issuance allocations of CERs at issuance.

### **Executive Summary and Introduction, including**

- **Description of the proposed CDM project activity**
- **Scope of validation process (include all documentation that has been reviewed and name persons that have been interviewed as part of the validation, as applicable)**
- **DOE Validation team (list of all persons involved in the validation, describing functions assumed in the validation)**

### **Description of the proposed CDM project activity**

CAAL is a rice mill located in Alegrete city, Rio Grande do Sul state, Brazil. The core business of CAAL is the production of paddy rice for the market in Brazil. CAAL is ranked 6<sup>th</sup> rice company of Brazil and the biggest rice cooperative in Rio Grande do Sul state.

The purpose of the project is to avoid methane emissions due to the decay of unutilized rice husks and to avoid carbon emissions related to electricity generation for the grid.

The project will eliminate electricity demand from the grid, will sell 3.8 MW (surplus generated) to the grid and provide small amount of process steam to the rice drying and conditioning along the harvest season. The CAAL project cover the construction of a new biomass cogeneration unit (3.8 MW) and seasonally 7.7 MW thermal of installed capacity, using only rice husks as fuel, complying with CAAL energy demand and exporting the surplus power to the grid.

Total amount of emission reductions for the first crediting period is 235,228 tCO<sub>2</sub>e

#### Baseline Scenario:

No investment in clean power generation; electricity generation by fossil fuel sources, and the biomass is left to decay and methane is emitted to the atmosphere, continuation of the current situation where a furnace consumes only 7% of the total rice husk production.

#### With-project scenario:

Construction of a new biomass cogeneration unit of 3.8MW and 7.7MW thermal of installed capacity, using rice husks as fuel. With project implementation 29,631 tonnes of rice husks are consumed, so the project activity prevents annually net 27,475 tonnes of rice husks from decay, avoiding the associated methane emissions.

#### 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 CAAL rice mill is accomplished to local environmental license, it has authorization for operation according the law. The project has received permit for construction from Brazilian electricity energy agency (ANEEL).

### **Scope**

The scope of the validation is the independent and objective review of the project design document,

the baseline study and monitoring plan and other relevant documents of the CAAL Biomass Electricity Generation Project. The information in these documents is reviewed against the criteria defined in the Marrakech Accords (Decision 17) and the Kyoto Protocol (Article 12) and subsequent guidance from the CDM Executive Board.

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.

### **Overview of documentation that has been reviewed and names of persons that have been interviewed as part of the validation**

Please refer to Annex 3.

#### **DOE Validation team**

<b>Name</b>	<b>Role</b>
Fabian Gonçalves	Lead assessor
Geisa Principe	Local assessor
Irma Lubrecht	Technical reviewer

#### **Description of methodology for carrying out validation**

- **Review of CDM-PDD and additional documentation attached to it**
- **Assessment against CDM requirements (e.g. by use of a validation protocol)**
- **Report of findings by the DOE, e.g. by use of type of findings (e.g. corrective action requests, clarifications or observations). Please explain the way findings are “labelled” during validation.**
- **Include statements or assessments in the section “Conclusions, final comments and validation opinion” below.**

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

The validation was performed primarily as a document review of the publicly available project documents (see Annex 2 for the list of documents). The assessment was carried out by trained assessors using a customised validation protocol.

A site visit was required to verify assumptions in the baseline. Additional information was required to complete the validation, which was obtained through telephone, e-mail and face-to-face interviews with the project developers and their consultants. These were performed by lead and local assessors from the SGS do Brazil. The results of the site visit carried out on 7<sup>th</sup> and 8<sup>th</sup> June, 2006 are summarized in Annex 6 to this report.

#### **Assessment against CDM requirements**

In order to ensure transparency, a validation protocol was customised for the project. The protocol shows requirements, means of verification and the results from validating the identified criteria. The validation protocol 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.

<i>Checklist Question</i>	<i>Means of verification (MoV)</i>	<i>Comment</i>	<i>Draft and/or Final Conclusion</i>
<i>The various requirements are linked to checklist questions the project should meet.</i>	<i>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.</i>	<i>The section is used to elaborate and discuss the checklist question and/or the conformance to the question. It is further used to explain the conclusions reached.</i>	<i>This is either acceptable based on evidence provided (OK), or a <b>Corrective Action Request (CAR)</b> due to non-compliance with the checklist question (See below). <b>New Information Request (NIR)</b> is used when the validation team has identified a need for further clarification.</i>

The completed validation protocol for this project is attached as Annex 4 to this report.

### **Report of findings and use of type of findings.**

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

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 that requires the Project Developer to do something (for example correct something in the PDD) the Assessor shall raise a **Corrective Action Request (CAR)**.

**Observations** may also 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 5). In this form, the Project Developer is given the opportunity to “close” outstanding CARs and respond to NIRs and Observations.

For this project, the *Corrective Action Requests (CAR)* and *New Information Request (NIR)* were closed out through communication between validation team and PTZ (CAALs consultant). Changes to the project design were necessary to clarify the issues raised.

**Explanation by the submitting designated operational entity of how it has taken due account of comments on validation requirements received, in accordance with the CDM modalities and procedures, from Parties, stakeholders and UNFCCC accredited non-governmental organizations;**

- **Description of how and when the PDD was made publicly available**
- **Description of how comments were received and made publicly available**
- **Explanation of how due account has been taken of comments received**
- **Compilation of all comments received (Identify the submitter)**

In accordance with the CDM modalities and procedures, the project design document of this proposed CDM project activity has been made publicly available and comments have been invited

from Parties, stakeholders and UNFCCC accredited non-governmental organizations. This process is described in Annex 1 to this report, which is available as a separate document.

## Conclusions, final comments and validation opinion

- **Provide conclusions on each requirement under paragraph 37 of the CDM modalities and procedures, describing how these requirements have been met. This shall include assessments and findings (e.g. corrective action requests, clarifications or observations) in relation to each requirement, including a confirmation that all issues raised have been addressed to the satisfaction of the DOE.**
- **Final comments and validation opinion**

## Participation requirements

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

Annex 1: Netherlands has ratified the Kyoto Protocol on 31<sup>st</sup> May 2002.

([http://unfccc.int/files/essential\\_background/kyoto\\_protocol/application/pdf/kpstats.pdf](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. CAR 1 was closed out.

At time of the draft 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.

## Eligibility as a small scale project activity

This activity confirms with category 1.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 Brazilian grid. The unit uses only rice husks, which is renewable biomass. The plant maximum output of heat (7.7MW th) and power (3.8 MWe), the sum of these is below the limit of 45 MWthermal. This is the first biomass power plant to be installed in CAAL. The project is not a retrofitted or modified facility; the biomass plant will be a new facility and will produce a maximum 3.8 MW to the grid that is below the limit of 15 MW.

This activity confirms with category III.E too – Avoidance of methane production from biomass decay through controlled combustion.

Decay will be prevented through controlled combustion of rice husks and less methane will be produced and emitted to the atmosphere. The waste composition is 100% rice husks. The emissions through electricity or diesel consumption are zero because the plant will be fully supplied by a renewable source. Emissions related to the biomass transportation will be zero because the rice husks are generated in the rice mill. The only project emissions will come from the ash transportation, maximum 22 tonnes CO<sub>2</sub> annually. Project emissions leads to direct carbon emissions of less than 15 kilo tonnes of CO<sub>2</sub>e annually.

It is concluded that category AMS I.D and AMS III.E is applicable to the small scale project activity.

The UNFCCC website does not show another registered project with the same characteristics. Therefore, this project is not considered a debundled component of a larger activity.

## Baseline and monitoring methodology

The methodology applied to this Small Scale Project activity is Type I, Category I.D – grid connected renewable electricity generation and Type III, Category III.E – avoidance of methane production from biomass decay through controlled combustion.

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 3 was raised: To correct the emission factor using the most recent value available (until 2004).

The PDD was revised and calculation of the new emission factor was verified, copy was provided. CAR 3 was closed out.

To estimate the baseline emissions related to the avoidance of methane production from biomass decay through controlled combustion, the baseline was calculate using the first order decay model based on the method of the IPCC guidelines, as referred to in category III.E and described in category III.G.

This project does not create any leakage as defined in the methodology.

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

Emission reduction for category III.E is the emission reduction by the avoidance of methane production from biomass decay through controlled combustion = project activity emissions, minus baseline methane emissions from biomass decay.

The total emission reduction of the project activity is:  $ER_{total} = ER_{I.D} + ER_{III.E}$

### **Additionality**

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.

NIR 2 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 2 was closed out. It was concluded that the project is additional.

### **Monitoring plan**

This monitoring methodology is in line with the monitoring methodology mentioned in category I.D and III.E.

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

For category III.E, the emission reduction will be measured as the difference between the baseline emissions and the sum of the project emission and leakage. It was justified that the monitoring methodology III.E is applicable and correctly applied.

### Environmental Impacts

The project has the legally required environmental licenses. The permit for construction from ANEEL, Brazilian electricity energy agency (Resolution number 75, 18/02/2005). Operation license issued by Fepam (LO 833/2004, 18/11/2004).

The project will contribute to displace more carbon intensive electricity generation sources from the south-southeast 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. Currently these residues are a problem because they are left decomposing in landfill, releasing methane emissions to the atmosphere.

### Comments by local stakeholders

Local stakeholders have been invited by letters to comment on the CAAL 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 Alegrete;
- Chamber of Alegrete;
- 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). Comments from stakeholders was received and a summary of the comments and the report on how due account was taken was provided during validation assessment and in the PDD.

### Other requirements

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.

### Final comments and validation opinion

Steps have been taken to close out 3 findings.

The Validation Opinion is based on the current and emerging rules surrounding Article 12 of the Kyoto Protocol.

The DOE declares herewith that in undertaking the validation of this proposed CDM project activity it has no financial interest related to the proposed CDM project activity and that undertaking such a validation does not constitute a conflict of interest which is incompatible with the role of a DOE under the CDM.

By submitting this validation report, the DOE confirms that all validation requirements are met.

The SGS will request the registration of the CAAL 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.



Name of authorized officer signing for the DOE		
Date and signature for the DOE	21/06/2006	
<b><i>Section below to be filled by UNFCCC secretariat</i></b>		
Date when the form is received at UNFCCC secretariat		
Date at which the registration fee has been received		
Date at which registration shall be deemed final		
Date of request for review, if applicable		
Date and number of registration	Date	Number