



**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

Name of the designated operational entity (DOE) submitting this form	Det Norske Veritas Certification (DNV Certification)
Title of the proposed CDM project activity (Section A.2 of the attached CDM-PDD) submitted for registration	Onyx Landfill Gas Recovery Project – Trémembé, Brazil
Project participants (Name(s))	<ul style="list-style-type: none"> - Onyx, France - SASA, Brazil - SenterNovem, Netherlands
Sector in which project activity falls	Waste handling and disposal
Is the proposed project activity a small-scale activity?	No

Section 2: Validation report

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)**

The Onyx Landfill Gas Recovery project is located in the City of Tremembé – Sao Paulo – Brazil. It is operated by Onyx' Brazilian subsidiary SASA. The landfill is divided in two disposal areas. The existing area (Aterro 1) had a capacity of 850 000 m3 and is no longer used for waste disposal. A new area (Aterro 3) will have a total capacity of 1 700 000 m3 and will receive approximately 180 000 tonnes/yr of municipal and commercial waste. The new area will be filled in 4 phases until 2012. The proposed CDM project consists of the:

- Installation of a landfill gas recovery network over the future disposal areas of the site
- Optimisation of the landfill gas extraction system
- Drilling of additional extraction wells, interconnection of horizontal drains
- Increased flaring capacity of landfill gas
- Increased capacity in the leachate evaporation process
- Feasibility study to evaluate a possible project extension to export electricity to the electrical grid.

The validation scope was an independent and objective review of the project design document (PDD). The PDD was reviewed against Kyoto Protocol criteria for the CDM, the CDM rules and modalities as agreed in the Marrakech Accords and relevant decisions by the CDM Executive Board. The validation team has, based on the recommendations in the IETA/PCF Validation and Verification Manual, employed a risk-based approach, focusing on the identification of significant risks for project implementation and the generation of CERs.

The validation team consisted of the following personnel:

Ms Susanne Haefeli	DNV Certification Oslo, Norway	Team Leader, GHG auditor
Mr Filipe Tavares	DNV Certification Sao Paulo	GHG auditor
Mr Einar Telnes	DNV Certification Oslo, Norway	Internal verifier

For further details, please refer to the "Introduction" Section of DNV Certification's Validation Report (Report No. 2004-1373, version 02).

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.**

The validation consists of the following three phases:

- a desk review of the project design and the baseline and monitoring methodology: from July – November 2004
- follow-up interviews with project stakeholders and assessment of operational conditions: October and November 2004
- the resolution of outstanding issues and the issuance of the final validation report and opinion, November and December 2004

In order to ensure transparency, a validation protocol was customised for the project, according to the Validation and Verification Manual. The protocol shows in transparent manner criteria (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 a CDM project is expected to meet;
- It ensures a transparent validation process where the validator will document how a particular requirement has been validated and the result of the validation.

The completed validation protocol is enclosed in Appendix A to the Report No. 2004-1373, version 02.

Findings established during the validation can either be seen as a non-fulfilment of validation protocol criteria or where a risk to the fulfilment of project objectives is identified. Corrective Action Requests (CAR) are issued, where:

- mistakes have been made with a direct influence on project results;
- validation protocol requirements have not been met; or
- there is a risk that the project would not be accepted as a CDM project or that emission reductions will not be certified.

The term Clarification may be used where additional information is needed to fully clarify an issue.

The following Project Documentation and additional background documents related to the project design and baseline were reviewed by DNV:


- Onyx Landfill Gas Recovery Project – Trémembé, Brazil, PDD, Version October 2004, including the following annexes:
 - o Letters from the environmental regulator CETESB, dated 3 January 2002
 - o Letter from the association of residue treatment facilities ABETRE, dated 10 July 2003
 - o Extract of “2000 Vivendi Environmental report” and “2001 ONYX Environmental Report”
 - o Permit to operate, issued by CETESB
- Leachate treatment cost comparison between on-site and off-site solution
- ISO 14 001 Certificate for the landfill site

For further details, please refer to the "Methodology" Section of DNV Certification's Validation Report and the IETA/PCF Validation and Verification Manual (www.vvmanual.info).

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**

<ul style="list-style-type: none"> • Explanation of how due account has been taken of comments received • Compilation of all comments received (Identify the submitter) 	
<p>The PDD was published on www.dnv.com/certification/ClimateChange, and Parties, stakeholders and NGOs were through the CDM website invited to provide comments on the validation requirement during a period of 30 days from 25 October until 24 November 2004. No comments were received.</p>	
<p>Conclusions, final comments and validation opinion</p> <ul style="list-style-type: none"> • Provide conclusions on each requirement under paragraph 37 of the CDM modalities and procedures, describing how these requirements have been meet. 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 	
<p>DNV Certification Ltd. (hereafter DNV) has performed a validation of ONYX' Landfill gas recovery project – SASA project in Brazil. The validation was performed on the basis of UNFCCC criteria and host country criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.</p> <p>The review of the project design documentation and the subsequent follow-up interviews have provided DNV with sufficient evidence to determine the fulfilment of stated criteria.</p> <p>By burning landfill gas instead of passive venting of it, the project results in reductions of CO₂ emissions that are real, measurable and give long-term benefits to the mitigation of climate change.</p> <p>An analysis of possible baseline scenarios according to AM 0011 has shown that the proposed project activity is not a likely baseline scenario. Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity.</p> <p>The starting date and length of the project crediting period and operational lifetime is clearly defined. Monitoring requirement and procedures are clearly outlined in the operations manual of the landfill site.</p> <p>Landfill emissions are calculated based on the First Order Decay model and the forecasted reductions seem to be realistic and based on conservative assumptions. The project does not result in any adverse environmental impacts.</p> <p>Local stakeholders have been invited to comment on the project according to the requirements outlined by the relevant Brazilian authorities, contained in the Resolução nº 1 da Comissão Interministerial de Mudança Global do Clima. International stakeholder comments have been sought from 25 October until 24 November 2004 and no comments have been received.</p> <p>In conclusion, it is DNV's opinion that the project results in reductions of CO₂ emissions that are real, measurable, give long-term benefits to the mitigation of climate change and are additional. DNV hence requests the registration of the project as a CDM project once the written approval by the DNA of Brazil, including a confirmation that the project assists in achieving sustainable development, has been received.</p>	
<p>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.</p>	
<p>By submitting this validation report, the DOE confirms that all validation requirements are met.</p> <p>Name of authorized officer signing for the DOE</p>	<p>Susanne Haefeli</p>

Date and signature for the DOE	 25 May 2005	
Section below to be filled by UNFCCC secretariat		
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