



VERIFICATION REPORT

KITAMBAR SWITCHING FUEL PROJECT



Document Prepared by Earthhood Services Private Limited

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Summary:

Brief summary of the project activity

The project activity involves fuel switching from native firewood from caatinga biome to several types of renewable biomasses. Thus, GHG emission reduction is achieved.

The project applies the CDM approved methodology AMS-I.E – Switch from non-renewable biomass for thermal applications by the user – version 07.0.

Scope of verification

Sustainable Carbon – Projetos Ambientais Ltda. has contracted ESPL to conduct the 8th verification of the project “Kitambar Switching Fuel Project” for the period from 01/01/2017 to 31/07/2020 (both days included).

The scope of the verification is to establish/verify that:

- the latest available MR template was used and correctly filled up;
- the project activity has been implemented and operated as per the registered PD and that all physical features (technology, project equipment and monitoring and metering equipment) of the project are in place;
- the monitoring report and other supporting documents provided are complete in accordance with the latest applicable version of the completeness checklist for requests for issuance of VCUs, verifiable, and in accordance with applicable requirements of the Verified Carbon Standard Version 4;
- the actual monitoring systems and procedures comply with the monitoring systems and procedures described in the monitoring plan, the approved methodology including applicable tool(s) and/or, where applicable, the approved standardized baseline;
- the data are recorded and stored as per the monitoring methodology including applicable tool(s) and, where applicable, the standardized baseline.

In addition, ESPL has also been contracted to conduct the verification of SOCIALCARBON Standard of the project activity at Point 7, with regard to its relevant requirements, for the same monitoring period.

Conclusion

ESPL has performed the verification of the VCS project "Kitambar Switching Fuel Project", with VCS Project ID 33, for the monitoring period from 01/01/2017 to 31/07/2020 (both days included).

During the present VCS verification, 03 CLs and 03 CARs were raised and successfully closed. For the SOCIALCARBON verification, 01 CL were raised and successfully closed.

The verification team has confirmed the implementation of the project as per description in the VCS-PD, the monitoring plan of the PD and the application of the monitoring methodology (AMS-I.E – version 07). In addition, it was confirmed that the monitoring system is in place and the emission reductions are calculated without material misstatements.

The verified emission reductions amount to 75,805 tCO₂e in the above-mentioned monitoring period.

In addition, the verifier confirms that the project meets all relevant requirements established by the SOCIALCARBON Standard and its report identifies the social economic and environmental impacts of the project activity and presents the results obtained by meeting the "Brazilian Red Ceramic factories Indicators" – version 1.1.

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1 INTRODUCTION

1.1 Objective

Sustainable Carbon – Projetos Ambientais Ltda. has contracted ESPL to conduct the verification of the 8th verification of the project “Kitambar Switching Fuel Project” for the period from 01/01/2017 to 31/07/2020 (both days included) according to the requirements of the Verified Carbon Standard Version 4.

1.2 Scope and Criteria

The scope of the verification is to establish/verify that:

- the project activity has been implemented and operated as per the registered PD and that all physical features (technology, project equipment and monitoring) of the project are in place;
- the monitoring report and other supporting documents provided are complete in accordance with the latest applicable version of the completeness checklist for requests for issuance of VCUs, verifiable, and in accordance with applicable VCS Version 4 requirements;
- the actual monitoring systems and procedures comply with the monitoring systems and procedures described in the monitoring plan, the approved methodology including applicable tool(s) and/or, where applicable, the approved standardized baseline;
- the data are recorded and stored as per the monitoring methodology including applicable tool(s) and, where applicable, the standardized baseline.

The verification of this monitoring period is based on the registered VCS-PD, MR and GHG emission reduction calculation spreadsheet and supporting documents.

In addition, the scope of the SOCIALCARBON verification is to establish/verify that:

- to have an independent third-party assessment in order to evaluate the accuracy and consistency of the SOCIALCARBON Standard – version 5.0 and “Brazilian Red Ceramic factories Indicators” – version 1.1, for this specific point in time – Point 7; and
- to verify the consistency of these Indicators and their evolution since last evaluation, with the established criteria to maintain the designation as SOCIALCARBON, following the SOCIALCARBON Standard.

1.3 Level of Assurance

The verification of this monitoring period has achieved a reasonable level of assurance.

1.4 Summary Description of the Project

The project activity involves fuel switching from native firewood from caatinga biome to renewable biomasses in Kitambar Ceramic at the city of Caruaru, State of Pernambuco, Brazil. Thus, GHG emission reduction is achieved.

The project is listed at VCS and can be accessed by the following link:
<https://registry.terra.org/app/projectDetail/VCS/33>

Some of the characteristics of the project activity are described below:

- Project Proponents: Kitambar Artefatos de Cerâmica Ltda. and Sustainable Carbon – Projetos Ambientais Ltda.;
- Project Category: project ($\leq 300,000$ tCO₂e/y);
- Methodology: AMS-I.E – Switch from non-renewable biomass for thermal applications by the user – version 07.0;
- Start Date: 01/12/2006 – date on which the project proponent began employing renewable biomass as fuel;
- Project Location: Kitambar Ceramic – Rodovia BR 232 – km 136 – Distrito Industrial – City of Caruaru – State of Pernambuco – Brazil – geographical coordinates are 08° 16' 58" S and 35° 58' 33" W;
- Project ownership: Kitambar Artefatos de Cerâmica Ltda. is the project owner;
- Technical Data: 08 Round kilns.

The project has several social and environmental components that are discussed in detail in Section 4 below.

2 VERIFICATION PROCESS

2.1 Method and Criteria

The verification process is conducted as per internal CDM Quality Manual and in accordance with criteria laid down by VCS. It includes the following steps:

- contract with PP for the scope and appointment of verification team and technical review team;

- completeness check of Monitoring Report;
- desk review of Monitoring Report and corresponding ER sheet by verification team and planning of onsite audit (including sampling approach to be applied);
- remote site inspection by verification team;
- follow up activities e.g., interviews;
- reporting and closure of findings (CARs/CLs/FARs) and preparation of draft verification report;
- independent technical review of the draft verification report and final/revised documentation (e.g., Monitoring Report, corresponding ER sheet and evidences);
- reporting and closure of TR comments/findings (CARs/CLs/FARs) and final approval for the decision made;
- issuance of final verification report to contracted PP (or authorized representatives).

2.2 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;
- supporting documents.

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

A complete list of documents/evidences reviewed for SOCIALCARBON purposes is included as Appendix II.

2.3 Interviews

S.No.	Interviewee	Date	Subject	
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	Last name	First name	Affiliation			Team member
1	Tavares Barbosa	Antônio Marcos	Kitambar Ceramic	04/05/2021	Ceramic management and operations Ceramic market and project benefits	Sergio Cruz
2	Torres	Severino Francisco	Kitambar Ceramic	04/05/2021	Project activity monitoring	Sergio Cruz
3	Moura	Ayane	Kitambar Ceramic	04/05/2021	SocialCarbon monitoring	Sergio Cruz
4	Pendl Abinajm	Carolina	Sustainable Carbon	04/05/2021	Project activity monitoring Excel calculations	Sergio Cruz

2.4 Site Inspections

Duration of on-site inspection: -				
#	Activity performed on-site	Site location	Date	Team member
-	-	-	-	-

A site visit was not performed for the verification of the monitoring period, as Brazil is facing the 2nd wave of COVID and it is now the epicentre of the pandemic in the world, with a very difficult situation and very limited conditions for safe travel.

In addition, the PP has an ERPA and an obligation to deliver the issued CERs in August/2021. Therefore, a delay in the present verification could lead to severe financial losses for the project owner.

In order to allow a credible and sufficient means for the present validation, the OVV used other standard auditing techniques for verification, as follows:

confirmation from PP that no changes occurred in the installed technology, monitoring plan, measuring equipment;

- current pictures of main equipment;
- live/real time video tour;
- document review; and
- interview with PP's representatives (responsible for the management and monitoring of project activity).

Therefore, the PPs have provided all necessary information for a clear and precise understanding of the project activity, which has been considered sufficient by the audit team for the purpose of the present verification.

2.5 Resolution of Findings

The findings may be of following types: CAR – Corrective Action Request, CL – Clarification Request and FAR – Forward Action Request.

During the present verification, 03 CL and 03 CARs were raised and successfully closed.

For the SOCIALCARBON verification, 01 CL were raised and successfully closed.

The list of findings and their resolution are presented at Appendices IV and V of this report.

2.5.1 Forward Action Requests

No FAR was raised.

2.6 Eligibility for Validation Activities

ESPL holds the accreditation for validation of the sectoral scope.

3 VALIDATION FINDINGS

3.1 Participation under Other GHG Programs

The project activity has no participation under any other GHG program.

3.2 Methodology Deviations

The project activity complies with the applied methodology AMS-IE – Switch from Non-Renewable Biomass for Thermal Applications by the User – version 07.

No deviations were observed.

3.3 Project Description Deviations

According to information gathered during the site visit, the verification team has to confirm that all physical features (technology, project equipment, monitoring and biomasses) of the registered VCS project activity were in place and that the project

participants have been operating the project activity as per the approved VCS-PD during the monitoring period.

The project has been implemented and operated as described in the VCS-PD of the renewal of crediting period.

3.4 Grouped Projects

The project activity is not a grouped project.

4 VERIFICATION FINDINGS

4.1 Project Implementation Status

The project activity involves fuel switching from native firewood from coatinga biome to renewable biomass. During this monitoring period, Kitambar Ceramic used sawdust and algaroba wood as fuel.

As per the remote site assessment, observations, interviews and collected evidences, it was possible to assess that, in general, the project activity has been implemented as described in the VCS-PD, with all changes already approved in the previous crediting period.

There is no material discrepancies between the actual monitoring system, and the monitoring plan set out in the project description and the applied methodology.

In addition, the GHG emission reductions generated by the project have not become included in any emissions trading program or any other mechanism that includes GHG allowance trading. Moreover, the project has not received nor sought any other form of environmental credit, and neither has become eligible to do so since validation or previous verification. Finally, the project has not participated nor been rejected under any other GHG programs since validation or previous verification.

The main sustainable development contributions are:

- a. use of clean and efficient technologies through the use of renewable biomass as fuel;
- b. pioneer initiative that encourages the development of new technologies throughout the country;
- c. use of renewable biomasses resulting in GHG emission reductions.

4.2 Safeguards

4.2.1 No Net Harm

The burning of the biomasses emits particulate material and CO₂ identified as negative impact. This also occurs when using fossil fuel. Nevertheless, as they are renewable biomasses, they have carbon neutral lifecycle.

The ashes resulting from the burning are used as fertilizer.

Thus, the negative impacts caused by the project activity are being mitigated.

4.2.2 Local Stakeholder Consultation

The project participant has a good relationship with local community and has open channels (i.e., telephone, e-mail and/or personally) in order to receive comments from local stakeholders. Thus, the project activity has a local stakeholder consultation access in place and working.

No comments/complaints have been observed during the monitoring period.

4.2.3 AFOLU-Specific Safeguards

No applicable as it is a non-AFOLU project.

4.3 Accuracy of GHG Emission Reduction and Removal Calculations

- the approved CDM methodology AMS-I.E – Switch from non-renewable biomass for thermal applications by the user – version 07 is applied to the project activity. GHG emission reductions are calculated as baseline emissions;
- the project emissions are considered for the project activity, in accordance with the applied methodology;
- no leakage is considered for this kind of project, in accordance with the applied methodology and "General guidance on leakage in biomass project activities", as all possible sources of leakage are demonstrated at the MR as:
 - o there is no transference of equipment;
 - o the quantity of biomasses to provide thermal energy for the project activity represents a non-representative quantity of these kind of biomasses, which avoids the possibility of leakage;
 - o the project is expected to decrease the use of non-renewable biomass by similar users, especially due to the incentive of carbon credits;
- all methods and formulas used in the calculations of emission reductions have been followed in accordance with the applied methodology and monitoring plan of the validated at VCS-PD;

- all monitored data is traceable.

Fixed parameters:

- $EF_{projected\ fossil\ fuel}$ – CO₂ Emission factor of residual fuel oil: 81.6 tCO₂/TJ (as per Section 4.1 of VCS-PD);
- $\rho_{biomass}$ – Specific gravity of non-renewable wood: 0.88 ton/m³ (as per Section 4.1 of VCS-PD);
- BF_y – Consumption of non-renewable biomass per thousands of ceramic units produced per year: 1.3 ton of wood / tons of ceramic devices (as per Section 4.1 of VCS-PD);
- $EF_{CO_2,f}$ – Default CO₂ emission factor for freight transportation activity f : 245 gCO₂/t km – light vehicles; and 129 gCO₂/t km – heavy vehicles (as per MDL TOOL12 – Project and leakage emissions from transportation of freight – version 01.1.0)

Monitored parameters:

- PR_y – Tonnes of ceramic units produced per month (refer to Section 4.2 of the MR);
- $Q_{renbiomass}$ – Amount of renewable biomass (refer to Section 4.2 of the MR);
- *Origin of Renewable Biomass* – Renewable origin of the biomass (refer to Section 4.2 of the MR);
- *Leakage of non-renewable biomass* – Leakage resulted from the non-renewable biomass: 0 tCO₂e (as per Section 4.2 of the MR);
- $f_{NRB,y}$: Fraction of biomass (wood) used in the absence of the project activity in year: 95.03% (as per Section 4.2 of the MR);
- *Renewable biomass surplus* – Amount of renewable biomass available (refer to Sections 4.2 and 5.3 of the MR);
- $NCV_{biomass}$ – Net calorific value of non-renewable wood: 0.015 TJ/ton (as per Section 4.2 of the MR).
- $D_{f,m}$ – Return trip road distance between the origin and destination of freight transportation activity f in monitoring period m (refer to Section 4.2 of the MR);
- $FR_{f,m}$ – Total mass of freight transported in freight transportation activity f in monitoring period m (refer to Section 4.2 of the MR).

The emission reduction spreadsheet is transparent, traceable and correct, with no manual transposition errors.

Baseline emissions (BE_y)

The baseline emissions are calculated as follows:

$$BE_y = B_y \times f_{NRB,y} \times NCV_{biomass} \times EF_{projected_fossil_fuel}$$

Where:

BE_y	Baseline emissions during the year y ;
B_y	Quantity of biomass that is substituted or displaced;
$f_{NRB,y}$	Fraction of non-renewable biomass (wood) used in the absence of the project activity in year y ;
$NCV_{biomass}$	Net calorific value of non-renewable biomass;
$EF_{projected_fossil_fuel}$	Emission factor for the projected fossil fuel consumption in the baseline.

So, **$BE_y = 75,920 \text{ tCO}_2\text{e}$** .

Project emissions (PE_y)

The project emissions are calculated as follows:

$$PE_{TR,m} = \sum_f D_{f,m} \cdot FR_{f,m} \cdot EF_{CO_2,f} \cdot 10^{-6}$$

Where:

$PE_{TR,m}$:	Project emissions from road transportation of freight monitoring period m ;
$D_{f,m}$:	Return trip road distance between the origin and destination of freight transportation activity f in monitoring period m ;
$FR_{f,m}$:	Total mass of freight transported in freight transportation activity f in monitoring period m ;
$EF_{CO_2,f}$:	Default CO_2 emission factor for freight transportation activity f ;
f :	Freight transportation activities conducted in the project activity in monitoring period m .

So, **$PE_y = 115 \text{ tCO}_2\text{e}$** .

Leakage emissions (LE_y)

No leakage is considered for this kind of project. Thus, **$LE_y = 0 \text{ tCO}_2\text{e}$** .

Emission Reductions

Therefore, according to the applied methodology, as $LE_y = 0 \text{ tCO}_2\text{e}$, $ER_y = BE_y - PE_y$.

Where:

ER_y :	Emissions reductions during the year y ;
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BE_y : Baseline emissions during the year y ;

PE_y : Project reductions in year y ;

LE_y : Leakage reductions in year y .

Thus, $ER_y = BE_y - PE_y$. So, **$ER_y = 75,805 \text{ tCO}_2\text{e}$** .

4.4 Quality of Evidence to Determine GHG Emission Reductions and Removals

- records were submitted by the project proponent as evidences to determine emission reduction;
- the records, data and information provided were found valid for the current verification period. The documents were verified during site visit and when possible, were checked directly from its source;
- interviews were performed during site visit with involved personnel and PP's representatives;
- the GHG emission reduction calculations were check step by step with PP's representatives;
- the quality of evidences was found of adequate level by the verification team to ensure an accurate quantification of the emission reductions.

4.5 Non-Permanence Risk Analysis

Not applicable.

4.6 SOCIALCARBON Results

4.6.1 Social Resource

Indicator	Diversity
Situation	During the first 3 years of the monitored period (2017 to 2019) the number of workers was mostly stable, being 30 at the end of 2019. There were 9 minority group workers, representing 30% of Kitambar's employees. At the end of the monitored period (31st of July 2020), there were 10 employees working on Kitambar ceramic factory, among them, 0% from minority groups. This drastic change is due to the COVID-19 pandemic, which had forced industries of non-essential activities to stop or reduce their production for many

	months in early 2020 to avoid spreading the coronavirus, which led to a mass firing of the factory's employees.				
There are currently no employees at the factory from minority groups and there are no plans to hire minorities.	There are currently no employees from minority groups, but the factory has made plans to hire minorities.	Less than 15% of employees belong to a minority group.	Between 15 ≤ 30% of employees are from minority groups.	More than 30% of employees are from minority groups.	In addition to more than 30% of employees being minorities, the factory presents initiatives or combat forms of discrimination.
Score	4				
Justification	It was possible to check during the interviews and remote site visit that some of the employees from excluded social groups are indeed working at the ceramic. The ceramic intends to hire more employees from minority groups				
Evidence	Interviews and human resources documents.				

Indicator	Community development
Situation	Kitambar plays an important role regarding the educational development in Pernambuco. The factory has a partnership with three Educational Institutions: The Federal Institution of Education, Science and Technology of Pernambuco – IFPE (2 occupational health and safety interns from IFPE worked at the ceramic factory), Centro Universitário DeVry Unifavip, Centro Universitário Tabosa de Almeida – ASCES UNITA and Faculdade Maurício de Nassau. The partnership was established to provide supervised visit to students from engineering courses, which aims to show the factory productive process, its safety practices and its quality performance. This kind of action is very important for the improvement of academic and technical knowledge. The factory and the University of UFRPE structured a partnership to develop together environmental projects: - a rainwater capture in the factory;

	- research in order to optimize the production process, reduce the residue generation, as well as the sustainable use of resources. - clay to be designated to soil correction in agricultural production. - broken ceramic pieces to be used to cover roads. These projects benefit the environment, at the same time providing even more opportunity for educational development among the students. During the monitored period, Kitambar has donated to an elderly association called “Associação dos Idosos Nossa Senhora do Rosario” (Association of the Elderly Nossa Senhora do Rosario) located in Bezerras, a nearby city, through a TV program called “Natal para Todos” (Christmas for All).					
	The factory has no initiatives/ activities planned that benefit the local community.	The factory responds to occasional (not continuous) requests for assistance.	The factory supports community members or civil society organizations: - Regularly: one per month; OR - Significant: at least 10 different parties were benefited.	In addition to scenario 3, the factory lends out equipment, space and/or provides manpower for activities that benefit the local community.	The factory is formally involved in the development and implementation of social and/or environmental projects in partnership with public entities and/or civil society organizations.	In addition to scenario 5, the factory has formalized planning in order to maximize their contribution to local community development, through survey with the community, establishing new partnerships, etc.
	Score	5				
	Justification	It was verified by the performed interviews that the ceramic has acted intensively in order to improve the community development.				
Evidence	Interviews, attendance lists of visits and Instagram.					
Indicator	Employee satisfaction surveys					

Situation	The ceramic factory promotes meetings with the employees every three months. During the meetings, Mr. Antonio Marcos, the ceramic owner, talks about the updates in the ceramic sector, about the carbon project and about the new activities promoted by the factory. Ms. Ayane, the health and safety technician, talks about the issues related to the health and safety practices, among other things. They always encourage for the employees to share their opinions. The factory has a schedule of the meetings, indicating the date and the topics that will be discussed in the next meetings. However, the company believes that only the meetings are not sufficient to evaluate the employees' opinion, so it has started a questionnaire application with each employee. The questionnaire aims to evaluate the employee's opinion about the company, their jobs and the activities developed in the factory, such as labour gymnastic and the literacy classes. The ceramic factory owner started this questionnaire especially after he realized that the employees' frequency in such activities had decreased. Worried about it, the company started the questionnaire, asking, among other things, the reasons for the absence and also asking for suggestions to improve such activities. The owner believes that it is important that the employees participate in activities that improve physical exercises. These surveys are applied every two years. The health and safety technician is also regularly in touch with the employees, in order to know their opinion. The factory has a notice board, where new activities and programs are regularly announced. During the monitoring period, the employees had lectures on avoiding diseases and responsible water use. In early 2020, the working crew asked for better training on firefighting, as they suggested that not only lectures should be held on the subject, but that practical activities should also be held in order to instruct them better. In order to attend their request, the ceramic owner and the safety technician prepared and held a practical class on firefighting to the ceramic factory staff.					
Lack of a consultation system for employee feedback.	There are attempts to implement an employee consultation	The system for employee consultation is being utilized, but is limited to	In addition to scenario 3, the factory has implemented or is currently	The factory promotes periodic satisfaction surveys among	In addition to scenario 5, the factory has stipulated targets and	

	system but it is not being properly utilized. Example: There is a suggestion box, but employees do not use it.	a suggestion box.	implementing one or more suggestions made by employees.	employees. Example: monthly meetings, book for documenting information, etc.	timelines for solutions to employee complains.
Score	6				
Justification	It was verified by the performed interviews and by the evidences that there is an employee's consultation system in place.				
Evidence	Interviews, pictures and surveys.				

4.6.2 Human Resource

Indicator	Additional employee benefits
Situation	Besides the fixed salary, the company offers some benefits employees, such as: - Saturday Off: The company granted the employee's request of having the Saturdays off; - Health insurance: the company pays 50% of the employee Health Insurance; - Commission based on production: except for the administration, cleaning and maintenance staffs, all employees receive commission for every thousand pieces produced; - Transportation: the company provides round trip transportation for employees between the city of São Caitano and the factory. São Caitano is the city where almost all employees live; this place was chosen by the employees. - Meals: currently the company cannot provide meals to all employees, due to the high value of these meals. Therefore, the company offers lunch to some of the employees, such as office workers, maintenance workers, machine operators and managers. For the other employees, the factory provides the place to have the meals and also provides one employee to cook and prepare the meals.

The factory offers no additional benefits to employees.	Some employees receive an additional benefit.	All employees receive sporadic additional benefits, independent of frequency.	All employees receive an additional benefit monthly.	All employees receive more than one additional benefit monthly.	All employees receive more than one additional benefit monthly and there are also award programs based on merit.
Score	6				
Justification	It was verified by the performed interviews that the ceramic implemented several additional benefits to all of them.				
Evidence	Interviews and remote site visit.				

Indicator	Health and safety practices
Situation	The ceramic factory has CIPA – Internal Commission for Accident Prevention – during the CIPA the company promotes speeches, training programs and internal communication about health and safety practices. The ceramic has PCMSO (Programa de Controle Médico de Saúde Ocupacional – Program of Medical Control and Occupation Health) and PPRA (Programa de Prevenção e Redução de Acidentes – Program for Prevention and Reduction of Accidents). It also has a health and safety technician, who is responsible for all the health and security issues. Kitambar Ceramic Factory also has LTCAT, which is a “Technical Report on Working Environment Conditions”. The company offers all the personal protective equipment necessary for the workers to carry on their activities safely and there is internal control of the PPEs use. There are signs encouraging the PPEs use in the factory. Also, the ceramic factory, provided lectures to the employees on avoiding diseases during the current monitored period. Early in 2020 the ceramic factory took a recess due to the COVID-19 pandemic, when resuming its activities, there was a campaign

		with lectures on personal hygiene measures to protect the working crew from being contaminated and spreading the virus, distribution of masks and hand sanitizers, as well as signs and posters that were hung throughout the ceramic factory. Aside from that, during the monitoring period, the factory provided H1N1 vaccines to the employees.			
There is no control of PPE distribution. None of the health and safety programs required by law are being implemented.	PPE distribution is being controlled OR there is at least one health and safety program required by law being implemented	The factory meets all legal requirements.	The factory meets all legal requirements and: (a) penalizes employees who do not properly use the PPE and/or (b) has signs encouraging the use of PPE in the factory and/or (c) The factory promotes lectures and events addressing issues related to health and safety in the workplace.	In addition to scenario 4, the factory contracts or has a technical professional or safety engineer on staff to ensure best practices in the company.	In addition to scenario 5, the factory develops complementary programs such as PPR, PPRPS and PCA; and/or The factory encourages physical activity or conducts activities for disease prevention.
Score	6				
Justification	It was verified by the performed interviews and by the presented pictures that the ceramic promotes CIPA meetings where several subjects can be discussed and where lectures are presented. In addition, the PCMSO and PPRA of the company were presented to the verification team. The ceramic intends to hold labour gymnastics lectures to encourage physical activities to the employees and promote disease prevention.				
Evidence	Pictures, interviews, CIPA meeting minutes, PCMSO and PPRA.				
Indicator	Training and capacity building programs				

Situation	During the period analysed Kitambar offered several building courses and lectures to employees, mainly focused on the subjects of working improvement and sales techniques.				
	The employee Crislayne Gleice dos Santos has attended some training courses on occupational health and safety practices and building courses on how to operate a system called eSocial, which allows the ceramic factory to monitor its employees' rotation among other administrative tasks.				
	Kitambar has a planning control where it is established the next capacity building programs that the factory intends to participate.				
The company has not invested in lectures nor professional training courses for staff.	The factory organized occasional lectures.	Training courses were offered to individual employees, but not to all employees.	In addition to item 3, the individual employees who were contemplated by the training courses replicate the knowledge via lectures to other employees; and/or Regular lectures were offered to employees (at least two per semester).	In addition to scenario 4, the factory has an internal campaign to encourage employees to complete their high school education; and/or The factory promotes a literacy program for youth and adults.	In addition to scenario 5, the Ceramic factory has established a strategic plan regarding training and capacity building programs.
Score	6				
Justification	It was verified by the performed interviews that Kitambar provides capacity-building courses to several employees.				
Evidence	Attendance lists of training and lectures.				

4.6.3 Financial Resource

Indicator	Biomass supply
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Situation	Currently the ceramic factory uses two types of biomasses: algarroba wood and sawdust. The factory has total control of the source and amount of renewable biomass used.					
The factory has no control of the source and amount of biomass used; and/or the factory is using non-renewable fuel in the production process.	The factory only has partial control of the source and amount of biomass used.	The factory has total control of the source and amount of renewable biomass used, however 100% of the biomass comes from renewable wood.	The factory has total control of the source and amount of renewable biomass used and less than 50% of the fuel is coming from agro-industrial waste.	The factory has total control of the source and amount of renewable biomass used and more than 50% of the fuel is coming from agro-industrial waste.	The factory has total control of the source and amount of renewable biomass used and 100% of the fuel is coming from agro-industrial waste.	
Score	4					
Justification	It was verified by the performed interviews that Kitambar has control of the suppliers and accounts for 100% of the used biomass, which less than 50% are from agro-industrial waste. The verification team checked the records of purchase of biomass. In addition, the ceramic has total control of its production in order to analyse the relationship of biomass and ceramic devices. The ceramic intends to use more than 50% of fuel from agro-industrial waste in the next monitoring period.					
Evidence	Records of purchase of biomasses and report of daily production of ceramic device.					

Indicator	Planning and control					
Situation	The factory has organized controls of the income received from carbon credit sales, as well as of the destination for proceeds. The factory also presents a future planning to the carbon revenue, it intends to implement a new firefighting system and a new production management system, with a set timeline, budget, and benefits.					
The factory has no organized controls of the income received from	The factory has partial control of the income received from carbon credit	The factory has organized controls of the income received from	The factory has organized controls of the income received from	The factory has organized controls of the income received from	The factory has organized controls of the income received from	The factory has organized controls of the income received from

carbon credit sales nor the destination for proceeds.	sales and the destination for proceeds.	carbon credit sales, but control of the destination for proceeds is partial.	carbon credit sales, as well as of the destination for proceeds. However, the factory presents no future planning.	carbon credit sales, as well as of the destination for proceeds. However, the factory presents incomplete future planning.	carbon credit sales, as well as of the destination for proceeds. The factory presents satisfactory future planning (timeline, budget, responsible involved and benefits).
Score	6				
Justification	The ceramic has records of the income received from carbon credit sales and total control over its destination. In addition, by the performed interviews, it was evidenced that Kitambar has plans for the upcoming benefits.				
Evidence	Interviews and records of carbon credits				

Indicator	Carbon credit investments				
Situation	100% of the income generated by carbon credit sales was invested in the factory and in community development.				
The income generated by carbon credit sales was not invested in the factory nor in the community, or there are no organized controls of the allocation of proceeds.	Less than 20% of the income generated by carbon credit sales was invested in the factory or in the community development.	Between 20 and 40% of the income generated by carbon credit sales was invested the factory or in the community development.	Between 40 and 60% of the income generated by carbon credit sales was invested the factory or in the community development.	Between 60 and 80% of the income generated by carbon credit sales was invested the factory or in the community development.	Between 80 and 100% of the income generated by carbon credit sales was invested the factory or in the community development.
Score	6				
Justification	100% of the income generated by carbon credit sales was invested in the factory.				

Evidence	Interviews and records of carbon credits
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4.6.4 Natural Resource

Indicator	Environmental management				
Situation	The ceramic factory shows some initiatives regarding environmental management: - Waste: the factory generates a small quantity of waste. The unburned residues are returned into the clay mixture and reused in the production process. The discarded ceramic goods are reused to repair roads; the ashes generated by Kitambar's production are used as agriculture fertilizer. The remaining materials, such as gloves and EPIs, contaminated with oil are collected by a company which treats these materials; - Air: Kitambar has annual reports that monitor the atmospheric emissions; - Water: The factory implemented a system to collect rainwater to use in the production process, as a manner to reduce public water consumption; Also, Kitambar ceramic factory participated in a program called "Ceramica Sustentável é + vida" (Sustainable Ceramic Factory is + life) developed by Anicer (National Ceramics Factories Association) in partnership with Sebrae (Brazilian Service in support of Micro and Small Enterprises). This program was created to promote sustainability in the red ceramics factories through a set of actions and was active until 2017. For more information please access: - https://www.anicer.com.br/revista-anicer/revista-105/parceria-de-sucesso/ - https://www.anicer.com.br/wp-content/uploads/2017/07/Cer%C3%A2micas-participantes-do-CS+V.pdf				
There are no environmental management initiatives.	There are up to two specific initiatives to prevent/reduce the main environmental	There are more than two initiatives to prevent / reduce the main	In addition, the scenario 3, the factory is structuring an environmental management	The factory has implemented a formal environmental	The factory's environmental management system has been certified

	impacts caused by the ceramic factory.	environmental impacts caused by ceramic factory.	system in the company.	management system.	by a third party.
Score	3				
Justification	It was evidenced by the performed interviews with ceramic representatives and at the site visit that the ceramic has implemented some environmental initiatives. The ceramic intends to elaborate a study to assess the possibility of implementing an environmental management system in the next years.				
Evidence	Interviews, remote site visit and external website				

Indicator	Brazilian environmental legislation				
Situation	The ceramic is in conformity with the environmental laws and possesses: - License for clay extraction issued by the DNPM/PE (National Department for Mineral Production), DNPM nº 840.089/2002, valid until July 23rd, 2022. - Operation License nº 05.16.08.003514-1, issued by the CPRH (State Environmental Agency), expiring on September 16th, 2018, which is in process of getting renewed (nº1181/2018). - Federal Technical Registry issued by IBAMA (Brazilian Institute of Environment and Natural Resources) valid until April 23rd, 2021. - the ceramic uses water from the public supply and also buys water from a company that has the operational license nº 03.16.02.000621-3 issued by the CPRH and valid until February 28th, 2023. The water is transported by trucks.				
The factory does not possess any of the following:	The factory only possesses two of the following:	The factory only possesses three of the following:	The factory possesses all of the following: -operating license	All licenses are up to date and all conditions established by	In addition to the previous scenario, the factory collaborates with public

-operating license	operating license	-operating license	-license for clay extraction	them are being met.	administration and/or civil society organizations for cooperation with environmental projects.
-license for clay extraction	-license for clay extraction	-license for clay extraction	-water grant		
-water grant	-water grant	-water grant	- federal technical registry		
- federal technical registry	- federal technical registry	- federal technical registry	However, they do not meet all the conditions established by them.		
Score	5				
Justification	All licenses are up to date and all conformity conditions.				
Evidence	Licenses				

Indicator	Voluntary environmental initiatives
Situation	Kitambar has a partnership with the Rural Federal University of Pernambuco (UFRPE), developing together two environmental projects: - Rainwater capture in the factory: Kitambar implemented a rainwater collect at the factory, to reduce the public water consumption, thus avoiding the use of drinking water when unnecessary. - Research in order to optimize the production process, reduce the residues generation, as well as the sustainable use of resources. The factory and the University believe that the projects benefit the environment, and at the same time provide even more opportunity for educational development among the students. Another voluntary initiative by the ceramic factory during the monitoring period was the planting of at least 100 native tree seedlings into the Ceramic's property. The ceramic factory has also accepted an invitation of SESI, a network of Brazilian parastatal institutions operating nationwide, to hold a lecture on use and capture of rainwater.

The factory is not involved in voluntary environmental initiatives.	The factory has implemented only one internal environmental initiative. Example: Planting ten tree saplings on factory grounds.	The factory has implemented more than one internal initiative or is showing continuity for an existing Initiative. Example: Periodic planting of saplings on factory grounds.	The factory has implemented more than one initiative or ongoing initiative whose benefits extend to workers families.	In addition to the previous scenario, the benefits of the initiatives also extend to community members.	In addition to the previous scenario, the factory promotes voluntary environmental initiatives with civil society organizations and/or public administration.
Score	6				
Justification	It was evidenced by the performed interviews and site visit that the ceramic has implemented more than one environmental initiative. A rainwater collecting system has been constructed. Several native trees were planted in the ceramic property.				
Evidence	Interviews and remote site visit.				

4.6.5 Biodiversity/Technology Resource

Indicator	Technological advances to improve efficiency of the production process
Situation	The factory meets the following aspects: - possess a dryer that recycles the heat from the kilns; - the factory has eight Round kilns, considered intermittent kilns. The Round kiln is the most suitable kiln to produce the roof tiles. Therefore, it was considered that the factory has an efficient kiln for its production; - controls the kiln temperature: the factory keeps a record of thermocouples and the data is registered in a computer system; - the factory feeds kilns using semi-automatic equipment;

		- the factory controls and records production at different stages of the production process: moulding machine, kiln loading and kiln unloading; - During the period analysed there was no need for infrastructural improvements in the factory; - there is a project in order to replace carts and shelves to dry out the tiles, as well as a project to purchase tile mouthpiece with a 3-outlet tube, as well as a “duck beak” funnel with quick coupling durometer and mouthpiece dryer to increase the number of tile outlets in the “maromba” extruder.			
The factory does not meet any of the characteristics described.	The factory meets one of the characteristics described.	The factory meets 2-3 of the characteristics described.	The factory meets 4 of the characteristics described.	The factory meets all of the characteristics described.	In addition to scenario 5, the factory has organized planning to improve general conditions of the production process.
Score	6				
Justification	It was evidenced by the performed interviews with ceramic representatives and during the site visit that the ceramic has several equipment that enables an improvement in the efficiency of the production process and continues to invest in technological improvement for better production efficiency. There is an intention to carry on with the implementation of the new production management system, buying new carts, shelves, tile mouthpiece and funnel in the next monitoring period				
Evidence	Interviews and proposals for new equipment.				
Indicator	Technological advances to improve the general conditions of the working environment				
Situation	The factory meets all the characteristics: - there is no excess of dust and debris – there is an employee in charge of cleaning. He cleans the factory every day;				

- the factory is a well-ventilated place, with ventilators and exhausters to reduce the employees exposure to the heat;
- the factory has translucent tiles, which provides a well-lit working environment;
- the noise in the ceramic factory does not exceed the established by law;
- the factory uses signing according to the applicable norms.

Besides that, the factory has an organized planning to improve the general conditions described above. The health and safety technician has a work spreadsheet, where she controls the cleaning and its frequency, the noise control and the PPE usage, the signs and its conservation, among other characteristics to maintain a good environment.

The factory is also applying the 5S Methodology, in order to maintain the organization and the cleanliness in the factory. During the 5S training the employees were instructed to keep the equipment and machines in their right place; to check preventive needs for maintenance in each sector; to check the documentation for each area, such as reports, schedules, maintenance report, among others; to make the disposal of each type of waste, etc.

In order to increase the organization and the efficiency at the factory, Kitambar has signals on each equipment, to inform about the procedures regarding its operation and maintenance.

Also, there is a plan to implement a new firefighting system, with budgets and estimates already being studied.

The factory does not meet any of the characteristics described.	The factory meets one of the characteristics described.	The factory meets 2-3 of the characteristics described.	The factory meets 4 of the characteristics described.	The factory meets all of the characteristics described.	In addition to scenario 5, the factory has organized planning to improve general conditions of the working environment.
Score	6				

Justification	It was evidenced by the performed interviews and remote site visit that the ceramic has several features that improve the general conditions of the working environment. The ceramic intends to implement a new firefighting system.
Evidence	Interviews, remote site visit and proposal of the firefighting system.

Indicator	Product quality					
Situation	The enterprise has quality control of its products, including tests for the raw material and final product. The ceramic has a quality control centre inside the company, where employees are trained to evaluate the quality control of the ceramic products. Besides that, the factory has PSQ certification (Quality Program) for all types of tiles produced in the factory.					
	No efforts were made to analyse or improve product quality.	Samples of some products were evaluated by quality tests.	Samples of all products were evaluated by quality tests.	Some of the products have quality certification.	All products have quality certification.	In addition to scenario 5, the factory has an in-house quality lab.
Score	6					
Justification	The ceramic has quality certification of some items and has an internal lab.					
Evidence	Interviews and quality reports.					

4.6.6 Carbon Resource

Indicator	Stakeholder consultation
Situation	Kitambar ceramic factory is always participating in events and meetings, where discloses about the carbon project. The ceramic has a consultant, Edvaldo Costa Maia, who is in charge of providing assistance for Kitambar Ceramic and with outside demands, informative matters included. The formal stakeholder consultation was carried out during the new validation of the project. Currently, the company's environmental

management area is available to receive any kind of suggestions and comments from the community through their website, telephone, e-mail or even personally. Aside from that, there are the meetings with the working staff every three months and surveys every two years to integrate the collaborators with ceramic and carbon project matters, these meetings and surveys have already set the next meetings' dates.					
During the time period analysed, the factory did not conduct a stakeholder consultation.	During the time period analysed, the factory conducted an informal (no records) stakeholder consultation.	During the time period analysed, the factory conducted a formal (with records) stakeholder consultation; however negative comments were made regarding the project.	During the time period analysed, the factory conducted a formal (with records) stakeholder consultation, and no negative comments were made regarding the project.	As well as the previous scenario, there are continuous means of communication with stakeholders.	As well as the previous scenario, the next consultation is being planned together with stakeholders.
Score	6				
Justification	It was evidenced by the performed interviews with the ceramic representatives that the ceramic has continuous means of communication with stakeholders for complaints and suggestions. The ceramic intends to conduct another formal stakeholder consultation during the next monitoring period.				
Evidence	Interviews.				

Indicator	Green marketing
Situation	The factory has an established plan to invest in green marketing. The ceramic factory hired an advertising company to help with the green marketing strategies. Currently Kitambar markets their environmental practices on their website and social media pages. On their website: - http://www.kitambar.com.br/ecologico.html

- <http://www.kitambar.com.br/reconhecimento.html>
- <http://www.kitambar.com.br/projetocarbono.html>

On their Facebook page:

- <https://pt-br.facebook.com/kitambar.pe>

On their Twitter account:

- <https://twitter.com/kitambar>

On their Instagram page:

- <https://www.instagram.com/kitambar/>

And through YouTube, with the carbon project's video:

- <https://www.youtube.com/watch?v=2eda7yM02mo&t=59s>

And also, at the local radio.

The factory sees positive results with these marketing strategies and intends to continue investing on them.

The factory does not have marketing strategies based on their environmental practices.	The factory markets their environmental practices only using one means of communication. Example: magazine advertisement.	The factory markets their environmental practices using more than one means of communication. Example: magazine advertisement and billboard.	The factory has an established green marketing strategy, but still has not seen positive results.	The factory has an established green marketing strategy and sees positive results.	As well as the previous scenario, the factory has plans to invest in Green marketing.
Score	6				
Justification	It was evidenced by the performed interviews with the representatives that the ceramic has an implemented green marketing and intends to continue to invest, as it is a differential issue among its competitors. It is an active player in social media.				
Evidence	Interviews and social media.				
Indicator	Project performance				

Situation	The owner states that he is very satisfied with the carbon project, as the project helps him to improve the social and environmental benefits that he provides to community. He also says that he is positively surprised with results. Besides that, the ceramic factory has always been invited to participate in meetings to explain about its practices and has won prizes regarding the carbon project in the past. Mr. Antônio Marcos considers that the carbon project brought a competitive advantage for his business, as the company became a reference in environmental actions.					
	The factory is very dissatisfied and threatens to abandon the carbon project.	The factory is dissatisfied, but does not plan to abandon the carbon project.	The factory is indifferent about the carbon project.	The factory believes the carbon project is something positive, but has complaints.	The factory is very satisfied with the carbon project.	In addition to the previous scenario, the factory considers the carbon project a competitive advantage for their business and encourages other factories to adopt similar practices.
Score	6					
Justification	It was evidenced by the performed interviews with the representative that the ceramic is very satisfied with the carbon project and considers it a very competitive advantage for the business.					
Evidence	Interviews.					

5 ANALYSIS OF SOCIALCARBON RESULTS

5.1 Current Performance

Resource	Critical	Satisfactory	Sustainable	Average Score	Performance
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Social	0.0%	33.3%	66.7%	5.0	Sustainable
Human	0.0%	0.0%	100%	6.0	Sustainable
Financial	0.0%	33.3%	66.7%	5.3	Sustainable
Natural	0.0%	33.3%	66.7%	4.7	Satisfactory
Technology	0.0%	0.0%	100%	6.0	Sustainable
Carbon	0.0%	0.0%	100%	6.0	Sustainable

5.2 Historical Performance

Social	Point Zero	Point One	Point Two	Point Three	Point Four	Point Five	Point Six	Point Seven
	3.3	2.1	2.9	4.3	5.0	4.7	5.0	5.0

Historic Analysis: the Social resource was maintained in comparison with the previous reports. The ceramic has several actions to improve social aspects of the entire community.

Human	Point Zero	Point One	Point Two	Point Three	Point Four	Point Five	Point Six	Point Seven
	2.2	2.8	2.7	5.3	6.0	6.0	6.0	6.0

Historic Analysis: the Human resource was maintained in comparison with the previous reports. The ceramic continues to perform several actions in order to improve the employees' work conditions.

Financial	Point Zero	Point One	Point Two	Point Three	Point Four	Point Five	Point Six	Point Seven
	4.0	3.7	4.3	4.3	4.3	5.3	5.3	5.3

Historic Analysis: the Human resource was maintained in comparison with the previous reports. The ceramic continues to have an organized financial control of its investments and also presented a future planning, with timeline, budget, and benefits.

Besides that, up 100% of the income generated by the carbon credit sales are invested in the ceramic itself.

Natural	Point Zero	Point One	Point Two	Point Three	Point Four	Point Five	Point Six	Point Seven
	3.0	2.4	3.4	4.3	4.3	4.7	4.7	4.7

Historic Analysis: the Natural resource was maintained in comparison with the previous reports. The ceramic continues with good environmental practices in place.

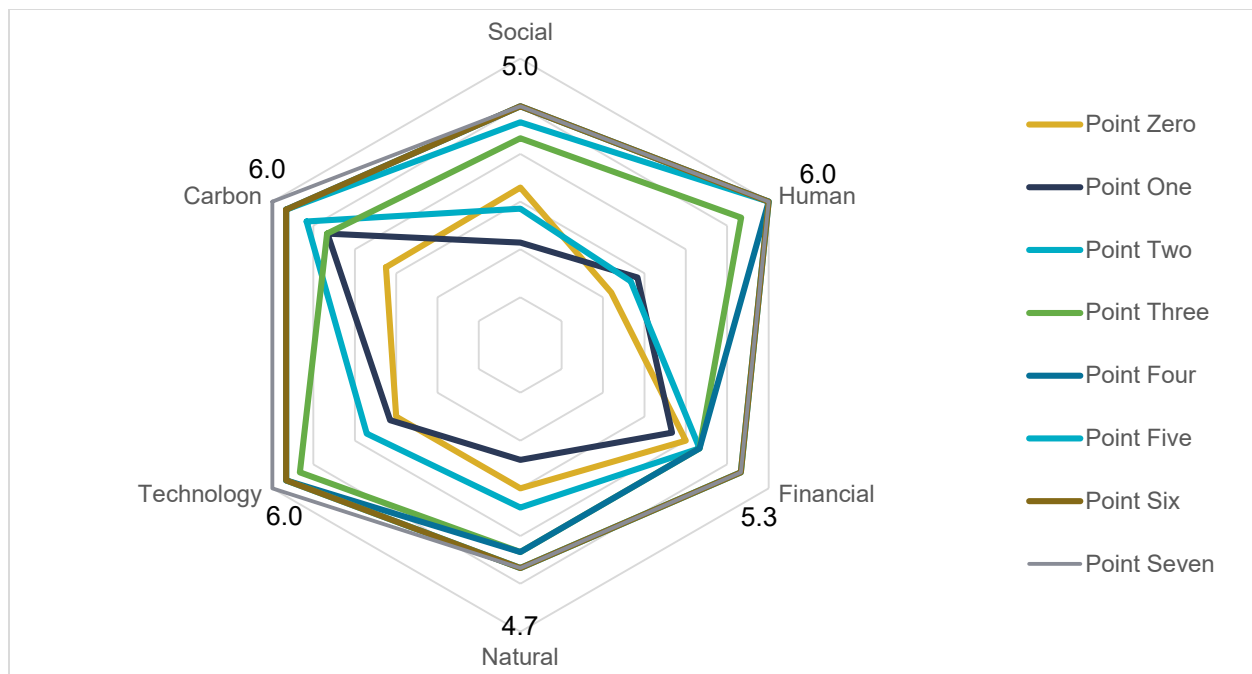
Technology	Point Zero	Point One	Point Two	Point Three	Point Four	Point Five	Point Six	Point Seven
	3.0	3.1	3.7	5.3	5.7	5.7	5.7	6.0

Historic Analysis: there was an improvement in the Technology Resource as the ceramic is investing in new equipment for a better performance.

Carbon	Point Zero	Point One	Point Two	Point Three	Point Four	Point Five	Point Six	Point Seven
	3.3	4.7	5.2	4.7	5.7	5.7	5.7	6.0

Historic Analysis: there was an improvement in the Carbon Resource as new formal stakeholder consultation is planned. In addition, the ceramic is very enthusiastic of the carbon project and its market advantages.

5.3 Performance Hexagon



6 VERIFICATION CONCLUSION

ESPL, contracted by Sustainable Carbon – Projetos Ambientais Ltda., has performed the independent verification of the emission reductions of the VCS project "Kitambar Switching Fuel Project", with VCS Project ID 33, for the monitoring period 01/01/2017 to 31/07/2020 (both days included).

Sustainable Carbon – Projetos Ambientais Ltda. is responsible for the collection 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 AMS-I.E – version 07, the monitoring plan contained in the registered VCS-PD and draft Monitoring Report.

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 VCS-PD; and
- the actual operation conforms to the description in the VCS-PD.

Thus, the GHG emissions reductions reported for the project activity for the period from 01/01/2017 to 31/07/2020 (including both days) are fairly stated in the final

version of the Monitoring Report. The GHG emission reductions were calculated correctly based on the approved baseline and monitoring methodology AMS-I.E – version 07 and the monitoring plan contained in the VCS-PD.

Therefore, ESPL is able to certify that the emission reductions from the VCS project “Kitambar Switching Fuel Project”.

In addition, as a result of the SOCIALCARBON verification, the verifier confirms that:

- the indicators and reports are in accordance with SOCIALCARBON Standard and “Brazilian Red Ceramic factories Indicators” – version 1.1;
- the project is being periodically monitored and Point Zero is being used as the baseline;
- there are perspectives of improvement and the efforts to seek the improvement are being done;
- the report has been validated by an accredited entity, a remote site visit has been carried out and this verification report has been issued.

In addition, the verifier confirms that the indicators for “Brazilian Red Ceramic factories Indicators” – version 1.1 are accurate and the calculations are correct. The SOCIALCARBON template and SOCIALCARBON Guidelines were correctly used.

ESPL herewith confirms that the project is in line with all applicable criteria for the verification.

The characterization of the Point 7 for the project as “SUSTAINABLE”, as described in the referenced documents, is accurate.

Verification period: From 01-January-2017 to 31-July -2020.

SOCIALCARBON verification period: From 01-January-2017 to 31-July -2020.

Verified GHG emission reductions and removals in the above verification period:

Year	Baseline emissions or removals (tCO2e)	Project emissions or removals (tCO2e)	Leakage emissions (tCO2e)	Net GHG emission reductions or removals (tCO2e)
2017	25,325	75	0	25,250
2018	21,327	20	0	21,307
2019	20,204	15	0	20,189
2020	9,064	5	0	9,059
Total	75,920	115	0	75,805

Approved by



Dr. Kaviraj Singh

Managing Director

Earthood Services Private Limited

Date: 12/07/2021

Place: Gurgaon, Haryana

APPENDIX I: REFERENCES

No.	Title	References
1.	<u>Methodology</u> AMS-I.E – Switch from non-renewable biomass for thermal applications by the user	version 07
3.	<u>Biomass</u> Records of biomass purchase	2017 / 2018 / 2019 / 2020
4.	<u>Production</u> Records of production by type of ceramic devices	2017 / 2018 / 2019 / 2020
5.	<u>License</u> - Operation license # 05.16.08.003514-1 – valid until 16/09/2018 – issued by CPRH - Protocol for renewal of operation license # 1181/2018 - License for Clay extraction # 307/2002 – DNPM – valid for 20 years	16/09/2016 10/07/2018 23/08/2002
6.	MR – draft / revised	version 01 – 19/04/2021
7.	MR – final	version 02 – 02/06/2021
8.	ER Spreadsheet – draft / revised	version 1
9.	ER Spreadsheet – final	version 2
10.	VCS-PD (Registered)	version 08 – 19/06/2018
11.	IPCC publications	www.ipcc-nggip.iges.or.jp
12.	UNFCCC	http://cdm.unfccc.int
13.	VCS	https://verra.org/

APPENDIX II: REFERENCES – SOCIALCARBON

No.	Title	References
1.	SOCIALCARBON Report – draft / revised	version 01 – 23/04/2021 version 02 – 02/06/2021
2.	SOCIALCARBON Report – final	version 03 – 12/07/2021
3.	<u>Social Resource:</u> - Human resources documents	

	- Pictures	2017 / 2018 / 2019 / 2020
4.	<u>Human Resource:</u> - Pictures - CIPA meeting minutes - PCMSO (Program of Medical Control of Occupational Health) - PPRA (Program of Prevention of Environmental Risks)	2017 / 2018 / 2019 / 2020
5.	<u>Financial Resource:</u> - Records of purchase of biomasses - Report of daily production of ceramic device - Receipts of payment of the VCUs	2017 / 2018 / 2019 / 2020 2017 / 2018 / 2019 / 2020
6.	<u>Natural Resource:</u> - License o Operation license # 05.16.08.003514-1 – valid until 16/09/2018 – issued by CPRH o Protocol for renewal of operation license # 1181/2018 o License for Clay extraction # 307/2002 – valid for 20 years – issued by DNPM o Authorization for the Use of Water # 336-P/21 – issued by Secretary of Hydraulic Resources – valid for 2 years - Pictures	16/09/2016 10/07/2018 23/08/2002 01/10/2020 2017 / 2018 / 2019 / 2020
7.	<u>Carbon Resource:</u> - Sales invoices - Ceramic website: http://www.kitambar.com.br - Facebook: https://pt-br.facebook.com/kitambar.pe - Pictures	2017 / 2018 / 2019 / 2020
8.	Brazilian Red Ceramic factories Indicators	version 1.1
9.	Guidance for Completing SOCIALCARBON Reports	version 4.0
10.	SOCIALCARBON Standard	version 5.0
11.	SOCIALCARBON	http://www.socialcarbon.org/

APPENDIX III: ABBREVIATIONS

Abbreviations	Full texts
CA	Corrective Action / Clarification Action
CAR	Corrective Action Request

CDM	Clean Development Mechanism
CIPA	Internal Commission of Labour Accidents Prevention
CO₂e	Carbon dioxide equivalent
CPRH	Environmental Agency of the State of Pernambuco
CL	Clarification Request
DNPM	National Department of Mineral Production
DOE	Designated Operational Entity
DOF	Document of Forest Origin
ER	Emission Reduction
ESPL	Earthood Services Private Limited
FAR	Forward Action Request
GHG	Greenhouse gas(es)
MR	Monitoring Report
PA	Project Activity
PCMSO	Program for Medical Control of Labour Health
PP	Project Participant
PPE	Personal Protection Equipment
PPRA	Program for Prevention of Environmental Risks
QA/QC	Quality Assurance / Quality Control
SC	SOCIALCARBON
SCR	SOCIALCARBON Report
SESI	Social Service of the Industry
UNFCCC	United Nations Framework Convention on Climate Change
VCS	Verified Carbon Standard
VCS-PD	VCS – Project Description
VCU	Verified Carbon Unit
XLS	Emission Reduction Calculation Spread Sheet

APPENDIX IV: FINDINGS

CL from this verification

CL ID	01	Section no.	1.1.3	Date: 04/05/2021
Description of CL				
It is not clear the statement on Section 2.2 if there was any kind of complaints, suggestions and/or comment during the present monitoring period.				
Project participant response				Date: 02/06/2021
The information was added to Section 2.2 of the VCS-MR Kitambar_period 8_01-01-2017_31-07-2020_v.02.				
DOE assessment				Date: 10/06/2021
It is now clear that there were no complaints, suggestions and/or comment during the present monitoring period. CL is closed				

CL ID	02	Section no.	4.3	Date: 04/05/2021
Description of CL				
At Section 4.2, it is not clear why a value from the VCS-PD is being used for parameter $f_{NRB,y}$ as, per the registered monitoring plan, the value shall be monitored annually.				
Project participant response				Date: 02/06/2021
Parameter $f_{NRB,y}$ has been updated according to the latest data available on Section 4.2 of the VCS-MR Kitambar_period 8_01-01-2017_31-07-2020_v.02.				
DOE assessment				Date: 10/06/2021
The parameter was updated and now the source of the new datum is stated. CL is closed				

CL ID	03	Section no.	4.3	Date: 04/05/2021
Description of CL				
At Section 4.2, for parameter <i>Renewable biomass surplus</i> , it is not clear why there are values from 2012 as per the registered monitoring plan the value shall be monitored annually.				
Project participant response				Date: 02/06/2021

According to the "General guidance on leakage in biomass project activities", the project participant shall evaluate ex ante if there is a biomass surplus in the region of the project activity, which is not utilized. If it is demonstrated (e.g., using published literature, official reports, surveys etc.) at the beginning of each crediting period that the quantity of available biomass in the region, is at least 25% larger than the quantity of biomass that is utilized including the project activity, then this source of leakage can be neglected; otherwise, this leakage shall be estimated and deducted from the emission reductions. During the monitoring period, Sustainable Carbon annually analysed if the quantity of available biomass in the region (which was determined ex ante), was at least 25% larger than the quantity of biomass that was utilized by the project activity during the monitoring period, as it was and as can be seen in Section 5.3 Leakage.

Available at:

<http://cdm.unfccc.int/methodologies/SSCmethodologies/AppB_SSC_AttachmentC.pdf>, paragraph 18.

DOE assessment	Date: 10/06/2021
As it was explained, although assessed annually, the value is set ex-ante there is a biomass surplus in the region, which is the case of the project activity, Thus, the leakage for each year of the monitoring period is 0 (zero). CL is closed	

CAR from this verification

CAR ID	01	Section no.	4.3	Date: 04/05/2021
Description of CAR				
At Section 4.2, parameter PR_y: the values from the following months are not in accordance with evidences presented to the verification team during the remote site visit: - January and August/2017; - September/2018; and - August/2019.				
Project participant response				Date: 02/06/2021
Parameter PR_y has been corrected regarding the aforementioned months and years according to the evidence presented to the verification team during the remote site visit. The corrections can be verified on Section 4.2 of the VCS-MR Kitambar_period 8_01-01-2017_31-07-2020_v.02.				
DOE assessment				Date: 10/06/2021
The values of PR_y are now in accordance with evidences presented to the verification team. CAR is closed				

CAR ID	02	Section no.	4.3	Date: 04/05/2021
Description of CAR				

At Section 4.2, parameter $Q_{renbiomass}$: the values from the following months are not in accordance with evidences presented to the verification team during the remote site visit:

- February and April/2017;
- March and August/2018; and
- February and March/2020.

Project participant response	Date: 02/06/2021
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Parameter $Q_{renbiomass}$ has been corrected regarding the aforementioned months and years according to the evidence presented to the verification team during the remote site visit. The corrections can be verified on Section 4.2 of the VCS-MR Kitambar_period 8_01-01-2017_31-07-2020_v.02.

DOE assessment	Date: 10/06/2021
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The values of $Q_{renbiomass}$ are now in accordance with evidences presented to the verification team.

CAR is closed

CAR ID	03	Section no.	4.3	Date: 04/05/2021
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Description of CAR

It was verified during the remote site visit that there is a biomass delivered to the ceramic on 17/06/2020 that was registered as being from an incorrect supplier and that the correct one is more than 200 km distant from the ceramic, which may impact the project emissions of the project activity.

Project participant response	Date: 02/06/2021
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The supplier for the aforementioned biomass deliver was corrected according to the evidence presented to the verification team during the remote site visit. The corrections can be verified on Section 4.2 of the VCS-MR Kitambar_period 8_01-01-2017_31-07-2020_v.02.

DOE assessment	Date: 10/06/2021
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The information about the delivery was corrected and is now indicated from the correct suppliers. Calculations of project emissions were corrected accordingly.

CAR is closed

FAR from this verification

Not applicable

APPENDIX IV: FINDINGS SOCIALCARBON

CL from this verification

CL ID	01	Section no.	5.2	Date: 04/05/2021
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Description of CL

At Section 5, the analyses performed for the resources are not appropriate as they do not refer to the present monitoring period, as they are a reproduction of the analyses of last monitoring period.

Project participant response	Date: 02/06/2021
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The analyses performed on the resources have been updated according to the present monitoring period and can be verified on the SCR_Kitambar_Point07_v2.

DOE assessment	Date: 10/06/2021
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The analyses performed for the resources were revised and assess the present monitoring period.

CL is closed

CAR from this verification

Not applicable

FAR from this verification

Not applicable

APPENDIX IV: COMPETENCE OF TEAM MEMBERS AND TECHNICAL REVIEWERS

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, Colombia		
Financial Expert	Yes		
Technical Reviewer	Yes		
TA Expert	Yes (TA 1.2, 13.1)		
Reviewed by	Shreya Garg	Date	29/08/2019
Approved by	Anshika Gupta	Date	29/08/2019

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, AMS-III.H, AMS-III.I. 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, Colombia		
Financial Expert	Yes		
Technical Reviewer	Yes		
TA Expert	Yes (TA 1.1, 1.2, 4.1, 5.1, 9.1, 13.1)		
Reviewed by	Shreya Garg	Date	01/03/2018
Approved by	Anshika Gupta	Date	01/03/2018