



**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	SGS United Kingdom Ltd
Title of the proposed CDM project activity (Section A.2 of the attached CDM-PDD) submitted for registration	VGL - Waste Heat based 4 MW Captive Power Project
Project participants (Name(s))	Vandana Global Limited (VGL)
Sector in which project activity falls	Category 1- Energy Industries (Renewable/Non-Renewable sources)
Is the proposed project activity a small-scale activity?	Yes / <u>No</u> (underline as applicable)

Section 2: Validation report

List of documents to be attached to this validation report (please check mark):	
<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 checked="" 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))</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 type="checkbox"/> Any other documents (list attached)</p> <p><input type="checkbox"/> Information on when and how the above validation report is made publicly available.</p> <p><input type="checkbox"/> Banking information on the payment of the non-reimbursable registration fee</p> <p><input checked="" type="checkbox"/> 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</p>	

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

The project activity consists of a Waste Heat based 4 MW Captive Power Project at Raipur, Chattisgarh State, India. The project generates waste heat power from process flue gas of the DRI kiln. This power is used to cater to the in-house power requirement of VGL plant and wheeling the power through Chhattisgarh state grid. The net result is a reduction in electricity demand from the state grid supply and corresponding GHG emission reduction at its thermal power plants.

Baseline Scenario:

In the baseline scenario, VGL would continue letting off the waste heat into atmosphere hence equivalent amount of electricity generated, would have been met by CSEB grid supply resulting to more CO₂ emissions from the thermal power stations

With project scenario:

The project activity results in setting up of the the CPP with an objective to utilize waste gases of substantial heat content available from the DRI kilns of the Sponge Iron manufacturing unit and to use it to generate electrical energy for its own utilization in the manufacturing facilities of sponge iron and steel

Leakages:

There is no leakage associated with the project activity.

Environmental and Social impacts:

According to the project developer, no adverse environmental and/or social impacts are envisaged from the project activity.

Scope

The scope of the validation is the independent and objective review and assessment of the project design document, the baseline study and monitoring plan and other relevant documents of VGL - Waste Heat based 4 MW Captive Power Project. The information in these documents have been reviewed against the criteria defined in Marrakech accord (Decision 17) and the Kyoto protocol (Article 12) and subsequent guidance from 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 document.

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

Refer to Annexure 4

DOE Validation team

Name	Role	
<i>Marco van der Linden</i>	<i>Team Leader</i>	
<i>Siddharth Yadav</i>	<i>Assessor</i>	
<i>Syed Khursheed Zaidi & Sanjeev Kumar</i>	<i>Local Assessor</i>	
<i>Irma Lubrecht</i>	<i>Technical Reviewer</i>	
Description of methodology for carrying out validation <ul style="list-style-type: none"> • 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 <p>The validation is performed through desk review of the publicly available documents and the assessment was performed by qualified and trained assessor using a validation protocol.</p> <p>In general for validation of a CDM project a site visit is required to assess the assumptions considered in the baseline. Additional information is required to complete the validation which may be obtained through telecommunication, face to face interview with the stake holders including project developer, government representatives and non governmental organisations. These have been taken by local SGS affiliate.</p> <p>The site visit has been conducted for this project as a part of the validation process and the results of this visit are attached in Annexure-7.</p> Assessment against CDM requirements <p>The validation assessment was carried out in accordance with the validation protocol to maintain transparency; partly the templates of world bank and IETA for validation and verification projects manual have been used in conjunction with the experience of SGS for validation of CDM projects.</p> <ul style="list-style-type: none"> • This process organises, details and clarifies the requirements a CDM project is expected to meet; • This ensures a transparent validation process where the validator will document how a particular requirement has been validated and the result of the validation. <p>The validation protocol consists of several tables. The different columns in these tables are described below.</p> <p><i>The completed validation protocol is attached to this report.</i></p>		

Checklist Question	Means of verification (MoV)	Comment	Draft and/or Final Conclusion
<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 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.</i>

The completed validation protocol for this project summarises in attachment as Annexure 5 and Annexure 7.

Report of findings and use of type of findings.

For a successful completion of a validation process, the team can raise different types of findings, where insufficient, non-transparent or in accurate 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.

Whereas if a non conformance arises the Assessor shall raise a **Corrective Action Request (CAR)**. A CAR is issued where:

- I. A mistake have been made which has direct influence on the project results;
- II. Validation protocol requirement have not met; or
- III. There is a risk that the project would not be accepted as a CDM project or the emission reductions could 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 lead to a 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 Request (CAR) and New Information Request (NIR) are raised in the draft validation protocol and detailed in a separate form (Annexure 6). The project developer has given the opportunity to "close" outstanding CAR s and respond to NIR s and observations.

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 from 9th November 2005 to 8th December 2005 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

As per the article 12 of Kyoto protocol to the United Nations Framework Convention on Climate Change written approval of voluntary participations is required. Vandana Global Limited (client) is mentioned as the project participant and India is a Party (ratified Kyoto on 26th August 2002).

CAR 1 was raised requesting the client to provide a letter of approval of the project from the Indian DNA (Ministry of Environment & Forests, Government of India). The client provided a copy of the DNA's approval letter (No. 4/24/2005/CCC dated December 26, 2005, annexure-2) confirming that the project shall assist non-Annex-I Parties in achieving sustainable development and also confirming voluntary participation of the host country. There is no Annexure – I party involved at this stage (Unilateral Project) but participation from Annexure-I party would be ensured before the issuance of CERs. The CAR 1 was closed out.

Baseline and monitoring methodology

The project meets all the applicability criteria of the approved methodology ACM0004. CAR 3 was raised as the baseline emission calculations were not in accordance with ACM0002 (revised). The state grid was used instead of the regional grid, as suggested in EB22. The baseline emission calculations were modified and the same were found to be in order. Hence CAR3 was closed.

CAR4 was raised as the emission reduction calculations were required to be in accordance with the revised methodology (ACM0002). The formulae and the data used emission reduction calculations were revised. However, the same will be verified depending upon the actual project activity during the verification. Hence CAR4 was closed.

CAR8 was raised as the monitoring methodology for baseline emission did not incorporate changes as per ACM0002(revised). The PDD was revised incorporating the changes and hence CAR8 was closed.

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. The discussion on the additionality was not clear. Transparent and documented evidence was requested on the following through CAR 5 and CAR 6 respectively:

- Proof of starting date of the project activity
- Proof of serious consideration of CDM

The following documents provided to the local assessor by the client support that the project started in September 2003:

1. Permission for installation and running of 24 MW TG set under section 44 of the Indian Electricity Act 1948 (letter from Chattisgarh Electricity Board no. 02-02/SE-1/12-33-01/256 dated February 10, 2003)
2. Request for making necessary arrangements to supply power as per the state government policy (ref. no. VGL/2002-03/ 2658 dated 06 March 2003)
3. Order number VGL/ST/03/27 dated 07.03.03 for erection and commissioning of T.G. Set (1X8MW) and its associated auxiliary machinery being supplied by M/s Alstom vide order no. VGL/2002-03/626 dt. 07th Oct., 2002

The above documentation is a sufficient proof for start of the project activity in September 2003 and hence CAR5 was closed.

Extracts from minutes of the meeting of the Board of Directors of the company held on 17th April 2003 confirm that there were concerns regarding the limitations set by Chattisgarh electricity board for not allowing reduction in contract demand while granting permission to set up a captive power plant and considerable delay in granting 'no objection certificate' for wheeling, but in anticipation of revenues arising out of the sale of carbon credits; the company decided to go ahead with the project. The hard copy of the minutes was provided. The evidence provided by the client was accepted and hence CAR6 was closed.

Regulatory barriers have been quoted as the reason for seeking CDM funding. The PDD mentions that in early 2002, VGL decided to take permission for setting up its captive power plant that included 4 MW from the waste heat utilization. The state electricity Board while granting the permission put a condition that the VGL's contract demand of 7000kVA will not be reduced on account of installation of proposed captive power plant, these demand charges turned out to be considerable recurring costs. CAR 7 was raised requesting further information on :

- Annual charge for meeting contract demand of 7000KVA (2002, 03, 04, 05)
- Annual electricity consumption(2002, 03, 04, 05)

The client informed that VGL has revised its contract demand to 7000 KVA of power purchase with Chattisgarh State Electricity Board from April 2003 onwards. The annual charge for meeting the contract demand of 7000 KVA was substantially high.

Details on annual electricity consumption were also provided by the client and the supporting documentation was verified. Sufficient proof is available demonstrating the fact that there were significant regulatory barriers at the time of the start of the project activity. Hence CAR7 was closed.

Evidence with regard to the technological barrier including barriers related to implement the project activity (skilled manpower, lack of expertise on design, construction and operation of heat recovery based power plant) was also verified.

The client was also requested to provide information on start dates for power generation of the other projects which started around the same time and used almost the same technology (observation). The client provided information on the other projects in the region starting around the same time. It was clarified that VGL project was conceived in 2002, and was one the first which went ahead with the project despite barriers. As detailed in section B.3 of the PDD, VGL faced the regulatory barriers due to delay in framing of relevant policies which lead to additional cost overruns. Despite being aware of the barriers, the project proponent was committed to successfully implement the project mainly with an aim to reduce GHG emissions and overcome the barriers by availing CDM funds

Monitoring plan

There is no specific requirement for monitoring of SD indicators and no environmental impacts were considered significant by PPs or Party, therefore there are no SD / Environmental monitoring requirements.

NIR 9 and NIR 10 were raised because the authority and responsibility for registration, monitoring, measurement and reporting were not clearly defined and procedures identified for training of monitoring personnel were not clear, respectively.

The authority and responsibility for project management were defined in the Procedure of GHG Performance Monitoring, Measurement and Reporting of data and the Procedure of GHG Internal Audit. These documents were also submitted to validator during site visit. The procedure of GHG performance monitoring, measurement and reporting of data were also checked by the local validator during the site visit. Hence NIR9 and NIR 10 were closed.

Although procedures have been identified reflecting transparent monitoring practice but corrective actions for future monitoring were requested through NIR 11. Responding to NIR11 client provided a copy of the 'Procedure for GHG Internal Audit' document system for conducting regular internal audits and taking corrective actions for the project activity to the local assessor during the site visit. Hence NIR11 was closed.

Environmental Impacts

Although an Environmental Impact Assessment (EIA) study is not mandatory for the project activity, the client provided necessary evidences for operating the plant as per the local regulatory compliances stipulated by state pollution control board. There have been no public complaints on the project activity. No adverse environmental impacts are envisaged due to the project activity.

Comments by local stakeholders

Yes, stakeholders have been consulted at all levels- local, National and International. The local stakeholders were contacted through meetings and sending applications. There were no resistance/negative comments to the project activity.

Other requirements

The project activity conforms to all other requirements for CDM project activities in decision

17/CP.7, the present annex and relevant decisions by the COP/MOP and the executive board.

NIR 2 was raised on minor editorial changes in the PDD, and was closed subsequently as these changes were incorporated in the revised version.

Observation

The Observation 1 was related to similar project activities installed in the region. The project developer provided the information how few activities installed before year 2000 were of different kind of activity and the similar activities after year 2000 were found claiming CDM benefits to sustain. The observation 1 was closed out after reviewing the information.

The observation 2 was raised for the list of key stakeholders consulted for the project and communication between them. The project participant provided the same and observation 2 was closed out.

Final comments and validation opinion

SGS has performed validation of the “VGL - Waste Heat based 4 MW Captive Power Project at Raipur”. In this case, the validation was performed on the basis of the UNFCCC criteria and host country criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.


The review 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. In our opinion, the project meets all relevant UNFCCC requirements for the CDM and all relevant host country criteria. The project will hence be recommended by SGS for registration with the UNFCCC.

SGS has received confirmation by the host Party that the project activity assists it in achieving sustainable development.

The project generates 4 MW of waste heat power from process flue gas of the DRI kiln. This power is used to cater to the in-house power requirement of VGL plant and wheeling the power through Chhattisgarh state grid. The net result is a reduction in electricity demand from the state grid supply and corresponding GHG emission reduction at its thermal power plants. An analysis of the presented barriers demonstrates that the proposed project activity is not a likely baseline scenario. Emission reductions are 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.

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.	Marco van der Linden	
Name of authorized officer signing for the DOE		
Date and signature for the DOE	 9 th May 2006	
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