



SUSTAINABILITY VALIDATION REPORT

for the Gold Standard Project Activity

Santander and Las Tapias Renewable Energy Project

in
Colombia

Report No. 2098.11.R.1
Version No. 04, 2013-11-16

TÜV Rheinland Group

I. Project description:

Project title: Santander and Las Tapias Renewable Energy Project

Host Country: Colombia

☐ Large Scale ☒ Small Scale

Methodology: GS Methodology "Ecologically Sound Fuel Switch to Biomass with Reduced Energy Requirement." version 1.0

Annual average emission reductions (Estimated) : 18,477 tCO₂e/yr

GHG reducing measure/technology: Fuel switching (from coal to renewable biomass) and energy efficiency measures in red ceramic industries.

II. Validation:

Contract party: Sustainable Carbon - Projetos Ambientais Ltda

GS-VER Validation team:

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Validation Phases:

- ☒ Desk Review
- ☒ Follow up interviews
- ☒ Resolution of outstanding issues

Validation Status:

- ☐ Corrective Actions / Clarifications Requested
- ☒ Full Approval and Submission for Registration
- ☐ Rejected

III. Validation Report:

Report No.: 2098.11.R.1	Current revision No.: 04	Date of current revision: 2013-11-16	Date of first issue: 2013-02-01
Distribution:			
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Final approval: ☒	Released on: 2013-11-16	Designated Operational Entity (DOE): TÜV Rheinland (China) Ltd. TÜV Rheinland (China) Ltd., Unit 707, AVIC Building, No.10B, Central Road, East 3rd Ring Road, Chaoyang District, Beijing 100022, People's Republic of China Tel.: +86 10 65 66 66 60 (ext.169), Fax: +86 10 65 66 66 67 E-mail: ghg-doe@bj.chn.tuv.com
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Introduction

TÜV Rheinland on its ground as UNFCCC accredited DOE has been commissioned to perform validation of the Gold Standard VER Project Activity “Santander and Las Tapias Renewable Energy Project” on the state of Cundinamarca in Colombia (hereafter called “the project”).

The purpose of a validation is to have an independent third party assess the project design. In particular, the project's sustainable development matrix, sustainability monitoring plan, and the project's compliance with relevant Gold Standard and host Party criteria are validated in order to confirm that the project meets the identified criteria. This report summarises the findings of the validation of the project, performed on the basis of Gold Standard criteria for the GS VER, as well as criteria given to provide for consistent project operations, monitoring and reporting.

The GS-VER validation has been executed with the following steps:

- Desk review of preliminary GS Passport (Version 1, uploaded to the GS website on 1st of September 2011) and Prefeasibility Assessment on the Retroactive Registration Request (dated 14th of September 2011)
- On-site visit with stakeholder interviews (21st of September 2011)
- Issue of checklist with corrective action requests (CARs) and clarification requests (CLs) and the draft validation report & protocol (Appendix A)
- Desk review of revised GS Passport and PDD
- Review of proposed corrections and clarifications
- Issue of the final validation report & protocol

Abbreviations

CAR	Corrective Action Request
CDM	Clean Development Mechanism
CL	Clarification Request
CO ₂	Carbon Dioxide
DOE	Designated Operational Entity
DR	Document Review
EB	Executive Board
EIA	Environmental Impact Assessment
ER	Emission Reductions
GHG	Greenhouse Gas
GS	Gold Standard
I	Interview
IPCC	Intergovernmental Panel on Climate Change
kWh	Kilo Watt Hours
MDGs	Millennium Development Goals
MoV	Means of Validation
MW	Mega Watt
NGO	Non Government Organization
PDD	Project Design Document
PP	Project Proponent
SD	Sustainable Development
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
UPME	Mining and Energy Planning Unit
VVM	Validation and Verification Manual

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Appendix A: Validation Protocol

1 METHODOLOGY

The validation consists of the following phases:

- I desk review of the project design documentation;
- II on-site visit and follow-up interviews with project stakeholders;
- III the resolution of outstanding issues and the issuance of the final validation report and opinion;

The following sections outline each step in more detail.

1.1 Reviewed documentation

The following table outlines the documentation reviewed during the validation:

- / 1/ /1.1/ PDD Version 01.2, 16/09/2011
- / /1.2/ PDD Version 05, Date 01/02/2013
- / /1.3/ PDD Version 07, Date 05/11/2013
- / 2/ /2.1/ GS Passport, Version 1.2, Date 16/09/2011
- / /2.2/ GS Passport, Version 04, Date 19/07/2012
- / 3/ Local Stakeholder Consultation Report, Version 01, 22/12/2011
- / 4/ Gold Standard Requirements and Toolkit (with its Annexes), Version 2.1, 01/06/2009
- / 5/ CDM Validation and Verification Manual, Version 01.2, EB 55 Annex 1
- / 6/ GS Methodology "Ecologically Sound Fuel Switch to Biomass with Reduced Energy Requirement." version 1.0
- / 7/ General Guidelines to SSC CDM methodologies, EB 61, Annex 21
- / 8/ Attachment C to Appendix B of the Indicative simplified baseline and monitoring methodologies for selected small-scale CDM project activity categories, EB 47 Annex 28
- / 9/ UNFCCC, Tool for the demonstration and assessment of additionality, Version 05.2, EB 39 Annex 10
- / 10/ The Colombian Energy Balances 1975 – 2006¹ (*Balances Energéticos 1975 – 2006*) - Republic of Colombia Ministry of Mines and Energy.
- / 11/ ER Spreadsheet "Emission reductions Estimates Santander and Las tapias 3 Renewable Energy Project v04"- Excel file
- / 12/ Records of the receipts purchase of coal (2008, 2009 and 2010) of both ceramics
- / 13/ The Colombian Energy Balances 1975 – 2006 (*Balances Energéticos 1975 – 2006*) of Republic of Colombia Ministry of Mines and Energy²
- / 14/ Resolution 909 of Ministry of Environment, Housing And Regional Development³
- / 15/ Law 99 from 1993 from Colombia: provides definition on environmental licensing⁴

¹ <http://www.upme.gov.co/Docs/balance_energetico_2006.pdf>.

² <http://www.upme.gov.co/Docs/balance_energetico_2006.pdf>.

³ <http://www.carter.gov.co/doc_misionales/calidad%20aire/legislacion%20Fijas/Resolucion_909_del_05_de_junio_de_2008_Fuentes_Fijas.pdf>.

⁴ <<http://www.alcaldiabogota.gov.co/sisjur/normas/Norma1.jsp?i=297>>.

- / 16/ Decree 2,820 from 2010 regulates Law 99 from 1993⁵
- / 17/ Regional Autonomous Corporations (*Corporaciones Autónomas Regionales*) in Colombia- website⁶
- / 18/ Resolution 1895 from 30/06/2006 - Las Tapias 3 ceramic's Environmental Management Plan approval
- / 19/ Resolution 1740 from 15/08/2008 - Santander ceramic's Environmental Management Plan approval
- / 20/ The agreement for a clean production for the subsector of brick production and clay products signed by the Cundinamarca Regional Corporation⁷
- / 21/ The Colombian National Policy for Clean Production⁸
- / 22/ American Convention on Human Rights (also known as the Pact of San José)⁹
- / 23/ List of Ratifications of International Labour Conventions¹⁰
- / 24/ International Programme on the Elimination of Child Labour (IPEC), Colombia: Child labour data country brief¹¹
- / 25/ List of Ratifications of International Labour Conventions- Colombia¹²
- / 26/ United Nations Convention against Corruption¹³
- / 27/ Social Carbon Standard®- The SOCIALCARBON Standard is a certification adept at bringing demonstrable social, environmental and economic benefits to the stakeholders of carbon offset projects: <<http://www.socialcarbon.org/>>.
- / 28/ Stakeholder consultation confirmation of receipt of invitation meeting
- / 29/ Stakeholder consultation signed attendance list during the LSC on October 31st of 2011
- / 30/ Stakeholder consultation questionnaires during the LSC on October 31st of 2011
- / 31/ EB 23, Annex 18 – Definition of renewable biomass¹⁴
- / 32/ UPME (Mining and Energy Planning Unit). Potential of energy crops and agricultural residues in Colombia – Executive Summary (original name in Spanish: “Potencialidades de los Cultivos Energéticos y Residuos Agrícolas en Colombia - Resumen Ejecutivo”) Available at: <http://www.si3ea.gov.co/si3ea/documentos/documentacion/energias_alternativas/potencialidades/biomasa_CULTIVOS%20ENERGETICOS.pdf>, dated July/2003.
- / 33/ CDM Project Activity in Colombia “Project 1790: CEMEX Colombia: Biomass project at Caracolito cement plant”. Available at: <<http://cdm.unfccc.int/Projects/DB/SGS-UKL1207659194.01/>>
- / 34/ Forest Engineering Faculty, Technological development status of the forest industry (original name in Spanish: “Estado del desarrollo tecnológico de la industria forestal”). Available at: <http://desarrollo.ut.edu.co/tolima/hermesoft/portal/home_1/rec/arc_19994.pdf>.

⁵< <http://web.presidencia.gov.co/decretoslinea/2010/agosto/05/dec282005082010.pdf>>.

⁶<<http://www.car.gov.co/>>.

⁷< http://www.corporacionambientalempresarial.org.co/documentos/129_Convenio_Arcillas.pdf>.

⁸<http://www.upme.gov.co/guia_ambiental/carbon/gestion/politica/politica/politica.htm#2.%20POL%C3%8DTICA%20NACIONAL%20DE%20PRODUCCI%C3%93N%20M%C3%81S%20LIMPIA%20-%20PNPL>.

⁹<<http://www.unhcr.org/refworld/docid/3ae6b36510.html>>.

¹⁰<<http://webfusion.ilo.org/public/db/standards/normes/appl/applbyCtry.cfm?CTYCHOICE=0140&lang=EN>>.

¹¹<<http://www.ilo.org/ipecinfo/product/viewProduct.do?productId=7794>>.

¹²<<http://webfusion.ilo.org/public/applis/appl-byCtry.cfm?lang=EN&CTYCHOICE=0140&hdroff=1>>.

¹³<<http://www.unodc.org/unodc/en/treaties/CAC/signatories.html>>.

¹⁴<http://cdm.unfccc.int/EB/Meetings/023/eb23_repan18.pdf>.

2 PROJECT ELIGIBILITY

The “Santander and Las Tapias Renewable Energy Project” is a small scale project, it generates less than 45MW thermal and results in emission reductions of less than 60,000 tCO₂e per year.

The project involves the fuel switching from coal to renewable biomass for the production process of two red ceramic industries located in the state of Cundinamarca, Colombia. The project also involves the installation of efficient kilns in substitution of the kilns existing prior to project initiation. Then it fits both the Renewable Energy Supply category and the End-use Energy Efficiency Improvement category, as it generates energy from non-fossil and non-depletable energy sources (renewable biomasses) while reducing the amount of energy required for producing non-energy physical goods (ceramic pieces). The project also fits in the following category of Annex C of the Gold Standard Toolkit version 2.1: “*Electricity and/or heat, and liquid biofuels from biomass resources*”, since the project generates heat from biomass resources.

Regarding the Prior Consideration, since there wasn't a specific process of documenting the decisions of the ceramic owners with regard to the consideration of possible carbon revenues (because of the lack of a custom of documenting investment decisions) the PP demonstrated a brief history on the project implementation on Table 1 of the PDD and also on Section Pre Announcement on the GS Passport. The main events were verified by the validation team after reviewing evidences provided by PP (as described on Annex 5 of the PDD) and it is concluded that carbon benefits were considered by the ceramics, in the decision to undertake this project as a proposed emission reductions project activity.

The project activity is not a de-bundled project of any other registered large scale project in the region, as stated on section A.4.5 of the PDD / 1/, and verified through a desk review of registered projects on the region and later on through interviews with local stakeholders and project owners.

The project activity is only being registered under the Gold Standard scheme. Furthermore, there is no local energy efficiency law that obliges the ceramic industry to change its technological patterns.

As stated on section A.4.4 of the PDD / 1/, there is no public funding involved in this project activity. The project does not receive Official Development Assistance.

The project activity reduces CO₂ from non renewable resources, since there is no degradation of the biomass, there's any generation of CH₄ to the atmosphere. This was all validated at the on-site assessment by interviewing the ceramic staffs who handle the biomass.

Since the project activity is already implemented, it applies for Gold Standard under the pre-feasibility assessment cycle.

3 DEVIATIONS IN GHG EMISSION REDUCTION ESTIMATION (GS CONSERVATIVENESS PRINCIPLE)

According to the provided PDD / 1/, the project utilize the following methodology approved under the Gold Standard for voluntary small scale projects: “*Ecologically Sound Fuel Switch to Biomass with Reduced Energy Requirement*”, version 1.0 / 6/.

The applied methodology is applicable to fuel switching from fossil fuel to renewable biomass in existing industrial, residential, commercial, and institutional or electricity generation applications. As the project involves the partial substitution of coal with renewable biomass and energy efficiency by the installation of more efficient kilns, the project complies with conditions described on this methodology. The validation team considers correct the description for assessment of applicability conditions of the applied methodology and how the project complies with such conditions presented on the “Table 4. Assessment of the project compliance to the chosen methodology”, described on Section B.2 of the PDD / 1/.

The baseline scenario is identified according to General Guidelines to SSC CDM methodologies / 7/, by assessing possible alternatives to the project that could provide similar levels of activity. In the registered PDD / 1/, four possible alternatives to the proposed project are identified for analysis, the baseline scenario is defined as “the use of coal to provide thermal energy during the brick production process”, which is the common practice in Colombian ceramic industries, checked on The Colombian Energy Balances 1975-2006 / 13/, and also is the scenario existing prior to the project initiation for both of ceramics included in the project activity, verified through desk review and stakeholders interviews. The baseline determination is considered transparent and reasonable by the validation team.

The project is not mandated by any enforced law, statute or other regulatory framework in Federal, State and Municipal levels according to the survey performed by the PP, even the Environmental Management Plans that defines due obligations and compensations for the ceramics, do not impose obligations related to fuel switching or GHG emissions. Through stakeholder interviews and a desk review of several laws and decrees / 14/-/ 21/ the validation team confirms that the project activity would not be implemented anyway.

Baseline emissions are calculated based on historical data on production levels and fuel consumption in each ceramic. The equation for calculating the baseline emissions as described on GS Methodology “*Ecologically Sound Fuel Switch to Biomass with Reduced Energy Requirement.*” / 6/ has been correctly applied in the PDD / 1/, as follows:

$$BE_y = EF_{BSL} * Q_{,y}$$

Where:

BE_y	Baseline emissions in the project activity in year y (tCO ₂ e)
EF_{BSL}	Emission factor for the baseline situation (tCO ₂ e/thousand bricks produced)
$Q_{,y}$	Net output in the project activity in year y.

The EF_{BSL} , emission factor for the baseline situation, is calculated based on historical information on brick production and fuel consumption in each ceramic. The data used is from

2008 (the last year before the project kilns became operational). The validation team checked the assumption statements, calculation procedures and parameters applied from the estimation of baseline emission through the comprehensive ER Spreadsheet / 11/, the records of the receipts purchase of coal (2008, 2009 and 2010) of both ceramics / 12/ and by the onsite visit and stakeholders interviews.

The project emissions are calculated based on the calculated energy demand for the project situation and on the expected fuel switch ratios.

As per Attachment C to Appendix B / 8/, the sources of leakage for this project activity are the competing use of biomass for biomass residues or waste and the emissions from biomass generation/cultivation in case of biomass from cropland. On Section B.6.1 of the PDD / 1/, the PP accessed the leakage of both types of biomass, wood residues and sawdust, using published literature in order to demonstrate the surplus of the biomass in the region. By reviewing the surveys, the validation team considered consistent the assumption that there is sufficient biomass surplus in the region to avoid the occurrence of leakage. Though the project has conservatively assumed annual consumption of 10,000 tonne and 9,200 tonne of sawdust and wood residues respectively. the validation team has cross-checked the project consumption and assessment of leakage as presented in Table 1:

Table 1: Renewable biomass surplus in the region of the project activity.

Biomass	Ceramic	Used (tonne/ year per ceramic) [*]	Used in the project (tonne/ year) [*]	Other users consumption (tonne per year)	Renewable biomass availability (tonne per year)	Minimum available amount to demonstrate 25% excess (tonnes) ^{***}
Wood Residues	Santander	7,305.4 tons	9,199.0 tons	79,443 tons ^{**}	264,810 tons /32/	11,500
	Las Tapias 3	1,893.6 tons				
Sawdust	Santander	7,896.8 tons	9,943.6 tons	31,122 tons ^{**}	103,740 tons /32/	12,500
	Las Tapias 3	2,046.8 tons				

^{*} In this monitoring period

^{**} 30% of the total renewable biomass availability – confirmed through call between Gold Standard and local biomass provider on 25/04/2013.

^{***} Calculated as follow: 1.25 x ('used in the project per year'+ 'other users consumption')

As there is no information on biomass availability and consumption in the region, the validation team crosschecked the renewable biomass availability information with a CDM project registered in UNFCCC (Ref. 1790 – “CEMEX Colombia: Biomass project at Caracolito cement plant”) /33/, which confirms that in Colombia the “*unused wood residues are available in abundance (520,000 ton/year [...]) in the region*”. This unused amount available is even higher than applied by PPs in the PDD (264,810 ton/year), which would result in a higher amount of surplus availability. Considering that the PPs considered that sawdust represent 10% of the total wood residues (conservative approach compared to the 25% from literature /34/), this crosscheck is also applicable for the sawdust.

Since the quantity of biomass available in the region is higher than 25% for both types of biomass, there is no leakage due to competing use.

The data from Table 1 is based on publicly available information (UPME - Mining and Energy Planning Unit) /32/ referenced in the last version of PDD /1.3/.

The Mining and Energy Planning Unit (UPME) is a Special Administrative Unit of the National Order of Colombia, of a technical nature, under the Ministry of Mines and Energy. As this is still the latest publicly available data, this is therefore accepted by the validation team.

Therefore, emission reductions are equal to the difference between baseline emissions and project activity emissions, and have been estimated in the PDD / 1/ to be an average of 18,477 tCO_{2e} per year.

It is considered that there is no material uncertainty over the numerical data sets. The information is verifiably presented in the PDD / 1/ with a sufficient degree of detail and transparency, so that the estimation of baseline emissions can be reproduced. The validation team checked that full transparency is applied with regard to the selected data based on the prerogative of conservativeness.

4 GOLD STANDARD CRITERIA ON ADDITIONALITY

Following the Gold Standard Toolkit /4/, in order to prove the additionality, is required to use one of the UNFCCC or Gold Standard approved additionality tools. As per PDD / 1/, the evaluation of the additionality is based on “Tool for the demonstration and assessment of additionality” version 05.2 / 9/.

All the steps as indicated in the additionality tool have been covered and applied correctly in the PDD / 1/, a brief assessment is presented below.

Step 1: Identification off alternatives to the project activity consistent with mandatory laws and regulations:

The PDD / 1/ correctly identifies all alternatives scenarios and they are all consistent with current laws and regulations.

The project is not mandated by any enforced law, statute or other regulatory framework. An extensive survey was performed by PP, assessing how the existing and future regulations relate to GHG emission reduction and fuel switch to renewable biomass in the ceramic sector. The validation team checked the information via desk review and stakeholder interviews, and found the statement to be consistent and correct.

The PP chose to move the additionality assessment to Step 3- Barrier analysis, the Step 2- Investment Analysis was not performed.

Step 3- Barrier analysis:

A barrier analysis has been conducted, describing different barriers in comprehensive way so that would prevent the implementation of at least one of the alternatives:

Technological Barrier

The use of coal as an energy source is a traditional and well-known process for Colombian ceramic industries. As a result of the project, two important components were changed in the ceramics, the type of kiln and type of fuel used (that was partially switched from coal to renewable biomass). The main technological barriers were the lack of experience with the new technology/measures proposed by the project, the internal and external logistic modification and the higher risks of technological failure and income loss due to such technology/measures. Both ceramics included in the project had no experience operating with renewable biomass prior to the project initiation.

Investment barrier

With the project implementation, the ceramic companies had to withstand higher investment costs than if they had continued utilizing coal as fuel. The most important additional costs are related to kiln replacement and fuel switching. Furthermore, the project involves increased operation and maintenance costs, as new equipments were introduced. Besides, due to the implementation of the project activity, the ceramic had to purchase shredders and carbojets to allow the proper operation with renewable biomass. Tables summarizing the additional costs for each ceramic would have in each of the baseline alternatives were presented on the PDD / 1/.

Step 4: Common Practice analysis

Activities that are similar to the project are not common in Colombia since the prevailing practice in red ceramic industries is the use of coal and low efficiency kilns. Similar activities found in the country are being developed within the carbon market (as voluntary or CDM project activities) and hence cannot be included in this analysis.

It can be stated that the PPs on the basis of a conservative approach making use of the common scenarios and real and measurable data have been able to prove that the project activity will be generating real, measurable and additional carbon credits from the avoidance of use of wood with non renewable source.

‘Do no harm’ assessment

According to the GS Toolkit Section 2.4.1 and as indicated in the GS Passport / 2/, the project proponent could assess the risk of the project regarding harmful impacts based on the safeguarding principles of the UNDP in four aspects: Human Rights, Labour Standards, Environmental Protection and Anti-Corruption.

These aspects and the risks involved are listed on the Section F.1 of the GS Passport / 2/. The ‘Do no harm’ assessment was carried out in accordance with relevant labour laws and conventions / 22/-/ 26/.

The validation team considers that the “Do no harm” assessment has been based on precise information, with all the reference sources indicated in the GS Passport / 2/.

Sustainable Development matrix

In order to check the indicators of the Sustainable Development matrix, following the Section F.2 of the GS Passport / 2/, an analysis was performed for each item as described next. According to Local Stakeholder Consultation Report / 3/ a blind exercise was conducted during the consultation process and the stakeholders have attributed no negative impacts to the project. All impacts considered positive by the project developers were also considered positive by attendants to the meetings.

The validation of Sustainable Development matrix was carried out according to GS Toolkit Section 2.4.2 and Annex I, and it is presented on table below:

Indicator	Score proposed in the GS Passport	Validation Team's opinion
Environment		
Air quality	0	Due to implementation of the project, a better control of atmospheric emissions is possible by the chimneys from the project kilns (inexistent before), however, as this project is proposing the fuel switch to renewable biomass, a neutral scoring is being conservatively considered, since the ceramic owners have no experience in using this type of fuel and it might lead to temporary increase in smoke emissions due to the increased amount of fuel needed to meet the ceramics energy demand. The validation team considers conservative the scoring, therefore the score for “Air quality” is confirmed to be “0”.
Water quality and quantity	0	The validation team considers that the project would not result in impacts in water quality and quantity. According to the on-site visit it was confirmed that the water is used in the brick production process during the molding phase and the project only involves modifications in the burning phase, where impacts on water are unlikely to occur. The use of water shall remain similar to the baseline situation, where major impacts on water quality and quantity are not observed. The score for “Water quality and quantity” is confirmed to be “0”.
Soil condition	0	The validation team agrees that the project might result in environmental pollution in case appropriate procedures to manage and dispose ashes are not followed; and generation of ashes might increase with the use of new

		kinds of fuels (renewable biomasses such as biomass residues). To alleviate the impact, the PPs will monitor the procedures to control and dispose ashes on each ceramic by applying the following indicator from Social Carbon Standard® / 27/: Social Carbon indicators for Ceramic Industry: Ashes - Evaluates the procedures adopted by the entrepreneur in order to control the ashes and its destination. Thus the score for "Soil condition" is confirmed to be "0".
Other pollutants	0	No other pollutants were elected for this indicator, even though the project includes the installation of new equipments (such as automatic feeders) that could lead to increased noise emissions, these equipments present low noise emissions, not exceeding the permitted levels. The score for "Other pollutants" is confirmed to be "0".
Biodiversity	0	The fuel switching and energy efficiency project is not expected to result in impacts on biodiversity since no pressure on ecosystems exists or any land use. The score for "Biodiversity" is confirmed to be "0".
Social development		
Quality of employment	+	According to the on-site visit, the validation team confirmed that the project includes a certain level of automation in the logistics and fuel usage, improving the working conditions of employees responsible for feeding the kilns with bricks and fuels. The score for "Quality of employment" is confirmed to be "+".
Livelihood of the poor	0	As per requirements stipulated in the GS Toolkit Annex I and through the on-site visit, the validation team confirmed that the project is not expected to affect the living conditions of the poor. The score for "Livelihood of the poor" is confirmed to be "0".
Access to affordable and clean energy services	+	The validation team considers that the project is expected to positively impact the access to affordable and clean energy services. The energy efficiency measures allow the ceramics to reduce their energy demand for their productive process, while the use of renewable biomasses provide alternative and clean energy sources that were not utilized in the baseline situation. The score for "Access to affordable and clean energy services" is confirmed to be "+".
Human and institutional capacity	0	The validation team considers that the project is not expected to affect human and institutional capacity. The project includes the introduction of new technologies and processes that demanded additional training from some of the ceramics employees. However, as this is not considered to be very significant in scale, a neutral impact is conservatively considered by the PP.

		The score for “Human and institutional capacity” is confirmed to be “0”.
Economic and technological development		
Quantitative employment and income generation	+	As from the on-site interview, the validation team confirmed that the quantitative employment and income generation can be considered positively affected by the project. The ownership of the carbon credits is considered an important income for the ceramic owners, as these resources allowed them to invest in the fuel switching measures applied by the project. The score for “Quantitative employment and income generation” is confirmed to be “+”.
Balance of payments and Investment	0	The validation team considers that this indicator indeed will not be affected by the project. The score for “Balance of payments and Investment” is confirmed to be “0”.
Technology transfer and Technological self-reliance	0	Despite the project includes the utilization of renewable biomasses in a sector where this is not a common practice, the PP is conservative in consider this indicator with a neutral impact. The validation team agrees with the statement. The score for “Technology transfer and Technological self-reliance” is confirmed to be “0”.

The project has used the sustainable development assessment matrix as required by the Gold Standard. The total score obtained is +3, based on the above validation of sustainable development indicators. The scoring in each section is summarized below:

Environment has a neutral subtotal.

Social development has a subtotal of +2 (from positive impact as of both indicators: quality of employment; and access to affordable and clean energy services), while other indicators all score neutral.

Economic and technological development has a subtotal of +1 (from positive impact from quantitative employment and income generation), while other indicators all score neutral.

None of the sub-total scores is negative, the total score is positive and none of the indicators has a negative score. All the assumptions used in defining the score values have been reviewed by the validation team based on the submitted Gold Standard documentation and the on-site visit. Hence, the project activity complies with this Gold Standard criterion.

5 ENVIRONMENTAL IMPACT ASSESSMENT

Las Tapias 3 and Santander Ceramics have been granted to operate as they acquired the environmental licenses from the *Corporación Autónoma Regional de Cundinamarca* / 17/. Law 99 from 1993 / 15/ provides definition on environmental licensing. Decree 2,820 from 2010 / 16/ regulates this law, thus defining which activities shall be subject to environmental licensing before starting operation, an environmental impact assessment (EIA) is required on all cases requiring environmental license.

Las Tapias 3 Ceramic's Environmental Management Plan (which contains the EIA) was approved by Resolution 1895 from 30/06/2006 / 18/. Santander Ceramic had its Environmental Management Plan approved by Resolution 1740 from 15/08/2008 / 19/.

The project activity did not compel the ceramics to require a new environmental license nor to make improvements in the current one. However, the ceramics included in this project shall ensure all obligations and restrictions defined by the environmental authority are complied with during the crediting period.

6 GOLD STANDARD CRITERIA FOR STAKEHOLDER CONSULTATION

According to the Annex J of the Gold Standard Toolkit, in order to validate a proper Stakeholder Consultation, there must be well stated an invitation tracking table, this was properly filled and the confirmation of receipt where presented / 28/, meaning that all of the invited parties did receive the notification for the meeting.

The physical meetings were held on October 31st of 2011 in Mochuelo Bajo in the city of Bogotá, located in Cundinamarca state. Already included on the shown letter of invitation was the brief non technical explanation written on an appropriate level for general understanding. On this letter it was well described the place and time of the meetings, as well as all the activities within the project boundary.

The following documents were presented to the validation team: signed attendance list / 29/, photos and videos taken during the meetings and completed questionnaires / 30/. They were all in accordance with the GS requirements.

As confirmed from completed questionnaires / 30/, all of the stakeholders supported the project activity, no negative comments were received on the Project activity and during the blind exercise no indicators were scored negatively.

The received comments were all positive towards the project, especially due to the fact it generates significant benefits on water quality. However, project proponents will not consider a positive impact on this indicator, since the actual improvement of water quality depends on several factors not controlled by the project. Then, no relevant opinion was made, so no changes to the sustainable development assessment are needed.

Even though the site visit was before the stakeholder consultation, this validation report was not released with a positive opinion before this date. Regarding the validation of the accuracy of the stakeholder round, email and telephone contact were made with Mr. Dom Jesus (manager of Santander Ceramic) and Mrs. Dona Flor Maria Ramirez (President of the board of Communal Action of Vereda Fusungá Organization). These stakeholders were identified by validation team in order to obtain an inside view of impacts of the project on the ceramic and the second to obtain the point of view of the local community which aims to identify the needs or wants of surrounding population.

On the conference call it was stated that there was a meeting that took place on October 31st of 2011, and that the general opinion of the attendees was regarding the reduction of ashes on the air and also that with this project there will be an improvement of the environmental conditions on the surrounding community.

7 PRE-FEASIBILITY ASSESSMENT

Prior to the validation, the GS passport and PDD had been uploaded to the GS system on 1st of September 2011, following this it was submitted to the pre-feasibility assessment on 14th of September 2011. This was done through a teleconference with Mr. Ivan Hernandez, GS Focal Point for Latin-American. On this day he gave his positive opinion and the project went forward for validation with TÜV Rheinland.

8 SUSTAINABILITY MONITORING PLAN

The sustainability monitoring plan is included in the GS Passport as per the requirements in the GS Toolkit Annex I. According to GS Toolkit 2.4.3, all non-neutral indicators must be monitored, and any indicators that were neutralized (i.e. originally scored negative, but now score neutral due to a suitable mitigation measure) must also be included. Moreover, any sensitive issue brought up during the stakeholder consultation must also be included.

The sustainability monitoring plan contains seven (8) parameters of six (6) indicators, including three (3) indicators which scored “+” in the SD Matrix, one (1) indicator regarding “soil condition” (scored neutral due to a suitable mitigation measure) and two (2) indicators as required according Annex C: “biomass resources” and “surplus biomass”. The validation of monitored indicators is shown on the table below:

Summary of Sustainability Monitoring Plan

No	Indicator	Chosen parameter	Way of monitoring	Frequency
01	Soil condition	Procedures related to the control and disposal of ashes	Interviews and meetings with stakeholders and ceramic personnel on each ceramic.	Annually

02	Quality of employment	Actions of health and security	Site visits and interviews with employees and Managers of each ceramic.	Annually
03		IPE use	Site visits and interviews with employees and Managers of each ceramic.	Annually
04	Access to affordable and clean energy services	Total energy produced from renewable sources	The amount of renewable biomass used by each ceramic will be monitored during the crediting period (through purchase invoice, delivery notes or other documents concerning the acquisition of biomass). By using default values of energy content, the project proponents will be able to determine the amount of renewable energy produced during each year of the crediting period.	On a monthly basis. Data will be consolidated on an annual basis.
05	Quantitative employment and income generation	Voluntary Emission Reductions issued	The issuance of Voluntary Emission Reductions (or similar assets from the carbon market) will be monitored.	Annually
06		Revenues for biomass suppliers	Total revenues will be monitored by storing purchase invoices, receipts of sale and other documents concerning biomass acquisition.	Annually
07	Origin of renewable biomass	Origin of renewable biomass	The origin of the renewable biomass will be assessed storing documents (receipts, invoices) from the biomasses providers, thus allowing determining its origin. The biomasses shall be considered renewable as fulfilling definitions of renewable biomass approved by the CDM Executive Board - EB 23, Annex 18 / 29/.	Annually
08	Competing uses of biomass	Biomass surplus	National and international articles and databases will be assessed to determine the availability of each type of biomass used during the project operation.	Annually

In conclusion, the validation team considers that all the chosen parameters are relevant to sustainable development indicators and the sustainability monitoring plan complies with the Gold Standard requirements.

9 VALIDATION OPINION

DOE TÜV Rheinland has been commissioned to perform the validation of the GS VER Project activity “Santander and Las Tapias Renewable Energy Project” in the state of Cundinamarca, Colombia. The information is based on the information made available to the validation team, and the validation engagement only covered the project components detailed in this report. The validation team of TÜV Rheinland would not be held liable by any party for decisions made or not made based on the validation opinion, which will go beyond that propose.

According to the GS requirements and Toolkit Version 2.1, the chosen parameters and the justification of scores have been fully demonstrated in the Sustainable Development Matrix and the corresponding Sustainability Monitoring Plan.

The project made use of the approved GS Methodology “Ecologically Sound Fuel Switch to Biomass with Reduced Energy Requirement.” version 1.0 / 6/. To the date of this validation, this methodology was valid, and proved to be the most recent one in existence. The additionality was widely demonstrated according to the UNFCCC CDM requirements. The project will have emission reductions of 18,477 tCO₂e/yr. The validation team concludes that these emissions are conservative, retraceable and reproducible at any time.

During the 8 Weeks of Gold Standard’s review, the following FAR (Forward Action Request) was raised by GS TAC, regarding the parameter 06 “Revenues for biomass suppliers” of Sustainability Monitoring Plan, and should be fulfilled during the verification by designated DOE:

FAR 1: DOE shall interview a biomass supplies at verification stage in order to corroborate that biomass supply represent a new source of income.

In summary, the validation team of TÜV Rheinland concludes that the GS-VER Project activity “Santander and Las Tapias Renewable Energy Project” as described on the PDD and GS Passport, from 1st February 2013 and 19th July, 2012 respectively, meets all relevant requirements of the Gold Standard version 2.1 for the GS VER Project activities. The DOE therefore requests the registration of the project.

Appendix A

SUSTAINABILITY VALIDATION PROTOCOL - FOR GOLD STANDARD PROJECTS -

“Santander and Las Tapias Renewable Energy Project”

REPORT No. 2098.11.R.1

Table 1: Validation requirements (based on the GS Toolkit, GS Requirements and their relevant Annexes)					
Checklist question	Ref.	MoV*	Findings, comments, references, data sources	Draft conclusion	Final conclusion
1. Project Eligibility					
1.1 Has the correct project size been selected?	/ 1/, / 2/ / 4/, / 5/ / 6/, / 7/	DR	Yes, the project shows sufficient proof to be considered as a small scale category.	OK	OK
1.2 Does a written statement (e.g. in the PDD) clearly describe that the project is not a de-bundled part of a large or small scale project?	/ 1/, / 2/	DR www	Yes, the written statement on section 1.2 of the PDD is clearly described that the project is not a de-bundled part of a large or small scale project.	OK	OK
1.3 If there is an applicable cap-and-trade scheme in the project's host country, has an arrangement been made to cancel allowances in the applicable scheme?	/ 1/, / 2/ / 4/, / 5/	www	No, there is no cap and trade system in Colombia, neither compulsory nor voluntary.	OK	OK

* MoV = Means of Verification, DR = Document Review, I = Interview, www = internet search.

1.4 Does the project clearly demonstrate its eligibility under Gold Standard?	/ 1/ / 2/- C.3 / 4/, / 5/	DR	Yes, the project fulfils the requirements of the GS eligibility criteria and also the additional specific eligibility criteria detailed in Annex C. The main focus of this project is to allow the substitution of fossil fuel (coal) with renewable biomass while improving energy efficiency in the production process of two red ceramic industries in Colombia. Therefore, the project qualifies to both eligible project categories under the Gold Standard: Renewable Energy Supply and End-use Energy Efficiency Improvement.	OK	OK
1.5 Does the project reduce an applicable GHG?	/ 1/ / 2/ - C.4. / 4/, / 5/ / 6/	DR	Yes, with the implementation of the project activity, the reduced GHG is CO ₂ .	OK	OK
1.6 Does the project clearly demonstrate that no ODA has been used under the condition that the credits coming out of the project are transferred to the donor country?	/ 1/- A.4.4 / 2/, / 4/ / 5/	DR	There is no public funding involved in this project activity. The project does not receive Official Development Assistance.	OK	OK
1.7 Does the project apply the correct project cycle (regular vs. prefeasibility assessment)?	/ 1/, / 2/ / 4/, / 5/	DR	Yes, the project applies for Gold Standard under the retroactive project cycle since the construction of the project has been already finished.	OK	OK

1.8	Is the project being registered under any other certification scheme for the same or overlapping crediting periods?	/ 1/, / 2/ / 4/, / 5/	DR	No, the project is only to be registered under Gold Standard.	OK	OK
2. Deviations in GHG Emission Reduction Estimation (Gold Standard Conservativeness Principle)						
2.1	Has the baseline scenario been constructed in a conservative manner (i.e. assumptions are made explicitly and choices are substantiated)?	/ 1/- B.4 / 2/, / 4/, / 5/, / 6/ / 7/	DR	Yes, the project applies a correct baseline scenario, being the replacement of the use of coal. A common used fuel in the region.	OK	OK
2.2	Does the PDD use the latest version of the methodology and the latest interpretation form the EB at the time of first submission to the GS?	/ 1/- B / 2/, / 4/ / 5/, / 6/	DR	Yes, the PDD uses the latest version of it.	OK	OK
2.3	Does the PDD describe the baseline methodology?	/ 1/- B.1 / 2/, / 4/ / 5/, / 6/	DR	Yes, the PDD describes a proper baseline methodology. It was verified during onsite assessment through interviews with company workers about the common use of fuel.	OK	OK
2.4	Does the PDD describe the quantified baseline scenario?	/ 1/- B.4 / 2/, / 4/, / 5/, / 6/ / 7/	DR	Yes, the PDD describes the baseline scenario according to general guidelines to SSC CDM methodologies / 7/, in which the baseline is correctly identified as the use of coal in inefficient kilns to produce bricks.	OK	OK
2.5	Does the PDD include and overview of the current and known <u>future legally binding</u> regulatory instruments and assess whether the project would be implemented anyway because of these?	/ 1/- B.5 / 2/, / 4/, / 5/, / 6/ / 7/	DR	CL 1: Please provide references regarding the survey performed of current and known future legally binding regulatory instruments.	CL 1	CLOSED

2.6 Does the PDD provide evidence based on which “ <u>common practice</u> ” of the technology used can be assessed?	/ 1/- B.4 / 2/, / 4/, / 5/, / 6/ / 7/, / 10/	I/ www	Yes, the PDD provide evidences that in Colombia bricks are produced through an inefficient and traditional process using coal to generate thermal energy. Verified through The Colombian Energy Balances 1975 – 2006 / 10/.	OK	OK
2.7 Does the PDD address leakage issues as part of the baseline and project boundary?	/ 1/, / 2/ / 4/, / 5/ / 6/, / 7/	DR	Yes, according to GS Methodology “Ecologically Sound Fuel Switch to Biomass with Reduced Energy Requirement.” version 1.0 / 6/ the PDD do attend to leakage requirements.	OK	OK
2.8 Does the project apply the methodology that results in the lowest baseline emission?	/ 1/, / 2/ / 4/, / 5/ / 6/	DR	Yes, the PDD shows a conservative approach regarding the results of baseline emission.	OK	OK
2.9 Are all likely baseline scenarios developed and quantified in the PDD?	/ 1/- B.4 / 2/, / 4/, / 5/, / 6/ / 7/	DR	Yes, the PDD describes the baseline scenario according to general guidelines to SSC CDM methodologies / 7/, which shows four baseline scenarios in a quantified matter.	OK	OK
2.10 Are there any <u>material uncertainties</u> over the numerical data sets applied (e.g. generator efficiencies, and fuel types and resulting emission factors, etc.)?	/ 1/, / 2/ / 4/, / 5/ / 6/	DR	No, the PPs used a wide range of data and there is no material uncertainty over the numerical data sets applied.	OK	OK
2.11 Is there a systematic referencing to publicly available information or to expert or expert opinions?	/ 1/, / 2/ / 4/, / 5/	DR	Yes, the PDD provide a systematic referencing to publicly available information.	OK	OK

2.12 Is information verifiably presented with a sufficient degree of detail and transparency?	/ 1/, / 2/ / 4/, / 5/	DR	Yes, the validation team considers that it was possible to trace the sources, therefore, it was concluded that the information presented have a high degree of transparency.	OK	OK
2.13 Is it fully transparent from the PDD which sets of data were selected based on the prerogative of conservativeness?	/ 1/, / 2/ / 4/, / 5/	DR	CL 2: Please provide in the PDD information regarding the criteria of conservativeness and degree of it.	CL 2	CLOSED
2.14 Does the PDD include full <u>references to sources of data</u> used?	/ 1/, / 2/ / 4/, / 5/	DR	Yes, the PDD includes full references to source of data used, which are confirmed to be well-founded.	OK	OK
2.15 Are data uncertainties clearly stated, if possible, with associated margins of error?	/ 1/, / 2/ / 4/, / 5/	DR	CL 3: Please provide description relate to data uncertainty risk.	CL 3	CLOSED
3. Gold Standard Criteria on Additionality					
3.1 Has the PP selected and applied the correct tool for <u>demonstrating additionality</u> ?	/ 1/, / 2/ / 4/, / 5/ / 9/	DR	Yes, the PP selected and applied correctly the “Tool for the demonstration and assessment of additionality”, version 05.2, for demonstrating the project additionality.	OK	OK
3.2 Is the line of argumentation used by the PP <u>to demonstrate additionality correct</u> ?	/ 1/- B.5 / 2/, / 4/, / 5/, / 9/	DR	Yes, the PP used a correct argumentation to demonstrate project additionality. As note in the PDD section B.5, the additionality assessment was carried by accessing the barrier analysis without the investment analysis.	OK	OK

3.3	Are the references used to demonstrate additionality up-to-date and reliable?	/ 1/, / 2/ / 4/, / 5/ / 9/	DR	Yes, the references used to demonstrate additionality are considered up-to-date and reliable at the time of registration.	OK	OK
3.4	Has the PP compared the proposed project activity with normal practice in the region (especially if similar projects have already been implemented on a commercial basis in the region)?	/ 1/, / 2/ / 4/, / 5/ / 9/	DR	Yes, the project activity has been wide compared with the use of coal in inefficient kilns to produce bricks. There is no wide spread use of renewable sources as fuel or low efficiency kilns in the production process of red ceramics in the region.	OK	OK
3.5	Are assumptions (qualitative or quantitative) used to demonstrate additionality conservative?	/ 1/, / 2/ / 4/, / 5/ / 9/	DR	Yes, validation team confirms that the assumptions used to demonstrate additionality are conservative.	OK	OK
4. Sustainability Assessment						
4.1	Is “Do no harm” assessment based on accurate information?	/ 1/, / 2/ / 4/, / 5/	DR	Yes, the validation team checked the “Do no harm” assessment and confirms the accurate information and Colombian laws demonstrated.	OK	OK

4.2 Has a sustainable development matrix been developed? If yes, is it prepared according to the guidance under GS Toolkit Section 2.4.2, Table 3.2 and Annex I?	/ 1/, / 2/ / 4/, / 5/	DR	Yes, the sustainable development matrix has been developed and in accordance with de GS Toolkit. However, the validation team considers the some information cannot be the suitable to Gold Standard indicators of sustainable development: CL 4: The description regarding the “Relevance to achieving MDG” of the Air quality indicator regarding the mitigation of CO2 is inconsistent with the category, since this category refers to changes in the environment in addition to reductions of greenhouse gases since GHG reductions are included in all greenhouse gas reduction projects by definition. Please correct it.	CL-4	CLOSED
4.3 Is the matrix based on existing sources of information (data from existing reports, results from stakeholder consultation, experiences with similar projects in similar situations, expert judgement if data are unavailable or are of poor quality, etc)?	/ 1/, / 2/ / 4/, / 5/	DR	Yes, the matrix is based on existing sources of information with good quality and from different creditable sources.	OK	OK
4.4 Are data and expert opinions presented in a sufficient degree of detail and transparency? Are they verifiable?	/ 1/, / 2/ / 4/, / 5/	DR	Yes, the data presented is in a good quality of detail and it is verifiable.	OK	OK
4.5 Are data uncertainties clearly stated with associated margins of error?	/ 1/, / 2/ / 4/, / 5/	DR	CL 5: Please provide information of margins of error more clearly, if they are applicable.	CL-5	CLOSED

4.6	Is 'scoring' reproducible and verifiable?	/ 1/, / 2/ / 4/, / 5/	DR	Yes, the scoring based on the Social Carbon Standard is reproducible and verifiable.	OK	OK
4.7	Are at least two of the sub-totals (categories) positive? Is the third sub-total at least neutral?	/ 1/, / 2/ / 4/, / 5/	DR	Yes, two of the sub-totals are positive and the third sub-total is neutral.	OK	OK
4.8	Is there a clear explanation on 'how the matrix was completed together with the stakeholders'?	/ 1/, / 2/ / 4/, / 5/	DR	There is no information regarding the stakeholder consultation yet. CL 6: Please provide a clear explanation on how the matrix was completed together with the stakeholders.	CL-6	CLOSED
5. Environmental Impact Assessment						
5.1	Does the project activity conform to host country (local, regional or national) requirements concerning environmental impact assessment?	/ 1/, / 2/ / 4/, / 5/ / 15/, / 16/ / 17/, / 18/ / 19/	DR	CL 7: Please provide a clear explanation and references regarding the requirements concerning environmental impact assessment on Section D.1 of PDD.	CL-7	CLOSED
5.2	For micro-scale projects, is there an owner declaration that guarantees that the project complies with local environmental regulations?	/ 1/, / 2/ / 4/, / 5/	DR	Not applicable. The project activity is not a micro-scale project.	-	-
6. Gold Standard Criteria for Stakeholder Consultation						
6.1 Stakeholder Consultation						

6.1.1 Have PPs fulfilled the GS requirements, set out in GS Toolkit Section 2.6 and 2.11, regarding stakeholder consultation?	/ 1/, / 2/ / 4/, / 5/	DR	Information regarding the stakeholder consultations is not available for validation, therefore, the requirements cannot be checked yet. CL 8: Please provide relevant records and documentations of the stakeholder consultations.	CL 8	CLOSED
6.1.2 Has an Invitation tracking table been filled out?	/ 1/, / 2/ / 4/, / 5/	DR	Idem to item 6.1.1	CL 8	CLOSED
6.1.3 Are copies of invitations published/sent out available?	/ 1/, / 2/ / 4/, / 5/	DR	Idem to item 6.1.1	CL 8	CLOSED
6.1.4 Is a non-technical summary included in the Local Stakeholder Consultation report?	/ 1/, / 2/ / 4/, / 5/	DR	Idem to item 6.1.1	CL 8	CLOSED
6.1.5 Is a participant list available?	/ 1/, / 2/ / 4/, / 5/	DR	Idem to item 6.1.1	CL 8	CLOSED
6.1.6 Are stakeholder evaluation forms available?	/ 1/, / 2/ / 4/, / 5/	DR	Idem to item 6.1.1	CL 8	CLOSED
6.1.7 Are minutes of the meeting(s) available?	/ 1/, / 2/ / 4/, / 5/	DR	Idem to item 6.1.1	CL 8	CLOSED
6.1.8 Has due account been made on comments received?	/ 1/, / 2/ / 4/, / 5/	DR	Idem to item 6.1.1	CL 8	CLOSED
6.1.9 If stakeholders required a revisit of the sustainable development assessment, has this been done?	/ 1/, / 2/ / 4/, / 5/	DR	Idem to item 6.1.1	CL 8	CLOSED

6.1.10 Is the consolidated sustainable development matrix presented based on own 'preliminary' scoring and the matrix from the outcome of the blind stakeholder exercise?	/ 1/, / 2/ / 4/, / 5/	DR	Idem to item 6.1.1	GL-8	CLOSED
6.2 Stakeholder Feedback Round					
6.2.1 Is there evidence clearly showing that the latest version of the complete PDD (including the EIA, if applicable) was made publicly available for a period of two months prior to completion of the validation in a readily accessible form?	/ 1/, / 2/ / 4/, / 5/	DR	Idem to item 6.1.1	GL-8	CLOSED
6.2.2 Is there evidence clearly showing that the non-technical summary of the project (in appropriate local language(s)) was made publicly available for a period of two months prior to completion of the validation in a readily accessible form?	/ 1/, / 2/ / 4/, / 5/	DR	Idem to item 6.1.1	GL-8	CLOSED
6.2.3 Is there evidence clearly showing that all relevant supporting information (if available, in appropriate local language(s)) was made publicly available for a period of two months prior to completion of the validation in a readily accessible form?	/ 1/, / 2/ / 4/, / 5/	DR	Idem to item 6.1.1	GL-8	CLOSED
6.2.4 Does the Passport include a description of the procedure followed to invite comments, including addressing all the details of the oral hearing such as place, date, participants, language, local or national GS NGO supporters, etc.?	/ 1/, / 2/ / 4/, / 5/	DR	Idem to item 6.1.1	GL-8	CLOSED

6.2.5 Does the Passport include all written or oral comments received?	/ 1/, / 2/ / 4/, / 5/	DR	Idem to item 6.1.1	CL-8	CLOSED
6.2.6 Does the Passport include the argumentation on whether or not comments are taken into account and the respective changes to the project design?	/ 1/, / 2/ / 4/, / 5/	DR	Idem to item 6.1.1	CL-8	CLOSED
7. Pre-Feasibility Assessment					
7.1 Has the feedback from GS been followed-up?	/ 1/, / 2/ / 4/, / 5/	DR	Yes, the retroactivity of the project has been well assessed.	OK	OK
8. Sustainability Monitoring Plan					
8.1 Are chosen parameters relevant to the indicators?	/ 1/, / 2/ / 4/, / 5/	DR	Yes, the chosen parameters are all relevant.	OK	OK
8.2 Is the sustainability monitoring plan unambiguous about who will monitor with what frequency?	/ 1/, / 2/ / 4/, / 5/	DR	Yes, it is clearly stated on this section that will be monitoring the parameters.	OK	OK
8.3 Is there any concern regarding the feasibility of the plan?	/ 1/, / 2/ / 4/, / 5/	DR	No, there is no concern regarding this point.	OK	OK

Table 2: List of Requests for Corrective Action (CAR) and Clarification (CL)

No.	CAR/CL	Observation (CAR/CL)	Reference	Summary of project owner response	Validation team conclusion
1.		X	CL 1: Please provide references regarding the survey performed of current and known future legally binding regulatory instruments.	2.5	A survey on this subject was performed by Darry Torralba, Environmental Engineer of Ecoeficiencia. This survey assessed how the existing and future regulations relate to GHG emission reduction and fuel switch to renewable biomass in the ceramic sector. Amongst others, the following regulations were analyzed: - Law 99 from 1993: provides definition on environmental licensing; - The agreement for a clean production for the subsector of brick production and clay products signed by the Cundinamarca Regional Corporation. - Resolution 909 from 2008: defines Emissions Standards for stationary sources. - The Colombian National Policy for Clean Production: defines objectives and principles for a cleaner production in Colombia. The outcome of the survey allows concluding the Project measures are additional, as no specific requirements are set for ceramic factories to reduce GHG emissions or to switch to renewable biomass consumption.

					During the stakeholder consultation meeting, a summary of such survey was presented to stakeholders. Stakeholders were also asked if the Project measures comply and are additional to current and future legally binding regulatory instruments. Stakeholders agreed the Project is additional to such instruments. This information was also included in Section B.5 of the PDD.	
2.		X	CL 2: Please provide in the PDD information regarding the criteria of conservativeness and degree of it.	2.13	Information on conservativeness was included in Section B.4 and B.6.3 of the PDD. More information on conservativeness was included in Section H.2 of the Passport as well.	The information regarding the criteria of conservativeness included on the PDD /1.2/ in Section B.4 and B.6.3 were accepted by validation team. This CL is CLOSED.
3.		X	CL 3: Please provide description relate to data uncertainty risk.	2.15	Information on the most relevant uncertainty risks was included in Section A.4.2 of the PDD.	The description relate to the most relevant uncertainty risks included in Section A.4.2 of the PDD /1.2/ was accepted by validation team. This CL is CLOSED.
4.		X	CL 4: The description regarding the “Relevance to achieving MDG” of the Air quality indicator regarding the mitigation of CO ₂ is inconsistent with the category,	4.2	This parameter was revised as required. Reference to CO₂ was removed.	The parameter revised in Section F.2 of the GS Passport was accepted by validation team. This CL is CLOSED.

			since this category refers to changes in the environment in addition to reductions of greenhouse gases since GHG reductions are included in all greenhouse gas reduction projects by definition. Please correct it.			
5.		X	CL 5: Please provide information of margins of error more clearly, if they are applicable.	4.5	Information on margins of errors was included in Section F.2 of the Passport (under <i>Justification choice</i>).	The information on margins of errors included in Section F.2 of the GS Passport /2.2/ was accepted by validation team. This CL is CLOSED.
6.		X	CL 6: Please provide a clear explanation on how the matrix was completed together with the stakeholders.	4.8	Stakeholder consultation was performed as required during the pre-feasibility assessment. The Stakeholder Feedback Round (which is the required step of stakeholder Consultation for retroactive projects) was performed following Gold Standard requirements for the Local Stakeholder Consultation Process. A physical meeting was held to local stakeholders. A Report on such a consultation process was uploaded to the Gold Standard Registry and is being sent to the validation team via e-mail as well.	The Local Stakeholder Consultation Report has been provided and is considered suitable by the validation team. This CL is CLOSED.
7.			CL 7: Please provide a clear explanation and references regarding the requirements concerning environmental impact assessment on Section D.1 of	5.1	The section D.1 of PDD was detailed with the applicable legislation in Colombia regarding the requirements concerning environmental impact assessment and environmental license. In addition, it was	The explanation and references provided has been accepted by the validation team. This CL is CLOSED.

			PDD.		explained that this project activity did not require a new environmental impact assessment as a new environmental license was not needed.	
8.		X	CL 8: Please provide relevant records and documentations of the stakeholder consultations.	6.1.1	Evidences to the LSC consultation are being sent to the auditing team via e-mail.	The Local Stakeholder Consultation Report has been provided and the validation team considered suitable to the Gold Standard requirements. This CL is CLOSED.
9.	X		CAR 1 : Please correct the following topics observed on ER Spreadsheet v01: 1. Tab “Las Tapias 3”: “Average annual baseline fossil fuel consumption” and “Average net calorific value of fuel”. The formulae for the total of 2010 “Annual brick production”. Percentage of use of renewable biomass (%) of 2011 is not in accordance with what was observed on the onsite visit (less than 10%). 2. Tab “Santander”: “Average annual baseline fossil fuel consumption” and “Average net calorific value of fuel”. 3. Tab “Production”: Las Tapias 3, the total of 2010 production of bricks.		Corrections were made on the ER spreadsheet, as requested.	A revised ER Spreadsheet / 11/ as been provided and the validation team considered all corrections accepted. The corrections on the revised PDD /1.2/ are also accepted. This CAR is CLOSED.

10.		X	CL 9: Please provide evidences regarding the commitment of the usage of renewable biomass of both ceramics.		Both ceramic industries have signed contracts with Sustainable Carbon, committing themselves to the following contractual obligations: - to implement the new technologies in a way to make the full transaction of the use of non renewable biomass to renewable biomass possible and maintain, control, manage, monitor and follow up such transaction with the purpose of minimizing greenhouse gas emissions; - to execute, monitor, and keep the physical structure that serves as site for the development of the Project fully functional, guaranteeing the reduction of greenhouse gases, and fulfilling with all its legal obligations as well as the rules that are required for the approval of the Project. A declaration from Sustainable Carbon is being sent as evidence to such commitment, since the actual contracts between the project participants is confidential by nature.	The declaration from Sustainable Carbon has been provided and the validation team considered accepted. This CL is CLOSED.
11.	X		CAR 2: Provide the estimated consumption of each biomass (assuming 100% use for each biomass) for conservativeness.	GS TAC – Comment/R equest 5	An estimated consumption of each biomass (assumption of 100% use for each biomass) was detailed in the PDD and calculation spreadsheet.	The explanation (in PDD /1.3/) and calculations were properly provided and accepted by the validation team. CAR is CLOSED.

