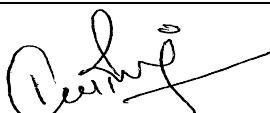




**Verification and certification report form for
Gold Standard project activities
(Version 03.0)**

Complete this form in accordance with the instructions attached at the end of this form.

BASIC INFORMATION

Title and UNFCCC reference number of the project activity	Santander and Las Tapias Renewable Energy Project GS1074
Scale of the project activity	☐ Large-scale ☒ Small-scale
Version number of the verification and certification report	1
Completion date of the verification and certification report	18/06/2019
Monitoring period number and duration of this monitoring period	2 nd Monitoring period 01/01/2017 to 31/12/2018 (both days included)
Version number of the monitoring report to which this report applies	3
Crediting period of the project activity corresponding to this monitoring period	Type: Renewable Start date: 01/04/2013, Length: 7 years
Project participants	Sustainable Carbon - Projetos Ambientais Ltda. Ladrillera Santander Diaz Muñoz S en C Ruiz Moreno y Cia S en C
Host Party	Colombia
Applied methodologies and standardized baselines	Methodology approved under the Gold Standard for Voluntary small scale projects: "Ecologically Sound Fuel Switch to Biomass with Reduced Energy Requirement", Version 1.0
Mandatory sectoral scopes	Sectoral Scope 1 – Energy Industries (Renewable / Non-renewable Sources)
Conditional sectoral scopes, if applicable	N/A
Estimated amount of GHG emission reductions or GHG removals for this monitoring duration in the registered PDD	28,985 tCO ₂ e (this value corresponds only to the ERs estimated for Santander Ceramic as Las Tapias did not monitor its parameters during this monitoring period)
Certified amount of GHG emission reductions or GHG removals for this monitoring period	41,242 tCO ₂ e
Name and UNFCCC reference number of the DOE	Earthood Services Private Limited (ESPL) (ref E- 0066)
Name, position and signature of the approver of the verification and certification report	 Dr. Kaviraj Singh Managing Director

SECTION A. Executive summary

Brief summary of the project activity

The project activity involves partial fuel switching from mineral coal to renewable biomasses such as sawdust, wood residues and pulp and paper sludge sawdust in two ceramic companies installed in the State of Cundinamarca, Colombia. Thus, GHG emission reduction is achieved.

The project applies the methodology approved under the Gold Standard for Voluntary small scale projects: "Ecologically Sound Fuel Switch to Biomass with Reduced Energy Requirement", Version 1.0.

The PA contributes to the following SDG Goals:

1. Goal 7: Affordable and clean energy;
2. Goal 8: Decent work and economic growth;
3. Goal 13: Climate action;

Scope of verification

This verification is an independent and objective review and ex-post determination of the monitored reductions in GHG emissions by the DOE. The verification addresses the implementation and operation of the GS PA and tests the data and assertions set out in the monitoring report based on the following:

- the registered PDD and GS Passport;
- the approved methodology mention in the PDD and GS Passport;
- the registered monitoring plan;
- UNFCCC criteria referred to in the Kyoto Protocol criteria and the CDM modalities and procedures as agreed in the Bonn Agreement and the Marrakech Accords;
- Gold Standard for the Global Goals;
- CDM Validation and Verification Standard (VVS);
- CDM Project Standard (PS) and Project Cycle Procedure (PCP);
- relevant decisions, guidance and clarifications of the CMP, GS Secretariat and CDM Executive Board and any other information and references relevant to the reported emission reductions of the project activities.
- The verification has considered both quantitative and qualitative aspects on stated/reported emission reductions. The monitoring report and corresponding supporting documentation was assessed in accordance with the rules defined by UNFCCC and GS, as appropriate to the PA. The verification is not meant to provide any consulting or recommendations to the PP/others. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the monitoring activities.

Verification process

The verification process involved following:

- Contract with Sustainable Carbon – Projetos Ambientais Ltda. For the scope of verification;
- Publication of monitoring report and work plan;
- Desk review;
- Physical on-site inspection;
- Issuance of verification findings;
- Reporting, calculation checks, QA/QC and resolution of findings;
- Issuance of draft verification report;
- Independent technical review of the project documentation;
- Issuance of the final verification report;
- Submission of the request for issuance, as appropriate.

Conclusion

Earthood Services Private Limited has performed the verification of the CDM PA "Santander and Las Tapias Renewable Energy Project", having GS Ref. Number GS1074 for the monitoring period 01/01/2017 to 31/12/2018. The verification team has confirmed the implementation of the project as per description in the registered PDD, the monitoring plan of the PDD and GS Passport and the application of the monitoring methodology (Ecologically Sound Fuel Switch to Biomass with Reduced Energy Requirement). In addition, it was confirmed that the monitoring system is in place and the emission reductions and SDGs are calculated without material misstatements.

The verified emission reductions amount to 41,242 tCO₂e in the above mentioned monitoring period. It is important to mention that only one of both Ceramics was verified which is Santander. Las Tapias 3 Ceramic did not monitor its parameters during this monitoring period. Therefore, a temporary deviation has been requested and their Emission Reductions were equalled to zero.

The verification team concluded that the registered GS PA complies with all relevant CDM and GS procedures/standards/guidance and therefore request for issuance is being submitted in accordance with the GS procedures.

SECTION B. Verification team, technical reviewer and approver

B.1. Verification team member

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)	Involvement in			
						Desk/document review	On-site inspection	Interviews	Verification findings
1.	Team Leader	OR	Sebben	Marcelo	Verifit	Y	Y	Y	Y
3.	Technical Expert	OR	Sebben	Marcelo	Verifit	Y	Y	Y	Y
4.	Methodological Expert	OR	Sebben	Marcelo	Verifit	Y	Y	Y	Y
5.	Local Expert	OR	Lopes	Ricardo	Verifit	Y	N	N	Y

B.2. Technical reviewer and approver of the verification and certification report

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)
1.	Technical reviewer	OR	Cruz	Sergio	Verifit
2.	Technical Expert	OR	Cruz	Sergio	Verifit
3.	Approver	IR	Singh	Kaviraj	Central Office

SECTION C. Application of materiality

C.1. Consideration of materiality in planning the verification

No.	Risk that could lead to material errors, omissions or misstatements	Assessment of the risk		Response to the risk in the verification plan and/or sampling plan
		Risk level	Justification	
1.	Human error in recording the readings	Medium	Recording of readings for most of the parameters have human intervention and therefore a small level of risk is existent.	Thus, a sampling will be conducted in the Biomass, fuel and production receipts. Moreover, electronic records used for ER calculation to be

				<i>checked with the source data available as plant records.</i>
2.	<i>Error in transferring the data to ER sheet</i>	<i>Low</i>	<i>Once the readings were recorded, they are automatically transferred to ER calculation spreadsheet. The risk is minimized in this case.</i>	<i>The values reported in ER sheet to be checked with their respective source data. The values for all parameters reported at the interval of were verified from the source data.</i>
3.	<i>Calculation of parameters</i>	<i>Low</i>	<i>Human errors entering formulas and data.</i>	<i>All formulas are checked and compared to applied methodology and tools. In addition, entry data are crosschecked with raw data.</i>

C.2. Consideration of materiality in conducting the verification

In accordance with CDM VVS for PA – version 02.0 – para 326 the prescribed thresholds for materiality for CDM PAs are as under:

Emission Reductions (tCO ₂ e)/year	500,000 or more	300,001 to 499,999	300,000 or less	Small Scale CDM PAs	Micro Scale CDM PAs
Materiality Threshold	0.5%	1.0%	2.0%	5.0%	10.0%

The materiality threshold is 5% as it is a small scale project activity.

Particulars / Monitoring Report	MR Version (Public)	MR Version (Revised/Final)
Emission Reductions Achieved (tCO ₂ e) in this monitoring period	39,615	41,242
Applicable Threshold (%) as per para 326 of CDM VVS for PA– version 02.0	1,980 (5%)	2,062 (5%)

The verification team has identified the impact of errors observed and those were corrected by PP during verification for all monitoring parameter at individual level. Only parameters that will be sampled are subject to consideration of materiality.

Monitored Parameter (Symbol / Description)	Reporting Frequency	Number of Discrete Data (Total)	Sample selected for verification	Type of error identified	Impact on ERs	
					ERs impacted (Sample)	ERs impacted (Population based on extrapolation)
Q_y	Monthly and Yearly aggregated from daily monitoring and also reported every work shift	1016	213	CAR 1	3 ERs	14 ERs (smaller than materiality threshold)
FC_y	Monitored every fossil fuel delivery and recorded monthly	107	77	N/A	No impact	No impact
NCV_{biomass}	Monitored every year through and updated bibliography	No sample applied	No sampling applied	N/A	Materiality not applied	Materiality not applied

Qrenbiomass	Monitored every fuel delivery and aggregated monthly and yearly	1486	230	N/A	No impact	No impact
Origin of renewable Biomass	Monitoring of biomass types delivered	No sample applied	No sampling applied	N/A	Materiality not applied	Materiality not applied
Leakage due to competing uses of biomass	Monitored every year	No sample applied	No sampling applied	N/A	Materiality not applied	Materiality not applied

Based on the above table it can be confirmed that the materiality threshold -is not reached for the registered PA as per CDM VVS.

SECTION D. Means of verification

D.1. Desk/document review

A desk review was conducted by the verification team that included:

- a review of the data and information presented to verify its completeness;
- a review of the registered monitoring plan, the monitoring methodology including applicable tool(s) and, where applicable, the applied standardized baseline, paying particular attention to the frequency of measurements, the quality of metering equipment including calibration requirements, and the quality assurance and quality control procedures;
- an evaluation of data management and the quality assurance and quality control system in the context of their influence on the generation and reporting of emission reductions.

A complete list of documents/evidences reviewed is included as Appendix 3.

D.2. On-site inspection

Duration of on-site inspection: 29/01/2019				
No.	Activity performed on-site	Site location	Date	Team member
1.	Travel from Brazil to Colombia	Bogotá	28/01/2019	Marcelo Sebben
2.	Opening Meeting: Introduction, scope and objective of work, roles and responsibilities of audit team, resources required, and timetable of the onsite audit including venue for closing meeting and any concerns from PP.	Santander Ceramic	29/01/2019	Marcelo Sebben
3.	- Implementation and operation of project activity (project boundary, technology, project equipment, monitoring and metering equipment) as per registered PDD/previous verification.	Santander Ceramic	29/01/2019	Marcelo Sebben
4.	Management and monitoring procedures followed at project site.	Santander Ceramic	29/01/2019	Marcelo Sebben
5.	Physical inspection of the project activity: Site visit and interview of monitoring personnel	Santander Ceramic	29/01/2019	Marcelo Sebben
6.	Interview with biomass suppliers	Santander Ceramic	29/01/2019	Marcelo Sebben

7.	Management and operational system: Documentation, allocation of responsibilities, qualification and training, data recording & archiving, internal audit and management review and emergency procedures.	Santander Ceramic	29/01/2019	Marcelo Sebben
8.	Lunch time	Santander Ceramic	29/01/2019	Marcelo Sebben
9.	Verification checklist: compliance of monitoring procedures followed at project site with registered PDD and monitoring methodology.	Santander Ceramic	29/01/2019	Marcelo Sebben
10.	Review of monitored data and relevant document in accordance with registered monitoring plan and applied monitoring methodology.	Santander Ceramic	29/01/2019	Marcelo Sebben
11.	Review of ER calculations in accordance with applied methodology and relevant tools.	Santander Ceramic	29/01/2019	Marcelo Sebben
12.	Compilation of the audit findings.	Santander Ceramic	29/01/2019	
13.	Closing Meeting: Submission of the audit findings to the auditee and agreement on the issues raised and agreement on timelines. Suggestion for more or less frequent site visits.	Santander Ceramic	29/01/2019	Marcelo Sebben

D.3. Interviews

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Palacios	Jesus Alonso	Santander Ceramic	29/01/2019	- Description of project activity. Physical Inspection of site. - Operation and Maintenance	Marcelo Sebben
2	Garcia	Hector	Sustainable Carbon	29/01/2019	Technical information of the PA	Marcelo Sebben
3	Mauri	Livia	Sustainable Carbon	29/01/2019	MR, EF and ER calculations	Marcelo Sebben
4	Niño	Rafael	Santander Ceramic	29/01/2019	Kiln Operation	Marcelo Sebben
5	Rodriguez	Oscar	Bosques y Jardin (biomass supplier)	29/01/2019	Origin of biomass and biomass supply	Marcelo Sebben
6	Diaz	Miguel	Santander Ceramic	29/01/2019	Social aspects of the PA, future plans of the PA.	Marcelo Sebben

D.4. Sampling approach

The project participants did not apply sampling approach as they took into consideration the all data in order to measure the monitoring parameters and calculate the ERs.

The verification team propose a sampling plan to conduct the assessment of monitored parameters during the site visit due to the amount of available data.

The proposed sampling process has been defined as follows, in accordance with CDM Standard “Sampling and surveys for CDM project activities and programmes of activities” version 07:

The following parameters will be sampled during the site visit

- Q_y – Thousands of ceramic units
- FC_y - Amount of fossil fuel consumed for captive energy generation in the project activity in year y
- $Q_{renbiomass}$ - Quantity of renewable biomass combusted during the year y

The simple random sampling will be conducted for each parameter.

As per information provided to the verification team, the population of each parameter is the following:

The following equation will be applied:

$$n \geq \frac{z^2 \times N \times V}{(N - 1) \times \text{precision}^2 + z^2 \times V}$$

Where:

$$V = \frac{p \times (1 - p)}{p^2}$$

Parameter	Description
n	Number of elements to be sampled
N	Total number of elements in the population, (see table below for each of the parameters)
p	Proportion: Set to 0.5 based on the very conservative estimation that 50% of the values checked are found to be incorrect
z	Constant referring to the level of confidence (for this case 1.645 for 90% as per Guideline for Sampling and Surveys Appendix 1 §9 for SSC project activities)
precision	Required precision (for this case 10%=0.1 as per Guideline for Sampling and Surveys Appendix 1 §9 for SSC project activities)

The table below shows the population of each parameter (invoices, manual records, delivery notes, etc) provided by the PP and the results of the sampling calculation.

Parameter	Population (for the whole MP)	Samplings to be conducted
Q_y	1016	213
FC_y	107	77
$Q_{renbiomass}$	1486	230

As an example, the calculations were provided for the parameter $Q_{renbiomass}$ above:

$$n \geq \frac{1.645^2 \times 1,486 \times \frac{0.5 \times (1-0.5)}{0.5^2}}{(1,486 - 1) \times 0.1^2 + 1.645^2 \times \frac{0.5 \times (1-0.5)}{0.5^2}} = 229.04$$

Rounding up the above value we have a total of 230 samplings to be conducted for the parameter $Q_{renbiomass}$

The sampling approach will be conducted for the parameters Q_y and FC_y .

As a result of the sampling approach we had the following:

Parameter	Samplings conducted	Errors Identified (%)	Materiality threshold reached (>5%)
Q_y	213	0.47	No
FC_y	77	0	No
$Q_{renbiomass}$	230	0	No

D.5. Clarification requests (CLs), corrective action requests (CARs) and forward action requests (FARs) raised

Areas of verification findings	No. of CL	No. of CAR	No. of FAR
Compliance of the monitoring report with the monitoring report form	CL 1		

Compliance of the project implementation and operation with the registered PDD			
Post-registration changes			
Compliance of the registered monitoring plan with the methodologies including applicable tools and standardized baselines			
Compliance of monitoring activities with the registered monitoring plan	CL 2	CAR 1 CAR 2 CAR 3	
Compliance with the calibration frequency requirements for measuring instruments			
Assessment of data and calculation of emission reductions or net removals			
Assessment of reported sustainable development co-benefits			
Global stakeholder consultation			
Others (please specify)			
Total	2	3	

SECTION E. Verification findings

E.1. Compliance of the monitoring report with the monitoring report form

Means of verification	The MR was crosschecked with the GS Monitoring report template available at the GS website and with the instructions for filling it out. One issue has been raised. Please refer to CL 1.
Findings	CL 1 <i>Information on technology installed in Santander Ceramic was not provided in section A.1 and B.1 of the MR as required by instructions for completing the MR.</i>
Conclusion	A valid version of the monitoring report template (version 01.0) available at the GS website has been used. The issues raised were duly answered.

E.2. Remaining forward action requests from validation and/or previous verifications

Means of verification	The previous verification report ^{/14/} has been reviewed and it was observed that a FAR was open during the validation phase. Even though this FAR was closed already during the first verification, the verification team opted to refer to this FAR and conduct interviews to Biomass suppliers. The assessment of this issue is part of assessment of monitored parameter "Quantitative employment and income generation – Revenues from biomass suppliers". For further details, refer to the parameter in section E.6.2 below.
Findings	FAR 1 <i>Interviews with biomass suppliers at verification stage are necessary in order to corroborate that biomass supply represent a new source of income.</i>
Conclusion	Even though this assessment was already conducted during the 1 st verification, the verification team performed an interview to a biomass supplier (Bosques y Jardin) as part of the assessment of the parameter "Revenues from biomass suppliers" who confirmed that prior to the implementation of the PA, the biomass (tree pruning) was either discarded or used for soil levelling. Thus, it represents a new business for them, with possibility of not paying for any discard.

E.3. Compliance of the project implementation and operation with the registered project design document

Means of verification	During the on-site visit, the verification team checked the implementation status of the project activity as well as the monitoring equipment. In addition, interviews with personnel and PP's representatives were also performed. The project activity involves partial fuel switching from mineral coal to renewable biomasses such as sawdust, wood residues and pulp and paper sludge sawdust in two ceramic companies installed in the State of Cundinamarca, Colombia. Thus, GHG emission reduction is achieved.
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	During this monitoring period, only Santander Ceramic is being verified as Las Tapias 3 Ceramic is not monitoring its parameters. Refer to temporary deviation proposed during this site visit. The following equipment were installed under project activity (only Santander Ceramic) Kilns 1 Hoffmann Kiln with 100 meters length 1 Chamber Kiln with 22 chambers
Findings	N/A
Conclusion	According to information verified during the site visit, the verification team has confirmed that all physical features (technology, project equipment, and monitoring and metering equipment) of the Santander Ceramic were in place and are in accordance with the proposed registered PDD. The Ceramic was operated as per as the registered PDD and last monitoring report. Las Tapias 3 is not part of this verification period as their parameters were not monitored, thus, no ERs will be claimed for this ceramic during this MP.

E.4. Post-registration changes

E.4.1. Temporary deviations from the registered monitoring plan, applied methodologies, standardized baselines or other methodological regulatory documents¹

Means of verification	During the last monitoring period, a temporary deviation was required and accepted by GS as the Ceramic Las Tapias could not provide monitoring information and supporting documents during that period. So, its emission reductions for the period was considered as 0 (zero). During this monitoring period, the PP is requesting the same temporary deviation as no monitoring information is available for this Las Tapias Ceramic. The proposed temporary deviation is from 01/01/2017 to 31/12/2018 (during the whole monitoring period) and no ERs will be accounted for this ceramic (ERs will be equal to zero). An assessment for this PRC is attached to this report where further details are available.
Findings	-
Conclusion	The temporary deviation is requested from 01/01/2017 to 31/12/2018 and no VERs will be claimed for the Las Tapias Ceramic during this period.

E.4.2. Corrections

Means of verification	During the last monitoring period, the following corrections were requested and accepted by the GS - Inclusion of parameter EF_{BSL} (emission factor for the baseline situation) as a fixed parameter. - Correction of the value of the specific density of wood residues to 0.423 tonnes/m³. - Withdrawal of private entity C. I. Ecoeficiencia S.A. as project participant No corrections are being requested during this monitoring period.
Findings	-
Conclusion	The corrections requested during last monitoring period were all accepted by GS and no further corrections were requested during this monitoring period.

E.4.3. Changes to the start date of the crediting period

Not applicable as no change in the start date of crediting period is being requested prior and/or during the current monitoring period

¹ Other standards, methodologies, methodological tools and guidelines (to be) applied in accordance with the applied(selected) methodologies are collectively referred to as the other (applied) methodological regulatory documents).

E.4.4. Inclusion of a monitoring plan

Not applicable as monitoring plan is part of the registered PDD

E.4.5. Permanent changes from registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines or other methodological regulatory documents

Not applicable as no permanent changes from the registered monitoring plan or from monitoring methodology have been submitted to the GS prior and/or during the current monitoring period

E.4.6. Changes to the project design

Means of verification	During the last monitoring period, the following changes to the project design were requested and accepted by the GS - Use of different types of biomass (pulp and paper sludge) by <i>Ceramic Santander</i> No changes are being requested during this monitoring period.
Findings	-
Conclusion	The changes requested during last monitoring period were all accepted by GS and no further changes were requested during this monitoring period.

E.4.7. Changes specific to afforestation and reforestation project activities

Not applicable as it is not an afforestation and reforestation PA.

E.5. Compliance of the registered monitoring plan with applied methodologies, applied standardized baselines, and other applied methodological regulatory documents

Means of verification	The MP of the registered PDD was reviewed against the monitoring requirements of the applied methodology and applicable tools.
Findings	-
Conclusion	The MP of the project activity is totally in accordance with the applied methodology (<i>Ecologically Sound Fuel Switch to Biomass with Reduced Energy Requirement</i> – version 1.0) and applicable guidance.

E.6. Compliance of monitoring activities with the registered monitoring plan**E.6.1. Data and parameters fixed ex ante or at renewal of crediting period**

Means of verification	According to the registered PDD, the following parameters are fixed for the crediting period: - EF_{CO_2} – CO₂ Emission factor of baseline fossil fuel (coal): 94.6 tCO₂/TJ; - NCV_{coal} – Net calorific value of baseline fossil fuel (coal): 0.0282 TJ/ton - $P_{biomass}$ – Specific gravity of renewable biomass type j: - o Sawdust: 0.190 ton/m³; - o Wood residues: 0.423 ton/m³ (as per correction accepted during last MP) - EF_{BSL} – emission factor for the baseline situation (as per correction accepted during last MP) - o <i>Santander Ceramic</i>: 1.84 tCO₂e/thousands of bricks produced - o <i>Las Tapias 3 Ceramic</i>: 1.31 tCO₂e/thousands of bricks produced.
Findings	N/A
Conclusion	All fixed parameters were included in the MR section D.1 and are in accordance with registered PDD and corresponding corrections accepted in the previous MP.

E.6.2. Data and parameters monitored

Means of verification	All monitored parameters listed in MR used to calculate baseline GHG emissions of the PA were checked against the registered PDD. The parameters of the registered PDD were verified in order to check its consistency with GS guidance to ER calculations.
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	1. SDG 13 - Q_y: Thousands of ceramic units	
	Criteria/Requirements	Assessment Observation
	Measuring / Reading / Recording frequency	Parameter is determined by the amount of ceramic units cooked in the kilns. The parameter takes into consideration the amount of devices set inside the kiln. The records are made manually during the production phase and are aggregated per shift, daily and monthly. During the sampling process used to verify the raw data, an issue has been found. Refer to CAR 1. After findings conclusion, correct values were reported in the ER calculations and MR.
	Is the measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology?	Yes
	Monitoring equipment	Not applicable
	Is the accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	Not applicable
	Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	Not applicable
	Calibration frequency / interval	Not applicable
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	Not applicable
	Is the calibration of measuring equipment carried out by an accredited person or institution?	Not applicable
	Is(are) the calibration(s) valid for the entire reporting period?	Not applicable
	Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	Not applicable
	How were the values in the monitoring report verified?	A sampling was conducted to the manual records and to the electronic spreadsheets. For further details on the sampling conducted, refer to section D.4 above.

	If applicable, has the reported data been crosschecked with other available data?	As per monitoring plan, the monitored values are to be cross-checked the amount of fuel consumed.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	The amount of pieces cooked are of great importance in the financial sustainability of the ceramic. Thus, we understand that the management does ensure the correct transfer of data to the ER calculations.
	In case project participants have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by paragraph 231 b) the CDM Project Standard for PA-version 02.0?	The PPs have not monitored the parameter for the ceramic Las Tapias 3. The parameter has been estimated in accordance with CDM Project Standard para 231)b). For further details refer to the Assessment on Post Registration Changes.
	2. SDG 13 - FC_y : Amount of fossil fuel consumed for captive energy generation in the project activity in year y	
	Criteria/Requirements	Assessment Observation
	Measuring / Reading / Recording frequency	Parameter corresponds to the amount of fossil fuel combusted in the kilns. The parameter is measured by the amount of fuel delivered to each ceramic and it is controlled by the ceramic owner. The data is controlled by purchase invoices, delivery notes or other documents related.
	Is the measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology?	Yes
	Monitoring equipment	Not applicable
	Is the accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	Not applicable
	Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	Not applicable
Calibration frequency / interval	Not applicable	
Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	Not applicable	

	Is the calibration of measuring equipment carried out by an accredited person or institution?	Not applicable
	Is(are) the calibration(s) valid for the entire reporting period?	Not applicable
	Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	Not applicable
	How were the values in the monitoring report verified?	A sampling was conducted to the manual records and to the electronic spreadsheets. For further details on the sampling conducted, refer to section D.4 above.
	If applicable, has the reported data been crosschecked with other available data?	As per monitoring plan, the monitored values are to be cross-checked the production output.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	All delivery notes, invoices or receipts are available to the verification team. A sampling was conducted to ensure the correct transfer of data to the base spreadsheet and later to the ER calculations. However, it was observed that the information was not duly transferred from base spreadsheet to ER calculations. Thus a CAR has been raised. Refer to CAR 02 below. After findings conclusion, it was observed that correct data has been reported in the MR and ER calculations spreadsheet
	In case project participants have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by paragraph 231 b) the CDM Project Standard for PA-version 02.0?	The PPs have not monitored the parameter for the ceramic Las Tapias 3. The parameter has been estimated in accordance with CDM Project Standard para 231)b). For further details refer to the Assessment on Post Registration Changes.

3. SDG 13 – $NCV_{biomass}$: Net calorific value for the renewable biomass	
Criteria/Requirements	Assessment Observation
Measuring / Reading / Recording frequency	Parameter is obtained from available bibliography or laboratory analysis and it is updated when new data is released. For Sawdust and wood residues, data from Aalborg Industries was used^{/23/}. From pulp and paper a lab analysis^{/23/} in Fuel Combustion Laboratory of Universidad del Valle / Cali, Colombia was conducted as requested by Santander Ceramic.

	Is the measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology?	Yes
	Monitoring equipment	Not applicable
	Is the accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	Not applicable
	Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	Not applicable
	Calibration frequency / interval	Not applicable
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	Not applicable
	Is the calibration of measuring equipment carried out by an accredited person or institution?	Not applicable
	Is(are) the calibration(s) valid for the entire reporting period?	Not applicable
	Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	Not applicable
	How were the values in the monitoring report verified?	Check on the lab analysis report and provided bibliography.
	If applicable, has the reported data been crosschecked with other available data?	Not applicable
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	All data could be checked and compared to values applied in the ER calculations
In case project participants have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by paragraph 231 b) the CDM Project Standard for PA-version 02.0?	Not applicable	
4. SDG 13, SDG 7 - $Q_{renbiomass}$: Quantity of renewable biomass combusted during the year y.		

	Criteria/Requirements	Assessment Observation
	Measuring / Reading / Recording frequency	Parameter corresponds to the amount of renewable biomass combusted in the kilns. The parameter is measured by the amount of fuel delivered to each ceramic and it is controlled by the ceramic owner. The data is controlled by purchase invoices, delivery notes or other documents related.
	Is the measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology?	Yes
	Monitoring equipment	Not applicable
	Is the accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	Not applicable
	Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	Not applicable
	Calibration frequency / interval	Not applicable
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	Not applicable
	Is the calibration of measuring equipment carried out by an accredited person or institution?	Not applicable
	Is(are) the calibration(s) valid for the entire reporting period?	Not applicable
	Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	Not applicable
	How were the values in the monitoring report verified?	A sampling was conducted to the manual records and to the electronic spreadsheets. For further details on the sampling conducted, refer to section D.4 above.
	If applicable, has the reported data been crosschecked with other available data?	As per monitoring plan, the monitored values are to be cross-checked with the production output and receipts of delivery.
	Does the data management ensure correct transfer of data and reporting of emission reductions	All delivery notes, invoices or receipts are available to the verification team. A sampling was conducted to ensure the

	and are necessary QA/QC processes in place?	correct transfer of data to the ER calculations.
	In case project participants have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by paragraph 231 b) the CDM Project Standard for PA-version 02.0?	The PPs have not monitored the parameter for the ceramic Las Tapias 3. The parameter has been estimated in accordance with CDM Project Standard para 231)b). For further details refer to the Assessment on Post Registration Changes.
	5. SDG 13, SDG 7 – Origin or renewable biomass	
	Criteria/Requirements	Assessment Observation
	Measuring / Reading / Recording frequency	The biomass delivered will be compared to the renewable biomass definitions under Annex 18 of the 23 rd meeting report of the CDM Executive Board ^{/24/} . Its traceability will be evidenced with purchase receipts, invoices, etc. However, not all evidences were provided, thus a CL has been raised. Refer to CL 02 below. After findings conclusion, all evidences were provided to the verification team.
	Is the measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology?	Yes
	Monitoring equipment	Not applicable
	Is the accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	Not applicable
	Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	Not applicable
	Calibration frequency / interval	Not applicable
Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	Not applicable	
Is the calibration of measuring equipment carried out by an accredited person or institution?	Not applicable	
Is(are) the calibration(s) valid for the entire reporting period?	Not applicable	

	Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	Not applicable
	How were the values in the monitoring report verified?	The source will be checked by verifying with biomass providers its origin.
	If applicable, has the reported data been crosschecked with other available data?	As per monitoring plan, the monitored values are to be cross-checked with the receipts of delivery, invoices, etc.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes. All biomass invoices are available for the verification team.
	In case project participants have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by paragraph 231 b) the CDM Project Standard for PA-version 02.0?	The PPs have not monitored the parameter for the ceramic Las Tapias 3. The parameter has been estimated in accordance with CDM Project Standard para 231)b). For further details refer to the Assessment on Post Registration Changes.
6. SDG 13, SDG 7 – Leakage due to competing use of biomass		
Criteria/Requirements		Assessment Observation
Measuring / Reading / Recording frequency		This parameter is to be accounted if the renewable biomass consumed in the project activity has any other competing use. Leakage is not to be accounted if there is a surplus of at least 25% of the considered biomass in the region of the PA. This survey was carried out in the validation phase and it was concluded that there is a biomass surplus in the region. Moreover, the same analysis was conducted in the previous monitoring period regarding the new renewable biomass (pulp and paper sludge). The same conclusion was obtained. Additionally, due to the transition to GS4GG, this parameter incorporates the parameter SDG 7 – Competing uses of biomass – Biomass surplus, as both parameters identify if there is a competing use of biomass. Both parameters are actually the same as they are determined through surveys if there is a biomass surplus in the region area of the PA. Evidences show that there is a surplus of biomass in the region area to avoid the necessity of leakage calculation. However the monitoring of the parameter SDG 7 – Competing uses of biomass – Biomass surplus was not demonstrated in the MR, thus a CAR has been raised. Refer to CAR 3 below.

	After findings conclusion it was observed that the monitoring of the parameter was duly demonstrated in the MR.
Is the measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology?	Yes
Monitoring equipment	N/A
Is the accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	N/A
Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	N/A
Calibration frequency / interval	N/A
Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	N/A
Is the calibration of measuring equipment carried out by an accredited person or institution?	N/A
Is(are) the calibration(s) valid for the entire reporting period?	N/A
Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	N/A
How were the values in the monitoring report verified?	Data was verified in the PDD and previous monitoring report.
If applicable, has the reported data been crosschecked with other available data?	Not applied.
Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Data management system was found to be reliable and appropriate.
In case project participants have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by paragraph 231 b) the CDM Project Standard for PA-version 02.0?	N/A

SUSTAINABLE DEVELOPMENT PARAMETERS**7. *SDG 8 – Actions of Health and security*** - Monitoring of quantity and quality of Health and Security actions on the ceramic factory

Criteria/Requirements	Assessment Observation
Measuring / Reading / Recording frequency	This parameter corresponds to evaluate the existence and performance of campaigns, leisure and goal and plans regarding health and security. The events will be recorded as they occur. Additionally, due to the transition to GS4GG, this parameter incorporates the parameter <i>SDG 8 – Quality of Employment – IPE use</i>. This parameter informs if there is the current use of IPE and if the ceramics comply with local regulations in the subject. As both parameters refer also to the use of IPE, they were incorporated. It was observed that there is a structure that manages the use of IPEs in the factory as well as signs in all sectors indicating the type of IPE to be used. All IPE delivery is registered in forms and controlled as per regulations. However the monitoring of IPE use was not demonstrated in the MR, thus a CAR has been raised. Refer to CAR 3 below. After findings conclusion it was observed that the parameter was incorporated to another existing parameter.
Is the measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology?	Yes
Monitoring equipment	N/A
Is the accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	N/A
Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	N/A
Calibration frequency / interval	N/A
Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected	N/A

	frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	
	Is the calibration of measuring equipment carried out by an accredited person or institution?	N/A
	Is(are) the calibration(s) valid for the entire reporting period?	N/A
	Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	N/A
	How were the values in the monitoring report verified?	Evidences of the events were demonstrated to the Verification team.
	If applicable, has the reported data been crosschecked with other available data?	Interviews were conducted to cross-check the information.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	N/A.
	In case project participants have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by paragraph 231 b) the CDM Project Standard for PA-version 02.0?	The PPs have not monitored the parameter for the ceramic Las Tapias 3. The parameter has been estimated in accordance with CDM Project Standard para 231)b). For further details refer to the Assessment on Post Registration Changes.
8. SDG 7 - Access to affordable and clean energy services - Percentage of renewable energy produced in comparison with the total energy produced.		
Criteria/Requirements	Assessment Observation	
Measuring / Reading / Recording frequency	This data was calculated taking into account the amount of renewable biomass and fossil fuel used in the project activity during the period. The parameter will be monitored annually. Additionally, due to the transition to GS4GG, this parameter also includes the parameter SDG 7 - Access to affordable and clean energy services – total energy produced from renewable sources, as both data take into account the amount of energy consumed in the PA which comes from combustion of renewable sources. Both parameters are calculated based on the amount of renewable biomass consumed (parameter $Q_{renbiomass}$) described above. However the monitoring of this parameter was not demonstrated in the MR, thus a CAR has been raised. Refer to CAR 3 below.	

		After findings conclusion it was observed that the parameter was incorporated to another existing parameter.
	Is the measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology?	Yes
	Monitoring equipment	N/A
	Is the accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	N/A
	Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	N/A
	Calibration frequency / interval	N/A
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	N/A
	Is the calibration of measuring equipment carried out by an accredited person or institution?	N/A
	Is(are) the calibration(s) valid for the entire reporting period?	N/A
	Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	N/A
	How were the values in the monitoring report verified?	Calculations were provided to the verification team
	If applicable, has the reported data been crosschecked with other available data?	As per monitoring plan, the monitored values are to be cross-checked with the receipts of delivery of biomass, invoices, etc.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes. All biomass invoices are available for the verification team.
	In case project participants have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by paragraph 231 b) the CDM Project Standard for PA-version 02.0?	The PPs have not monitored the parameter for the ceramic Las Tapias 3. The parameter has been estimated in accordance with CDM Project Standard para 231)b). For further details refer to the Assessment on Post Registration Changes.

	9. SDG 7- Soil Condition – Procedures related to the control of disposal of ashes	
	Criteria/Requirements	Assessment Observation
	Measuring / Reading / Recording frequency	This data corresponds to the monitoring of procedures related to the control of disposal of ashes. The project applies the indicator from SOCIALCARBON Standard: Social Carbon indicators for Ceramic Industry: Ashes which evaluates the procedures adopted by the entrepreneur in order to control the ashes and its destination. However the monitoring of this parameter was not demonstrated in the MR, thus a CAR has been raised. Refer to CAR 3 below. After findings conclusion it was observed that the parameter was incorporated in the MR.
	Is the measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology?	Yes
	Monitoring equipment	N/A
	Is the accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	N/A
	Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	N/A
	Calibration frequency / interval	N/A
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	N/A
	Is the calibration of measuring equipment carried out by an accredited person or institution?	N/A
Is(are) the calibration(s) valid for the entire reporting period?	N/A	
Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	N/A	

	How were the values in the monitoring report verified?	Interviews were performed and compared to the SOCIALCARBON Standard's score.
	If applicable, has the reported data been crosschecked with other available data?	Not applicable
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Not applicable
	In case project participants have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by paragraph 231 b) the CDM Project Standard for PA-version 02.0?	The PPs have not monitored the parameter for the ceramic Las Tapias 3. The parameter has been estimated in accordance with CDM Project Standard para 231)b). For further details refer to the Assessment on Post Registration Changes.
10. SDG 7 - Access to affordable and clean energy services – Energy demand per production output		
	Criteria/Requirements	Assessment Observation
	Measuring / Reading / Recording frequency	This data corresponds comparison of energy demand to produce 1,000 devices with other monitoring periods and with baseline. However the monitoring of this parameter was not demonstrated in the MR, thus a CAR has been raised. Refer to CAR 3 below. After findings conclusion it was observed that the parameter was incorporated in the MR.
	Is the measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology?	Yes
	Monitoring equipment	N/A
	Is the accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	N/A
	Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	N/A
	Calibration frequency / interval	N/A
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of	N/A

	calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	
	Is the calibration of measuring equipment carried out by an accredited person or institution?	N/A
	Is(are) the calibration(s) valid for the entire reporting period?	N/A
	Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	N/A
	How were the values in the monitoring report verified?	Calculations were checked in the ER calculations
	If applicable, has the reported data been crosschecked with other available data?	Values were compared with previous monitoring period and baseline
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Not applicable
	In case project participants have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by paragraph 231 b) the CDM Project Standard for PA-version 02.0?	The PPs have not monitored the parameter for the ceramic Las Tapias 3. The parameter has been estimated in accordance with CDM Project Standard para 231)b). For further details refer to the Assessment on Post Registration Changes.
11. SDG 13– Quantitative employment and income generation – Voluntary emission reductions issued.		
Criteria/Requirements	Assessment Observation	
Measuring / Reading / Recording frequency	This parameter corresponds to the amount of VERs issued to date. The project has issued so far 67,745 VERs in the previous monitoring period (i.e., from 01/04/2013 to 31/12/2016) and is claiming an amount of 41,242 VERs for this MP (this value is already updated after findings resolution). However the monitoring of this parameter was not demonstrated in the MR, thus a CAR has been raised. Refer to CAR 3 below. After findings conclusion it was observed that the parameter was incorporated in the MR.	
Is the measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology?	Yes	
Monitoring equipment	N/A	
Is the accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring	N/A	

	plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	
	Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	N/A
	Calibration frequency / interval	N/A
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	N/A
	Is the calibration of measuring equipment carried out by an accredited person or institution?	N/A
	Is(are) the calibration(s) valid for the entire reporting period?	N/A
	Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	N/A
	How were the values in the monitoring report verified?	Previous monitoring report and verification report were checked
	If applicable, has the reported data been crosschecked with other available data?	Not applicable
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	No data has been reported. Refer to CAR 3. After findings conclusion it was observed that the parameter was incorporated in the MR.
	In case project participants have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by paragraph 231 b) the CDM Project Standard for PA-version 02.0?	The PPs have not monitored the parameter for the ceramic Las Tapias 3. The parameter has been estimated in accordance with CDM Project Standard para 231)b). For further details refer to the Assessment on Post Registration Changes.
	12. SDG 8 – Quantitative employment and income generation – Revenues for biomass suppliers.	
Criteria/Requirements	Assessment Observation	
Measuring / Reading / Recording frequency	This parameter corresponds to the income of biomass suppliers (payment to the biomass purchase) by the ceramic. The income is reached either by direct payment or by reducing costs of disposing the waste. Thus, a renewable biomass supply chain is created with multiples beneficiaries.	

		However the monitoring of this parameter was not demonstrated in the MR, thus a CAR has been raised. Refer to CAR 3 below. After findings conclusion it was observed that the parameter was incorporated in the MR.
	Is the measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology?	Yes
	Monitoring equipment	N/A
	Is the accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	N/A
	Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	N/A
	Calibration frequency / interval	N/A
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	N/A
	Is the calibration of measuring equipment carried out by an accredited person or institution?	N/A
	Is(are) the calibration(s) valid for the entire reporting period?	N/A
	Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	N/A
	How were the values in the monitoring report verified?	Values through invoices and purchase receipt monitoring.
	If applicable, has the reported data been crosschecked with other available data?	No data was reported. Refer to CAR 3. After findings conclusion it was observed that the values were duly reported.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	No data was reported. Refer to CAR 3. After findings conclusion it was observed that the values were duly reported
	In case project participants have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated	The PPs have not monitored the parameter for the ceramic Las Tapias 3. The parameter has been estimated in accordance with CDM Project Standard para 231)b). For further details refer to

	as stipulated by paragraph 231 b) the CDM Project Standard for PA-version 02.0?	the Assessment on Post Registration Changes.
Findings	CL 2 <i>Not all evidences of Renewable biomass origin (operation permit from biomass suppliers) were provided to the verification team.</i> CAR 1 <i>The production of ceramic devices (parameter Qy) for 19/02/2017 for the Hoffmann kiln is not in accordance with evidences provided.</i> CAR 2 <i>Value for the parameter FC (coal consumption) for December 2017 (decimals) used in the ER calculations (tab project emissions cell E34) and October, November and December 2018 (cells E45, E46 and E47) are not in accordance with evidence provided</i> CAR 3 <i>The following sustainable monitored parameters were not considered in the section D.2 of the MR.</i> - <i>Procedures related to the control and disposal of ashes.</i> - <i>IPE Use</i> - <i>Total energy produced from renewable sources</i> - <i>Energy demand per parameter output</i> - <i>Voluntary emission reductions issued</i> - <i>Revenues for biomass suppliers</i> - <i>Biomass surplus</i>	
Conclusion	After the findings resolutions all parameters were determined in a conservative manner and in accordance with requirements of applied tools, methodology and monitoring plan. All parameters were duly included in the MR section D.2 as per PDD and GS Passport. It is important to point out that due to the transition to GS4GG standard, some parameters were incorporated by others as follows: - The parameter “SDG 7 – Competing uses of biomass – Biomass surplus” was incorporated by “SDG 13, SDG 7 – Leakage due to competing use of biomass” as both refer to the competing use and biomass surplus in the region. - The parameter “SDG 8 – Quality of Employment – IPE use” was incorporated by the parameter “SDG 8 – Actions of Health and security” - Monitoring of quantity and quality of Health and Security actions on the ceramic factory” as this second parameter has a broader approach in Health and Security procedures which also includes the IPE use. - The parameter “SDG 7 - Access to affordable and clean energy services – total energy produced from renewable sources” was incorporated by “SDG 7 - Access to affordable and clean energy services - Percentage of renewable energy produced in comparison with the total energy produced” as both refer amount of energy produced from renewable sources.	

E.6.3. Implementation of sampling plan

Means of verification	The project participants have not applied sampling approach in the monitoring period. All parameters were fully checked as described in the monitoring plan during the operational period of the SHP. Documents were checked and interviews with PP's representatives and personnel were performed in order check this information.
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Findings	<i>Not applied</i>
Conclusion	No sampling plan was used by the PP.

E.7. Compliance with the calibration frequency requirements for measuring instruments

Means of verification	No equipment were used for determining the monitoring parameters.
Findings	N/A
Conclusion	Not applicable as no equipment were applied for determining the monitoring parameters.

E.8. Assessment of data and calculation of emission reductions or net removals

E.8.1. Calculation of baseline GHG emissions or baseline net GHG removals by sinks

Means of verification	The calculations of baseline emission have been done in accordance with registered monitoring plan and applied methodology. The equation used is the follow: $BE_y = EF_{BSL} \times Q_{y,y}$ Where: BE_y = Baseline emissions in the year y EF_{BSL} = Emission factor for the baseline situation (tCO₂e/thousand bricks produced) Q_y = Net output in the project activity in year y. (thousands of ceramic units) For determining the parameter EF_{BSL}, the following equation was applied: $EF_{BSL} = (FC_{BSL} \times EF_{CO_2} \times NCV) / Q_{BSL}$ Where FC_{BSL} = Total amount of fossil fuel consumed for captive energy generation in the baseline situation (mass or volume unit) EF_{CO_2} = CO₂ emission factor for the baseline fossil fuel (tCO₂/TJ) NCV = Net calorific value for the baseline fuel (TJ/mass or volume unit) Q_{BSL} = Net output generated in the baseline situation during the corresponding period of time for which the total fuel consumption was taken.
Findings	Refer to CAR 1
Conclusion	The verification team confirms that: - the monitored data was available in accordance with the registered monitoring plan for the operational period of the SHP; - the reported data were crosschecked, as prescribed in the revised approved PDD, with the relevant supporting and were found consistent; - appropriate methods and formulae for calculating baseline GHG emissions have been followed; - the assumptions, emission factors and default values that were applied in the calculations are correct and evidenced; - the calculations are transparent, consistent, correct and complete. $BE = 53,205 \text{ tCO}_2\text{e}$

E.8.2. Calculation of project GHG emissions or actual net anthropogenic GHG removals by sinks

Means of verification	According to the applied methodology project emissions are to be calculated based on the amount of fossil fuels consumed in the PA during the monitoring period through the equation: $PE_y = FC_y \times EF_{CO_2} \times NCV$
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	FC_y = Amount of fossil fuel consumed for captive energy generation in the project activity in year y (mass or volume unit) EF_{CO_2} = CO2 emission factor for the baseline fossil fuel (tCO2/TJ) NCV = Net calorific value for the fossil fuel (TJ/mass or volume unit) However, an issue was observed and a CAR has been raised. Refer to CAR 2 in the section E.6.2 above.
Findings	Refer to CAR 2 above
Conclusion	The calculation of project emissions were carried out in accordance with applied methodology. No inconsistencies were found. The project emissions obtained for this monitoring period are equal to: $PE_y = 11,963$

E.8.3. Calculation of leakage GHG emissions

Means of verification	As per surveys conducted in the validation phase and during the crediting period, there is no competing use of renewable biomass consumed in the project activity and through the results, it was observed that there are a surplus of biomass in the region. Therefore, leakage are considered to be equal to zero. $LE_y = 0$
Findings	-
Conclusion	No leakage emissions are to be accounted

E.8.4. Summary calculation of GHG emission reductions or net anthropogenic GHG removals by sinks

Means of verification	The emission reductions from the project activity are based on baseline emissions minus the project emissions as per equation below. $ER_y = BE_y - PE_y - LE_y$ The calculations presented at the final MR and corresponding ER calculation spreadsheet were found to be appropriate. The verification team confirms an audit trail that contains the evidences and records of validated figures.
Findings	-
Conclusion	The verification team confirms that appropriate methods and formulae for calculating baseline GHG emissions reductions have been followed. The summary table has been correctly presented at the MR and the figures are correct and justified. $ER = BE - PE - LE$ $LE = 0$ Thus, $ER = BE - PE = 41,242 \text{ tCO}_2\text{e}$

E.8.5. Comparison of actual GHG emission reductions or net anthropogenic GHG removals by sinks with estimates in registered PDD

Means of verification	The actual emission reductions were checked against the estimates of the registered PDD. It could be observed that the correct amount for the period was described in the front page.
Findings	N/A
Conclusion	The comparison of actual values of the monitoring period with the estimates in the registered PDD is properly presented at the MR. An increase has been observed and it is directly related to the ceramic production and renewable biomass consumption.

E.8.6. Remarks on difference from estimated value in registered PDD

Means of verification	The verification team has compared the actual ER calculated and the estimated ERs reported in the PDD for the same period as well as the others SDG parameters.
Findings	N/A
Conclusion	The actual ERs are higher than the estimated emission reductions reported in the revised PDD, especially due to production increase.

	It has been observed that there was an increase in production when compared to the estimated - 9,383 thousand of ceramic devices per year estimated in the PDD against an average of 14,488 thousand of ceramic devices per year for the period actually achieved – or in other words, an increase of 54% in production. Regarding the consumption of renewable biomass, it was estimated in the PDD for the period and average of 75% of renewable biomass consumed. The result was an average of 59% for the whole period in energy basis (TJ) (16% smaller). Therefore, the increase from the estimated amount for the period of 28,985 tCO₂e to the actual achieved 41,242 tCO₂e (increase of 42.3%) of VERs is justified. Moreover, the Project activity also improved in one score of SOCIALCARBON indicator when compared to baseline scenario (SDG 8) increasing from score 3 to score 4.
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E.8.7. Actual GHG emission reductions or net anthropogenic GHG removals by sinks during the first commitment period and the period from 1 January 2013 onwards

Means of verification	Earthood Services Private Limited is able to certify that the emission reductions from the GS project activity “Santander and Las Tapias Renewable Energy Project” – Ref. GS1074 for the monitoring period from 01/01/2017 to 31/12/2018 (including both days) is as follows: Verified and certified emission reductions as per commitment period: <table border="1"> <thead> <tr> <th>Commitment period</th><th>Amount</th></tr> </thead> <tbody> <tr> <td>Up to 31/12/2012 (1st commitment period)</td><td>0 tCO₂e</td></tr> <tr> <td>From 01/01/2013</td><td>41,242 tCO₂</td></tr> </tbody> </table>	Commitment period	Amount	Up to 31/12/2012 (1 st commitment period)	0 tCO ₂ e	From 01/01/2013	41,242 tCO ₂
Commitment period	Amount						
Up to 31/12/2012 (1 st commitment period)	0 tCO ₂ e						
From 01/01/2013	41,242 tCO ₂						
Findings	-						
Conclusion	The GHG emissions reductions have been totally being generated from 01/01/2013.						

E.9. Assessment of reported sustainable development co-benefits

Means of verification	The sustainable development parameters were already described the section E.6.2 above (check parameters 7 to 12)
Findings	-
Conclusion	The parameters were monitored as required by the GS Passport.

E.10. Global stakeholder consultation

Means of verification	Not applicable to GS projects
Findings	-
Conclusion	Not applicable to GS projects

SECTION F. Internal quality control

The draft verification report that is prepared by verification team is reviewed by an independent technical review team (one or more members) to confirm if the internal procedures established and implemented by ESPL were duly complied with and such opinion/conclusion is reached in an objective manner that complies with the applicable CDM rules/requirements.

The technical review team is collectively required to possess the technical expertise of all the technical area/sectoral scope to which the project activity is related. All members of technical review team are independent of the verification team.

During the technical review process, additional findings may be identified or the closed out findings may be opened, which needs to be satisfactorily resolved before the request for issuance is submitted to UNFCCC. The independent technical reviewer may either approve the report as such or reject/return the same in such case providing the comments/findings/issues that needs to be resolved by the verification team. The decision taken by the technical reviewer is final and is authorized on behalf of ESPL

SECTION G. Verification opinion

Earthood Services Private Limited, contracted by Sustainable Carbon – Projetos Ambientais Ltda, has performed the independent verification of the emission reductions and Sustainable Development Goals for the GS project activity “Santander and Las Tapias Renewable Energy Project” – Ref.: GS1074 – in Colombia, for the monitoring period from 01/01/2017 to 31/12/2018 (including both days) as reported in the Monitoring Report – version 1. Sustainable Carbon – Projetos Ambientais Ltda is responsible for the compilation of data in accordance with the monitoring plan and the reporting of GHG emissions reductions from the project activity.

ESPL commenced the verification based on the baseline and monitoring methodology “Ecologically Sound Fuel Switch to Biomass with Reduced Energy Requirement”, Version 1.0, the monitoring plan contained in the registered PDD – version 7^{9/}, GS Passport version 4^{10/}, Monitoring Report– version 1^{5/}.

ESPL's verification approach is based on the understanding of the risks associated with reporting of GHG emission data and the controls in place to mitigate these. ESPL planned and performed the verification by obtaining evidence and other information and explanations that ESPL considered necessary to give reasonable assurance that reported GHG emission reductions are fairly stated.

The verification team confirms that:

- the project activity was found completely implemented as per the description given in the registered PDD for the operational period of the PA; and
- the actual operation conforms to the description in the registered PDD and GS Passport.

SECTION H. Certification statement

Earthood Services Private Limited, contracted by Sustainable Carbon – Projetos Ambientais Ltda, has performed the independent verification of the emission reductions for the CDM project activity “Santander and Las Tapias Renewable Energy Project” – Ref.: GS1074 in Colombia, for the monitoring period from 01/01/2017 to 31/12/2018 (including both days) as reported in the Monitoring Report. Sustainable Carbon Projetos Ambientais Ltda is responsible for the compilation of data in accordance with the monitoring plan, GS Passport and the reporting of GHG emissions reductions from the project activity.

ESPL commenced the verification based on the baseline and monitoring methodology Ecologically Sound Fuel Switch to Biomass with Reduced Energy Requirement”, Version 1.0, the monitoring plan contained in the registered PDD, GS Passport and Monitoring Report – version 1.

ESPL's verification approach is based on the understanding of the risks associated with reporting of GHG emission data and the controls in place to mitigate these. ESPL planned and performed the verification by obtaining evidence and other information and explanations that ESPL considered necessary to give reasonable assurance that reported GHG emission reductions are fairly stated.

In our opinion the GHG emissions reductions reported for the project activity for the period from 01/01/2017 to 31/12/2018 (including both days) are fairly stated in the Monitoring Report (final)^{6/}. The GHG emission reductions were calculated correctly based on the baseline and monitoring methodology Ecologically Sound Fuel Switch to Biomass with Reduced Energy Requirement”, Version 1.0 and the monitoring plan contained in the registered PDD – version 7 and GS Passport version 4

Earthood Services Private Limited is able to certify that the emission reductions from the GS project activity “Santander and Las Tapias Renewable Energy Project”, in Colombia, for the period from 01/01/2017 to 31/12/2018 (including both days) is equal to 41,242 tCO₂e (SDG 13).

Moreover, the Project activity achieved 59% usage of renewable energy (SDG7) and improved in one score of SOCIALCARBON indicator when compared to baseline scenario (SDG 8) increasing from score 3 to score 4.

Verified and certified emission reductions as per commitment period:

Commitment period	Amount
Up to 31/12/2012 (1 st commitment period)	0 tCO ₂ e
From 01/01/2013 onwards	41,242 tCO ₂ e

Appendix 1. Abbreviations

Abbreviations	Full texts
BE	Baseline Emission
BM	Build Margin
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CL	Clarification Request
CM	Combined Margin
CME	Coordinating/Managing Entity
CO ₂	Carbon dioxide
CO ₂ e	Carbon dioxide equivalent
CP	Crediting Period
DNA	Designated National Authority
DOE	Designated Operational Entity
EB	Executive Board
EIA	Environmental Impact Assessment
ESPL	Earthhood Services Private Limited
FAR	Forward Action Request
GHG	Green House Gas
GSC/GSP	Global Stakeholder Consultation Process
GW	Giga Watt
GWh	Giga Watt hour
INGEOMINAS	Colombian Institute of Geology and Mining (from Spanish - Instituto Colombiano de Geología y Minería)
IPCC	Intergovernmental Panel on Climate Change
IPE	Individual Protection Equipment
KP	Kyoto Protocol
kW	kilo Watt
kWh	kilo Watt hour
LoA	Letter of Approval/Authorization
MME	Ministry of Mines and Energy from Colombia
MoC	Modalities of Communication
MoV	Means of Validation
MP	Monitoring Plan
MW	Mega Watt
MWh	Mega Watt hour
OM	Operating Margin
PA	Project Activity
PCP	Project Cycle Procedure
PDD	Project Design Document
PE	Project Emission
PP	Project Participant
PS	Project Standard
tCO ₂ e	Tonnes of Carbon di oxide equivalent
UNFCCC	United Nations Framework Convention on Climate Change
VT	Verification Team
VVS	Validation and Verification Standard

Appendix 2. Competence of team members and technical reviewers

Competence Statement

Name	Marcelo Sebben		
Country	Brazil		
Education	M.Sc. (Sustainable Energy System) B. Eng. (Chemical Engineering)		
Experience	12.5 Years		
Field	Chemical process industry, CDM, Energy, Climate Change		
Approved Roles			
Team Leader	Yes		
Validator	Yes		
Verifier	Yes		
Methodology Expert	Yes (ACM0001, ACM0002, ACM0006, AM0065, AMS ID, AMS-I.E, AMS-I.C, AM0026, AMS-I.A, AMS-I.F, GS: Ecologically Sound Fuel Switch to Biomass with Reduced Energy Requirement, GS: Technologies and Practices to Displace Decentralized Thermal Energy Consumption)		
Local expert	Brazil, Chile, Honduras		
Financial Expert	Yes		
Technical Reviewer	No		
TA Expert	Yes (TA 1.1, 1.2, 5.1, 9.1, 13.1)		
Reviewed by	Shreya Garg	Date	04/06/2019
Approved by	Anshika Gupta	Date	04/06/2019

Competence Statement			
Name	Ricardo Lopes		
Country	Brazil		
Education	Technical Diploma in Data Processing		
Experience	12 years		
Field	CDM, Energy, Environment		
Approved Roles			
Team Leader	Yes		
Validator	Yes		
Verifier	Yes		
Methodology Expert	Yes (ACM0001, ACM0002, AM0026, AMS ID, AMS IIH)		
Local expert	Brazil, Argentina, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, Honduras, Mexico, Nicaragua, Uruguay		
Financial Expert	Yes		
Technical Reviewer	No		
TA Expert	Yes (1.2, 13.1)		
Reviewed by	Shreya Garg	Date	04/06/2019
Approved by	Anshika Gupta	Date	04/06/2019

Competence Statement	
Name	Sergio Bonanno Cruz
Country	Brazil
Education	Post Graduate Diploma in Environment
Experience	25 Years
Field	Environmental Law, CDM, Energy, Climate Change
Approved Roles	

Team Leader	Yes		
Validator	Yes		
Verifier	Yes		
Methodology Expert	Yes (ACM0001, ACM0002, AM0026, ACM0006, AMS ID)		
Local expert	Brazil, Chile		
Financial Expert	Yes		
Technical Reviewer	No		
TA Expert	Yes (TA 1.2, 13.1)		
Reviewed by	Shreya Garg	Date	04/06/2019
Approved by	Anshika Gupta	Date	04/06/2019

Appendix 3. Documents reviewed or referenced

No.	Author	Title	References to the document	Provider
1.	UNFCCC	Standard: CDM PS for PA	version 02.0	Others
2.	UNFCCC	Standard: CDM PCP for PA	version 02.0	Others
3.	UNFCCC	Standard: CDM VVS for PA	version 02.0	Others
4.	Gold Standard	Monitoring report form	version 1.0	Others
5.	PP	Monitoring Report (draft)	version 1 – 15/01/2019	PP
6.	PP	Monitoring Report (revised/final)	version 2 – 21/03/2019 Version 3 – 17/04/2019 Version 4 – 18/06/2019	PP
7.	PP	ER Spreadsheet (draft)	version 1 – 15/01/2019	PP
8.	PP	ER Spreadsheet (final)	Version 4 – 18/06/2019	PP
9.	PP	Registered PDD	version 7 – 05/11/2013	Others
10.	PP	GS Passport	Version 4 – 19/07/2012	Others
11.	Gold Standard	Methodology approved under the Gold Standard for Voluntary small scale projects: “Ecologically Sound Fuel Switch to Biomass with Reduced Energy Requirement”	Version 1.0	Others
12.	UNFCCC	CDM-EB94-A02-Sampling and surveys for CDM project activities and programmes of activities	Version 07.0	Others
13.	TUV NORD	Verification report from 1 st monitoring period # 16/198 – 13654	Version 1.0 from 02/06/2017	
14.	Santander	1. Daily production records 2. Stock count from December 2018		PP
15.	Biomass Suppliers	Biomass invoices from all biomass suppliers		PP

16.	Coal Supplier	Coal invoice from all coal suppliers		Others
17.	CAR	Environmental License - Resolution 2688/2016 issued on 16/12/2016 by Corporación Autónoma Regional de Cundinamarca - CAR	Valid until 06/02/2037	PP
18.	Ingeominas	Clay extraction License: License number 21802 issued on 05/06/2006 by Instituto Colombiano de Geología y Minería	Valid until 06/02/2037	
19.	PP	Capacitation 1. Attendance list of Polity of Health and safety training conducted in 23/06/2017 2. Attendance list of health and safety meeting conducted by Sandra Nieto on 07/09/2018		PP
20.	PP	PPE (personal Protective equipment) 3. Registration of PPE deliver to Rafael Niño (kiln operator) with last delivery on 29/12/2018		
21.	PP	Activity plan – Health and safety for 2017 and 2018		
22.	Pictures – PP	1. Pictures of kilns 2. Health and safety signing		PP
23.	Aalborg Industries Laboratory of Universidad del Valle / Cali	NVC from renewable biomass 1. Sawdust and wood residues 2. Pulp and paper sludge: Lab analysis carried out by the Fuel Combustion Laboratory of Universidad del Valle / Cali, Colombia in March 2015, required by Santander Ceramic Industry	1. http://www.aalborg-industries.com.br/downloads/tabelas-tecnicas-aalborg-industries.pdf	
24.	UNFCCC	Renewable biomass definition: as per Annex 18 of the 23 rd meeting report of the CDM Executive Board	http://cdm.unfccc.int/EB/Meetings/023/eb23_report/pan18.pdf	
25.		Biomass surplus evidences 1. UNIDAD DE PLANEACIÓN MINERO ENERGÉTICA. Potencialidades de los Cultivos Energéticos y Residuos Agrícolas en Colombia - Resumen Ejecutivo. Bogotá, D.C., 2003.	1. http://www.si3ea.gov.co/si3ea/documentos/documentacion/energias_alternativas/potencialidades/biomasa_CULTIVOS%20ENERGETICOS.pdf	

		Information on Sections 3.2 and 3.3. 2. LÓPEZ, O. Estado del desarrollo tecnológico de la industria Forestal. En: Memorias conferencia Internacional de Bosques "Colombia: País de bosques y vida". Santa Marta: Peter Saile, María Angela Torre Editores. 544p. 2003 3. BUSTILLO, L. et al. Plan de negocio para la creación de una nueva línea de negocio para la producción y comercialización de sustratos orgánicos a partir de subproductos de la industria forestal (aserrín, virutas y corteza). Universidad de la Sabana. Chia, 2012 4. GARZÓN M. G., MONTENEGRO R. E., LÓPEZ B. F. Uso de aserrín y acículas como sustrato de germinación y crecimiento de <i>Quercus humboldtii</i> (roble). Colombia Forestal, [S.l.], v. 9, n. 18, p. 98-108, nov. 2004. ISSN 0120-0739 5. UNIDAD DE PLANEACIÓN MINERO ENERGÉTICA. Potencialidades de los Cultivos Energéticos y Residuos Agrícolas en Colombia - Resumen Ejecutivo. Bogotá, D.C., 2003. Information on Sections 3.2 and 3.3 6. ORAL, J. et al. Processing of waste from pulp and paper plant. Journal of Cleaner Production. Brno, Czech Republic, p. 509-515. April 2005 7. HAGELQVIST, Alina. Sludge from pulp and paper mills for biogas production: Strategies to improve energy performance	4. http://revistas.udistrital.edu.co/ojs/index.php/colfor/article/view/3050 5. http://www.si3ea.gov.co/si3ea/documentos/documentacion/energias alternativas/potencialidades/biomasa CULTIVOS%20ENERGETICOS.pdf 6. http://www.sciencedirect.com/science/article/pii/S0959652603001483 7. https://www.diva-portal.org/smash/get/diva2:603009/FULLTEXT01.pdf	
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		in wastewater treatment and sludge management. 2013. 58 f. Dissertation (Master) - Environmental and Energy Systems, Faculty of Health, Science and Technology, Karlstad University, Karlstad, Sweden, 2013 8. DAZA, Catalina Garnica. Alternativas de gestión de lodos papeleros en la industria de papel Tisú y Kraft. 71 pages. Facultad de Estudios Ambientales y Rurales, Pontificia Universidad Javeriana, Bogota, Colombia, 2013 9. NIETO, C. M. L.; MEDINA, M. E. F. Diseño de un proceso para la fabricación de papel reciclado ecológico a escala laboratorio usando peróxido de hidrógeno. 115 pages. Facultad de Ingeniería, Programa de Ingeniería Química, Universidad de Cartagena, Cartagena de Indias, 2012	8. https://repository.javeriana.edu.co:8443/bitstream/handle/10554/12462/GarnicaDazaCatalina2013.pdf 9. http://190.242.62.234:8080/jspui/bitstream/11227/112/1/TESIS DE GRADO.pdf	
26.	Bogotá City Hall CAR CAR	<u>Biomass providers Licensing</u> 1. Licensing of Tree Prunning from the Municipality of Bogotá – issued by Bogotá City Hall (Alcaldia Mayor de Bogotá D.C) Technical Concept: SSFFS-03584 2. Resolution 2090 – Environmental license of Company Productos Familia S.A. – Biomass Supplier (paper sludge) 3. Resolution 2218 – Environmental license of Jorge de Jesus Corredor Gacha. – Coal Supplier	26/07/2017 29/08/2012 07/07/2010	
27.	IPCC	IPCC publications	www.ipcc-nggip.iges.or.jp	Other
28.	Gold Standard	GS	https://www.goldstandard.org/	
29.	UNFCCC	UNFCCC	http://cdm.unfccc.int	Other

Appendix 4. Clarification requests, corrective action requests and forward action requests

Table 1. Remaining FAR from validation and/or previous verifications

FAR ID	01	Section no.	E.2	Date: 31/01/25019
Description of FAR				
<i>Interviews with biomass suppliers at verification stage are necessary in order to corroborate that biomass supply represent a new source of income.</i>				
Project participant response				Date: 18/03/2019
<i>Interviews were carried out also during this verification process</i>				
Documentation provided by project participant				
N/A				
DOE assessment				Date: 21/03/2019
Even though this assessment was already conducted during the 1st verification, the verification team performed an interview to a biomass supplier (Bosques y Jardin) as part of the assessment of the parameter "Revenues from biomass suppliers" who confirmed that prior to the implementation of the PA, the biomass (tree pruning) was either discarded or used for soil levelling. Thus, it represents a new business for them, with possibility of not paying for any discard.				
FAR is closed				

Table 2. CL from this verification

CL ID	01	Section no.	E.1	Date : 31/01/2019
Description of CL				
<i>Information on technology installed in Santander Ceramic was not provided in section A.1 and B.1 of the MR as required by instructions for completing the MR.</i>				
Project participant response				Date : 18/03/2019
<i>The information on technology was provided in sections A.1 and B.1 of the MR.</i>				
Documentation provided by project participant				
MR version 2				
DOE assessment				Date: 21/03/2019
The information is duly included in the sections A.1 and B.1 as required by the instructions for completing the MR.				
CL is closed				

CL ID	02	Section no.	E.6.2	Date : 31/01/2019
Description of CL				
<i>Not all evidences of Renewable biomass origin (operation permit from biomass suppliers) were provided to the verification team.</i>				
Project participant response				Date : 18/03/2019
<i>The evidences were provided to the verification team.</i>				
Documentation provided by project participant				
Res 2218 de 2010 EXP24484				
DOE assessment				Date: 21/03/2019
Operational permit provided was from the coal supplier. However, no evidence from biomass supplier was provide as required by this CL.				
CL remains open				
Project participant response				Date : 17/04/2019
<i>Licenses were provided to the verification team.</i>				
Documentation provided by project participant				
Licença Poda 3 Licença Produtos Família S.A				
DOE assessment				Date: 28/05/2019

Operational Licenses of biomass suppliers ^{/26/} were provided to the verification team
CL is closed

Table 3. CAR from this verification

CAR ID	01	Section no.	E.6.2	Date : 31/01/2019
Description of CAR				
<i>The production of ceramic devices (parameter Qy) for 19/02/2017 for the Hoffmann kiln is not in accordance with evidences provided</i>				
Project participant response				Date : 18/03/2019
<i>Data of ceramic devices production for 19/02/2017 was corrected.</i>				
Documentation provided by project participant				
<i>Ladrillera Santander cuadro de monitoreo 2017_v2</i>				
DOE assessment				Date: 21/03/2019
It has been observed that the evidence spreadsheet was adjusted for this inconsistency. However this adjustment was not reflected in the ER calculations spreadsheet.				
Moreover, it has been observed an increase in the production reported for the months of November and December 2018 when compared to the information available during site visit and no justifications have been provided.				
CAR remains open				
Project participant response				Date: 17/04/2019
The spreadsheet was incomplete in its first version. The Project owner was asked to revise the information, and as provided to the verification team, data is in accordance to the factory registry. The number of pieces produced in November and December are higher than the other months due to a special request from a client of a huge quantity of devices: 375,000. This information was provided by Sr Jesus, the ceramic factory engineer.				
Documentation provided by project participant				
<i>The engineer statement and the factory inventory from December were provided to the Verification Team.</i>				
DOE assessment				Date: 28/05/2019
The company provided evidences/manuscripts indicating that the production was increased in November and December 2018. Moreover, stock count was provided to the verification team indicating the increase in the products stock ^{14/} , also justifying the increase in the production (the pieces requested by the client mentioned above (375,000) were delivered in the following months (January, February/2019). By the evidences provided and justification of the company's engineer, the verification team acknowledge the production informed in the ER calculations as correct.				
CAR is closed				

CAR ID	02	Section no.	E.6.2	Date : 31/01/2019
Description of CL				
<i>Value for the parameter FC (coal consumption) for December 2017 (decimals) used in the ER calculations (tab project emissions cell E34) and October, November and December 2018 (cells E45, E46 and E47) are not in accordance with evidence provided</i>				
Project participant response				Date : 18/03/2019
<i>Values for the parameter FC were corrected according to evidence provided.</i>				
Documentation provided by project participant				
<i>Ladrillera Santander cuadro de monitoreo 2018_v2</i>				
<i>ER calculations v.2</i>				
DOE assessment				Date: 21/03/2019
Values are now in accordance with provided in evidence and observed during site visit. No inconsistencies were now observed.				
CAR is closed				

CAR ID	03	Section no.	E.6.2	Date : 31/01/2019
Description of CAR				
<i>The following sustainable monitored parameters were not considered in the section D.2 of the MR.</i> - <i>Procedures related to the control and disposal of ashes (additional comment does not make sense)</i> - <i>IPE Use</i> - <i>Total energy produced from renewable sources</i> - <i>Energy demand per production output</i> - <i>Voluntary emission reductions issued (additional comments does not make sense)</i> - <i>Revenues for biomass suppliers (missing applied values)</i> - <i>Biomass surplus</i>				
Project participant response				Date : 18/03/2019
The sustainable monitored parameters were included in the report.				
Documentation provided by project participant				
MR version 2				
DOE assessment				Date: 21/03/2019
The following has been observed: The parameters were duly included in the MR or incorporated in different parameters as validated in the transition annex approved by GS. However there are still some inconsistencies: - Parameter "Procedures related to the control and disposal of ashes": the additional comment does not make sense - Parameter "Voluntary emission reductions issued": additional comments does not make sense - Parameter "revenues for biomass suppliers: the applied values were not reported in the MR Moreover, it is not duly justified the reasons for incorporating the following parameters, considering that it is not in accordance with the current approved monitoring plan - The parameter "SDG 7 – Competing uses of biomass – Biomass surplus" was incorporated by "SDG 13, SDG 7 – Leakage due to competing use of biomass" - The parameter "SDG 8 – Quality of Employment – IPE use" was incorporated by the parameter "SDG 8 – Actions of Health and security" - Monitoring of quantity and quality of Health and Security actions on the ceramic factory" - The parameter "SDG 7 - Access to affordable and clean energy services – total energy produced from renewable sources" was incorporated by "SDG 7 - Access to affordable and clean energy services - Percentage of renewable energy produced in comparison with the total energy produced"				
CAR remains open				
Project participant response				Date : 17/04/2019
The justification was added to the parameters in regard to the incorporation and the inconsistencies were revised.				
Documentation provided by project participant				
MR version 3				
DOE assessment				Date: 28/05/2019
The inconsistencies observed in the parameters "Procedures related to the control and disposal of ashes", "Voluntary emission reductions issued" and "revenues for biomass suppliers" were all addressed in the MR. The project proponents duly justified the incorporation of the above mentioned parameters in the MR. These parameters were incorporated to the ones informed as per requirements of GS4GG due to some of them were responsible for monitoring the same parameter. Thus were incorporated.				
CAR is closed				

Table 4. FAR from this verification

FAR ID	xx	Section No.		Date: DD/MM/YYYY
Description of FAR				
Not applicable				
Project participant response				Date: DD/MM/YYYY
Documentation provided by project participant				

DOE assessment	Date: DD/MM/YYYY

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Document information

<i>Version</i>	<i>Date</i>	<i>Description</i>
03.0	31 May 2019	Revision to: • Ensure consistency with version 02.0 of the “CDM validation and verification standard for project activities” (CDM-EB93-A05-STAN); • Make structural and editorial improvements.
02.1	11 January 2018	Editorial revision to correct the numbering of appendices in the instructions.
02.0	31 October 2017	Revision to align with the requirements of the “CDM validation and verification standard for project activities” (version 01.0).
01.0	23 March 2015	Initial publication.
Decision Class: Regulatory Document Type: Form Business Function: Issuance Keywords: project activities, verifying and certifying		