



## VERIFICATION REPORT

# KITAMBAR SWITCHING FUEL PROJECT



Document Prepared by Earthood Services Private Limited

|               |                                 |
|---------------|---------------------------------|
| Project Title | Kitambar Switching Fuel Project |
| Version       | 2.0                             |
| Report ID     | VCS.VER.22.247                  |

|               |                                                                                                                            |
|---------------|----------------------------------------------------------------------------------------------------------------------------|
| Report Title  | Verification Report – Kitambar Switching Fuel Project                                                                      |
| Client        | Sustainable Carbon – Projetos Ambientais Ltda.                                                                             |
| Pages         | 50                                                                                                                         |
| Date of Issue | 26-March-2024                                                                                                              |
| Prepared By   | Earthood Services Private Limited                                                                                          |
| Contact       | 1203-1205, 12 <sup>th</sup> floor, Tower B, Emaar Digital Greens, Sector 61, Golf Course Ext Road, Gurugram, 122011, India |

|                     |                                                                                                                                                                                                                                                                                                                                 |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                     | <a href="mailto:kaviraj.singh@earthhood.in">kaviraj.singh@earthhood.in</a><br><a href="http://www.espl-india.com">www.espl-india.com</a>                                                                                                                                                                                        |
| Approved By         | Kaviraj Singh                                                                                                                                                                                                                                                                                                                   |
| Work Carried Out By | <p>Sergio Cruz – Team leader and Technical expert</p> <p>Camila Kamimura – Trainee</p> <p>Marcelo Sebben – Technical reviewer and Technical expert at TR</p> <p>Shreya Garg – Technical reviewer and Technical expert at TR (2<sup>nd</sup> layer)</p> <p>Shifali Guleria – Technical reviewer (2<sup>nd</sup> layer – PRR)</p> |

## 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 to generate thermal energy. 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 9<sup>th</sup> verification of the project “Kitambar Switching Fuel Project” for the period from 01/08/2020 to 31/03/2022 (both days included).

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

- the latest available VCS+SOCIALCARBON MR template/<sup>13/</sup> 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 VCS Standard Version 4.5;
- 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 8, 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 01/08/2020 to 31/03/2022 (both days included).

During the present VCS verification, 01 CL and 02 CARs were raised and successfully closed. For the SOCIALCARBON verification, 01 CL and 02 CARs 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 are 50,763 tCO<sub>2</sub>e 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.

It is important to note that due to Verra’s exemption grant/<sup>14</sup>/, ESPL was authorized to perform the present verification of VCS project “Kitambar Switching Fuel Project”, with VCS Project ID 33.

# CONTENTS

|          |                                                                            |           |
|----------|----------------------------------------------------------------------------|-----------|
| <b>1</b> | <b>INTRODUCTION .....</b>                                                  | <b>6</b>  |
| 1.1      | Objective .....                                                            | 6         |
| 1.2      | Scope and Criteria .....                                                   | 6         |
| 1.3      | Level of Assurance .....                                                   | 6         |
| 1.4      | Summary Description of the Project .....                                   | 7         |
| <b>2</b> | <b>VERIFICATION PROCESS .....</b>                                          | <b>7</b>  |
| 2.1      | Method and Criteria .....                                                  | 7         |
| 2.2      | Document Review .....                                                      | 8         |
| 2.3      | Interviews .....                                                           | 9         |
| 2.4      | Site Inspections.....                                                      | 9         |
| 2.5      | Resolution of Findings.....                                                | 10        |
| 2.5.1    | Forward Action Requests.....                                               | 11        |
| 2.6      | Eligibility for Validation Activities.....                                 | 11        |
| <b>3</b> | <b>VALIDATION FINDINGS .....</b>                                           | <b>11</b> |
| 3.1      | Participation under Other GHG Programs .....                               | 11        |
| 3.2      | Methodology Deviations .....                                               | 11        |
| 3.3      | Project Description Deviations.....                                        | 11        |
| 3.4      | Grouped Projects .....                                                     | 11        |
| <b>4</b> | <b>VERIFICATION FINDINGS .....</b>                                         | <b>11</b> |
| 4.1      | Project Implementation Status .....                                        | 11        |
| 4.2      | Safeguards .....                                                           | 12        |
| 4.2.1    | No Net Harm .....                                                          | 12        |
| 4.2.2    | Local Stakeholder Consultation .....                                       | 12        |
| 4.2.3    | AFOLU-Specific Safeguards.....                                             | 12        |
| 4.3      | Accuracy of GHG Emission Reduction and Removal Calculations .....          | 13        |
| 4.4      | Quality of Evidence to Determine GHG Emission Reductions and Removals..... | 19        |
| 4.5      | Non-Permanence Risk Analysis .....                                         | 19        |
| 4.6      | SOCIALCARBON Results.....                                                  | 19        |
| 4.6.1    | Social Resource .....                                                      | 19        |

|          |                                                                             |           |
|----------|-----------------------------------------------------------------------------|-----------|
| 4.6.2    | Human Resource .....                                                        | 22        |
| 4.6.3    | Financial Resource.....                                                     | 25        |
| 4.6.4    | Natural Resource .....                                                      | 27        |
| 4.6.5    | Biodiversity/Technology Resource .....                                      | 30        |
| 4.6.6    | Carbon Resource .....                                                       | 33        |
| <b>5</b> | <b>ANALYSIS OF SOCIALCARBON RESULTS .....</b>                               | <b>36</b> |
| 5.1      | Current Performance .....                                                   | 36        |
| 5.2      | Historical Performance.....                                                 | 36        |
| 5.3      | Performance Hexagon .....                                                   | 37        |
| <b>6</b> | <b>VERIFICATION OPINION .....</b>                                           | <b>38</b> |
|          | <b>APPENDIX I: REFERENCES .....</b>                                         | <b>41</b> |
|          | <b>APPENDIX II: REFERENCES – SOCIALCARBON.....</b>                          | <b>42</b> |
|          | <b>APPENDIX III: ABBREVIATIONS .....</b>                                    | <b>43</b> |
|          | <b>APPENDIX IV: FINDINGS .....</b>                                          | <b>44</b> |
|          | <b>APPENDIX V: FINDINGS – SOCIALCARBON .....</b>                            | <b>46</b> |
|          | <b>APPENDIX VI: COMPETENCE OF TEAM MEMBERS AND TECHNICAL REVIEWERS.....</b> | <b>47</b> |

# INTRODUCTION

## 1.1 Objective

Sustainable Carbon – Projetos Ambientais Ltda. has contracted ESPL to conduct the 9<sup>th</sup> verification of the project “Kitambar Switching Fuel Project” for the period from 01/08/2020 to 31/03/2022 (both days included) according to the requirements of the VCS Standard Version 4.5.

## 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 VCU, 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 6.0 and “Brazilian Red Ceramic factories Indicators” – version 1.1, for this specific point in time – Point 8; 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 wood for renewable biomasses to generate thermal energy 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.verra.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 ( $\leq 300,000$  tCO<sub>2</sub>e/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 Kitambar Ceramic started using renewable biomass as fuel;
- Crediting period: from 01/01/2007 to 31/12/2016 – first crediting period; and from 01/01/2017 to 31/12/2026 – second crediting period (actual);
- Project Location: Rodovia BR 232, km 136, Distrito Industrial – City of Caruaru – State of Pernambuco – Brazil – geographical coordinates are 8° 16' 58" S and 35° 58' 33" W;
- Project ownership: Kitambar Artefatos de Cerâmica Ltda. is the project owner, as evidenced by its operation license;
- Technical Data: 08 Round kilns;

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

# VERIFICATION PROCESS

## 2.1 Method and Criteria

The verification process is conducted as per internal 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);

- physical 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 evidence);
- 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/evidence reviewed is included as Appendix I.

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

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 the parameters is not automated, although there is a specific trained person to perform the task. Anyway, it might lead to inconsistencies. | A sampling plan is performed in order to check any discrepancies   |
| 2.  | Error in transferring the data to ER sheet                          | Medium                 | Transfer of data from source to ER calculation involve                                                                                                                | The values reported in ER sheet to be checked                      |

|    |                                |     |                                                       |                                                                                                                                         |
|----|--------------------------------|-----|-------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
|    |                                |     | human intervention and might lead to inconsistencies. | with their respective source data.                                                                                                      |
| 3. | Calculation of some parameters | Low | Human errors entering formulas and data.              | All formulas are checked and compared to applied methodology and tools. In addition, entry data are crosschecked with original records. |

## 2.3 Interviews

| # | Interviewee     |                    |                    | Date       | Subject                                                                  | Team member                    |
|---|-----------------|--------------------|--------------------|------------|--------------------------------------------------------------------------|--------------------------------|
|   | Last name       | First name         | Affiliation        |            |                                                                          |                                |
| 1 | Tavares Barbosa | Antônio Marcos     | Kitambar Ceramic   | 06/12/2022 | Ceramic management and operations<br>Ceramic market and project benefits | Sergio Cruz<br>Camila Kamimura |
| 2 | Torres          | Severino Francisco | Kitambar Ceramic   | 06/12/2022 | Project activity monitoring                                              | Sergio Cruz<br>Camila Kamimura |
| 3 | Moura           | Ayane              | Kitambar Ceramic   | 06/12/2022 | SocialCarbon monitoring                                                  | Sergio Cruz<br>Camila Kamimura |
| 4 | Lima            | Mirelly            | Sustainable Carbon | 06/12/2022 | Management indicators                                                    | Sergio Cruz<br>Camila Kamimura |
| 5 | Costa           | Aline              | Sustainable Carbon | 06/12/2022 | VCS and CS aspects<br>VERs calculations<br>Project activity monitoring   | Sergio Cruz<br>Camila Kamimura |
| 6 | Carriles        | Mariana            | Sustainable Carbon | 06/12/2022 | VCS and CS aspects                                                       | Sergio Cruz<br>Camila Kamimura |
| 7 | Silva           | Ailton             | Sustainable Carbon | 06/12/2022 | Ceramic operations                                                       | Sergio Cruz<br>Camila Kamimura |

## 2.4 Site Inspections

|                                            |
|--------------------------------------------|
| Duration of on-site inspection: 06/12/2022 |
|--------------------------------------------|

| # | Activity performed on-site                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Site location           | Date       | Team member                       |
|---|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|------------|-----------------------------------|
| 1 | 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.                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Caruaru, PE<br>- Brazil | 06/12/2022 | Sergio Cruz<br>Camila<br>Kamimura |
| 2 | Physical inspection of the project activity: site visit and interview of monitoring personnel.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Caruaru, PE<br>- Brazil | 06/12/2022 | Sergio Cruz<br>Camila<br>Kamimura |
| 3 | <ul style="list-style-type: none"> <li>- Management and operational system: documentation, allocation of responsibilities, qualification and training, data recording &amp; archiving, internal audit and management review and emergency procedures.</li> <li>- Implementation and operation of project activity (project boundary, technology, project equipment, monitoring and metering equipment) as per registered PDD/previous verifications.</li> <li>- Management and monitoring procedures followed at project site.</li> <li>- Verification checklist: compliance of monitoring procedures followed at project site with registered PDD and monitoring methodology.</li> </ul> | Caruaru, PE<br>- Brazil | 06/12/2022 | Sergio Cruz<br>Camila<br>Kamimura |
| 5 | <ul style="list-style-type: none"> <li>- Review of ER calculations in accordance with applied methodology and relevant tools.</li> <li>- Review of monitored data and relevant document in accordance with registered monitoring plan and applied monitoring methodology.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                      | Caruaru, PE<br>- Brazil | 06/12/2022 | Sergio Cruz<br>Camila<br>Kamimura |
| 5 | Compilation of the findings by auditor (CARs/CLs)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Caruaru, PE<br>- Brazil | 06/12/2022 | Sergio Cruz<br>Camila<br>Kamimura |
| 6 | Closing Meeting: submission of the audit findings to the client and agreement on the issues raised and agreement on timelines.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Caruaru, PE<br>- Brazil | 06/12/2022 | Sergio Cruz<br>Camila<br>Kamimura |

## 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, 01 CLs and 02 CARs were raised and successfully closed.

For the SOCIALCARBON verification, 01 CL and 02 CARs 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.

## 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-I.E – 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 confirmed that all physical features (technology, project equipment and biomasses,) of the registered VCS-PD are in place and that the project participants have been operating and monitoring the project activity, as per the approved VCS-PD, during the present monitoring period.

### 3.4 Grouped Projects

The project activity is not a grouped project.

## VERIFICATION FINDINGS

### 4.1 Project Implementation Status

The project activity involves fuel switching from native firewood from caatinga biome to renewable biomass to generate thermal energy. During this monitoring period, Kitambar used algaroba wood and sawdust.

As per the physical site assessment, observations, interviews and collected evidence, 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 are 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 using 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 CO<sub>2</sub> identified as negative impact. This also occurs when using fossil fuel. Nevertheless, as they are renewable biomasses, they have carbon neutral lifecycle.

The entrepreneur uses 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) 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;
- project emissions are considered for the project activity by transportation of biomass over a distance of 200 km, in accordance with the Option B of the CDM TOOL12 – Project and leakage emissions from transportation of freight – version 01.1.0;
- 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 – the values in the MR and used in corresponding emission reduction calculations spreadsheet are consistent with the registered VPA-DD:

- $EF_{projected\ fossil\ fuel}$  – CO<sub>2</sub> Emission factor of residual fuel oil: 81.6 tCO<sub>2</sub>/TJ (as per Section 4.1 of VCS-PD);
- $\rho_{biomass}$  – Specific gravity of non-renewable wood: 0.88 ton/m<sup>3</sup> (as per Section 4.1 of VCS-PD);
- $BF_y$  – Consumption of non-renewable biomass per thousand of ceramic devices produced in year y: Hoffman – 1.3 ton of wood / ton of devices (as per Section 4.1 of VCS-PD);
- $EF_{CO_2,f}$  – Default CO<sub>2</sub> emission factor for freight transportation activity f: 245 gCO<sub>2</sub>/t km for light vehicles and 129 gCO<sub>2</sub>/t km for heavy vehicles (as per Section 4.1 of VCS-PD);

Monitored parameters – all monitored parameters listed in MR used to calculate baseline, project, and leakage GHG emissions of the project activity were checked against the registered VPA-DD. The parameters of the registered VPA-DD were verified, to check its consistency with directives and guidance to ER calculations:

- $PR_y$  – Production of ceramic devices (refer to Section 4.2 of the MR). The parameter is monitored by internal reports and cross-checked with records of the ceramic. The monitored values are:
  - 2020: 8,840.10 tons;

- 2021: 20,884.47 tons;
- 2022: 5,012.05 tons.
- *Q<sub>renbiomass</sub>* – Amount of renewable biomass utilized (refer to Section 4.2 of the MR). The parameter is monitored by biomass acquisition receipts and cross-checked with records of the ceramic. **It is important to note that:**
  - a. in the ER spreadsheet, the raw monthly consumption data for Algaroba wood bags is not provided, as this biomass is made available directly in tons, the unit used for calculation. This information was verified against biomass acquisition receipts, which indicate the quantity of Algaroba.
  - b. the values for Algaroba wood are not linked in the ER spreadsheet, as they are inserted based on data monitoring of Cerâmica Kitambar and the biomass receipts maintained at the ceramic factory. The ceramic factory keeps monthly records of the amount of biomass acquired, which was verified again based on purchase receipts during the audit.
  - c. during the monitoring period, the sawdust biomass was received at Cerâmica Kitambar in two forms: in bags or already converted to tons. This was checked against the biomass acquisition receipts by the ceramic factory. When sawdust is acquired in bags, a conversion factor is applied, as each bag weighs 20 Kg, equivalent to 0.02 tons. This factor was determined by weighing the sawdust bags received at Kitambar Ceramic. When, in the same month, both sawdust in bags and in tons were received, the tonnage values were added to the values of the converted bags.
  - d. the specific gravity value for Algaroba wood and sawdust is applicable only in calculations when they are received in the m<sup>3</sup> unit, for conversion to tons. During the monitoring period, the biomasses were acquired only in bags or tons, therefore, it was not necessary to use the specific gravity value.

The monitored values are:

- 2020: Algaroba – 919.01 tons and Sawdust – 236.91 tons;
- 2021: Algaroba – 2,334.16 tons and Sawdust – 899.79 tons;
- 2022: Algaroba – 1,932.49 tons and Sawdust – 455.56 tons.
- *Origin of Renewable Biomass* – Renewable origin of the biomass (refer to Section 4.2 of the MR). All renewable biomasses used in the project activity are controlled and in accordance with definitions of renewable biomass set in the applied methodology;
- *Leakage of non-renewable biomass* – Leakage resulted from the non-renewable biomass: 0 tCO<sub>2e</sub> (as per Section 4.2 of the MR). There are three possible sources of leakage that are assessed:
  - A) If the project activity includes substitution of non-renewable biomass by renewable biomass, leakage in the production of renewable biomass must be considered: there is no substitution of non-renewable biomass by renewable biomass in the project activity;

- B) Leakage relating to the non-renewable biomass shall be assessed from ex-post surveys of users and areas from where biomass is sourced: the project activity contributes to the reduction of the use of non-renewable biomass;
- C) If the equipment is transferred from another activity or if the existing equipment is transferred to another activity, leakage is to be considered: there is no transference of equipment.

Therefore, the value of the parameter is zero.

- $f_{NRB,y}$  Fraction of woody biomass used in the absence of the project activity in year  $y$ : 91.88% (2020), 91.87% (2021) and 91.87 (2022) – (as per Section 4.2 of the MR). All values, in an annual basis, come from public and available surveys, studies and technical literature. All links to the respective websites are available at the MR;
- *Renewable biomass surplus* – Amount of renewable biomass available (as per Sections 4.2 and 5.3 of the MR) The parameter is annually monitored per biomass, based on national and international articles and databases available during the survey research conducted throughout the monitoring period.

The monitored values are:

- 2020: Algaroba – 1,724,607.72 tons and Sawdust – 97,127.32 tons;
- 2021: Algaroba – 1,723,192.57 tons and Sawdust – 96,464.44 tons;
- 2022: Algaroba – 1,724,830.15 tons and Sawdust – 97,236.76 tons.
- $NCV_{biomass}$  – Net Calorific Value of non-renewable woody biomass that is substituted - 0.015 TJ/ton (as per Section 4.2 of the MR). The value comes from applied methodology AMS-I.E – version 7.0;
- $D_{f,m}$  – Return trip road distance between the origin and destination of freight transportation activity  $f$  in monitoring period  $m$  (as per Section 4.2 of the MR) – to determine the value of the distance travelled, the PP utilized online tools for determination, in accordance with the approved monitoring plan, which states as monitoring equipment: determined once for each freight transportation activity  $f$  for a reference trip using the vehicle odometer or any other appropriate sources (e.g. online sources). The distances were calculated using an online source (i.e., Google Maps), utilizing the biomass origin and destination addresses, which is Cerâmica Kitambar. In all cases, conservative values were used, especially when the online tool could not confirm the exact distance or in case of discrepancy values with previous verifications, the longest route available on Google Maps was used.

Among all monitored biomass suppliers, just the supplier of sawdust, Moveis São Carlos Ltda, presented a return trip road distance between the origin and destination of freight transportation are greater than 200 km, i.e., 538.00 km;

- $FR_{f,m}$  – Total mass of freight transported in freight transportation activity  $f$  in monitoring period  $m$  (as per Section 4.2 of the MR). The parameter is monitored and crosschecked by the records of truck operators and ceramic reports.

Although the monitored values of all purchased biomass are Algaroba: 919.01 tons (2020), 2,334.16 tons (2021) and 1,932.49 tons (2022) and Sawdust: 236.91 tons (2020), 899.79 tons (2021) and 455.56 tons (2022), the parameter is just accounted for the sawdust provided by Moveis São Carlos Ltda, which is 100.35 tons (2020) and 119.42 (2021). The emission reduction spreadsheet is transparent, traceable and correct, with no manual transposition errors.

The parameters have been monitored in a correct and conservative way and in accordance with monitoring methodology and registered monitoring plan. The same monitoring has been used in all previous verifications of the project activity and dully approved by VCS.

The registered monitoring plan has been properly implemented and followed by the project participants. The procedures to gather all data, analyzing, recording, reporting and compilation have been performed by personnel trained for the tasks (in Kitambar Ceramic and Sustainable Carbon).

Quality assurance and quality control procedures are in place.

All above information could be confirmed by the performed interviews and records presented to the verification team. In addition, during the site visit, it was possible to follow the step-by-step procedures set at the monitoring plan.

### Sampling

A sampling was applied to crosscheck the parameters with more records (i.e.,  $PR_y$  and  $Q_{renbiomass}$ ), in accordance with their recording frequency.

Applying the following equation, the admissible sampling has been calculated:

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

Where:

|                    |                                                                                                                                                  |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| $n$                | Number of elements to be sampled;                                                                                                                |
| $N$                | Total number of elements in the population;                                                                                                      |
| $p$                | 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 PAs); |
| $\text{precision}$ | Required precision (for this case 10% = 0.1 as per Guideline for Sampling and Surveys Appendix 1 §9 for SSC PAs and §113 for LSC PAs).           |

And,

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

| Monitored Parameter<br>(Symbol / Description) | Reporting Frequency                                  | Number of Discrete Data (Total) | Sample selected for verification | Type of error identified | Impact on ERs |
|-----------------------------------------------|------------------------------------------------------|---------------------------------|----------------------------------|--------------------------|---------------|
| $PR_y$                                        | Average of three records per day – 608 days          | 1,824 (100%)                    | 318 (17.5%)                      | N/A                      | N/A           |
| $Q_{renbiomass}$                              | Per purchase – 20 months and average of 10 per month | 200 (100%)                      | 132 (66%)                        | CAR 02                   | 56%           |

Thus, the number of elements that should be sampled was calculated as 318 for  $PR_y$  and 132 for  $Q_{renbiomass}$ , which were randomly verified by the verification team.

In addition, the aggregated values have been totally checked.

Therefore, the verification team has concluded that the monitoring of the project activity is in accordance with the registered monitoring plan.

#### 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.

The calculation of the parameter  $f_{NRB,y}$  is duly demonstrated in the ER calculations spreadsheet tab “fNRB” and is carried out in accordance with following equation.

$$f_{NRB} = \frac{NRB}{NRB + DRB}$$

Where:

$f_{NRB}$  Fraction of non-renewable biomass

$NRB$  Non-renewable woody biomass

$DRB$  Demonstrably renewable woody biomass

Evidence of each parameter used in the calculation have been duly provided. Calculations are in accordance with AMS-I.E – version 07.

So,  **$BE_y = 50,779 \text{ tCO}_2\text{e}$** .

#### 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 <sub>2</sub> emission factor for freight transportation activity $f$ ;                                              |
| $f$           | Freight transportation activities conducted in the project activity in monitoring period $m$ .                                 |

So,  **$PE_y = 16 \text{ tCO}_2\text{e}$** .

#### Leakage emissions ( $LE_y$ )

The monitoring using the latest available data has been carried out and it could be evidenced that there is a surplus of the biomass types in the geographic region where the project activity belongs to. It has been demonstrated in Section 5.3 of the MR that the surplus of biomasses available are much higher than the biomass consumption of the project activity. The project proponent follows international recognized guidance for this assessment such as Attachment C to Appendix B – Indicative simplified baseline and monitoring methodologies for selected small-scale CDM project activity categories 1 and AMS-I.E – version 07. All biomasses consumed during the monitoring period have been considered. This assessment was carried out in accordance with requirements of monitoring plan, which evaluates the leakage in competing use of biomass. This assessment was based on publicly available data and therefore considered reliable. Considering that this publicly available data considers information from entire State of Pará, the VVB considers that this assessment achieved a reasonable level of assurance, and for that reason, the ERR is conservative.

Therefore, no leakage is considered for the project. So,  **$LE_y = 0 \text{ tCO}_2\text{e}$** .

#### Emission Reductions

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

<sup>1</sup> [https://cdm.unfccc.int/methodologies/SSCmethodologies/AppB\\_SSC\\_AttachmentC.pdf](https://cdm.unfccc.int/methodologies/SSCmethodologies/AppB_SSC_AttachmentC.pdf)

Where:

$ER_y$ : Emissions reductions during the year  $y$ ;

$BE_y$ : Baseline emissions during the year  $y$ ;

$PE_y$ : Project reductions in year  $y$ ;

$LE_y$ : Leakage reductions in year  $y$ .

#### 4.4 Thus, $ER_y = BE_y - PE_y$ . So, **$ER_y = 50,763 \text{ tCO}_2\text{e}$** . [Quality of Evidence to Determine GHG Emission Reductions and Removals](#)

- records were submitted by the project proponent as evidence 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 evidence 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](#)

The SocialCarbon indicators have been monitored in a correct and conservative way. Their implementation is being monitored and assessed in accordance with SocialCarbon standards.

The registered monitoring plan has been properly implemented and followed by the project participants. The procedures to gather all data, analyzing, recording, reporting and compilation have been performed by personnel trained for the tasks (in Kitambar Ceramic and Sustainable Carbon).

All above information could be confirmed by the performed interviews, site visit and records presented to the verification team.

Therefore, the verification team has concluded that the monitoring of the SocialCarbon indicators is in accordance with the registered monitoring plan.

##### 4.6.1 [Social Resource](#)

| Indicator                                                                                                       | Diversity                                                                                                                                                                                                                              |                                                        |                                                         |                                                      |                                                                                                                                 |
|-----------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|---------------------------------------------------------|------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| Situation                                                                                                       | The ceramic has 43 employees and 5 belong to the minority group, which represents 12% of the workers.                                                                                                                                  |                                                        |                                                         |                                                      |                                                                                                                                 |
| 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                                                                                                           | 3                                                                                                                                                                                                                                      |                                                        |                                                         |                                                      |                                                                                                                                 |
| Justification                                                                                                   | <p>It was possible to check during the interviews and site visit that some of the employees from excluded social groups are indeed working at the ceramic.</p> <p>The ceramic intends to hire more employees from minority groups.</p> |                                                        |                                                         |                                                      |                                                                                                                                 |
| Evidence                                                                                                        | Interviews and human resources documents.                                                                                                                                                                                              |                                                        |                                                         |                                                      |                                                                                                                                 |

| Indicator | Community development                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Situation | <p>The ceramic factory donated R\$ 300,00 monthly to a project called “Love in the streets”, that aims to collect food and distribute meals to help people who are living on the streets of Caruaru.</p> <p>Also, the ceramic factory donated R\$ 100,00 monthly to “Home of the poor: San Francisco of Assis” – <a href="https://casadospobres.com.br/">https://casadospobres.com.br/</a></p> <p>In 2022 Kitambar structured a volunteer program called “Inverno do Bem” that encouraged employees to donate clothes and blankets to homeless people and people in need. Part of the blankets were also purchased by the ceramic factory. A total of 34 employees participated of the initiative.</p> <p>Kitambar provides supervised visit to university students, which aims to show the factory productive process, its safety practices and its quality performance.</p> <p>In 2022 the ceramic factory provided two supervised visits to students from Federal University of Pernambuco.</p> <p>The factory has a partnership with two educational institutions: the Federal Institution of Education, Science and Technology of Pernambuco and the</p> |

|                                                                                      |                                                                                                                                                                                               |                                                                                                                                                                                                                                       |                                                                                                                                             |                                                                                                                                                                                         |                                                                                                                                                                                                                |
|--------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                      | Federal University of Pernambuco hiring of 2 students for the internship program.                                                                                                             |                                                                                                                                                                                                                                       |                                                                                                                                             |                                                                                                                                                                                         |                                                                                                                                                                                                                |
|                                                                                      | Kitambar was also selected as a case study for a postgraduate survey to the Bachelor of Science in Security Engineering Work course, from the Polytechnic School of University of Pernambuco. |                                                                                                                                                                                                                                       |                                                                                                                                             |                                                                                                                                                                                         |                                                                                                                                                                                                                |
| The factory has no initiatives/ activities planned that benefit the local community. | The factory responds to occasional (not continuous) requests for assistance.                                                                                                                  | <p>The factory supports community members or civil society organizations :</p> <ul style="list-style-type: none"> <li>- Regularly: one per month; OR</li> <li>- Significant: at least 10 different parties were benefited.</li> </ul> | 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 to improve the community development.                                                                                  |                                                                                                                                                                                                                                       |                                                                                                                                             |                                                                                                                                                                                         |                                                                                                                                                                                                                |
| Evidence                                                                             | Interviews.                                                                                                                                                                                   |                                                                                                                                                                                                                                       |                                                                                                                                             |                                                                                                                                                                                         |                                                                                                                                                                                                                |

|           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Indicator | Employee satisfaction surveys                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Situation | <p>Kitambar promotes meetings with the employees every six months to address issues as the performance of the factory during the period, updates in the red ceramic sector, the carbon project, new activities promoted by the factory, and health and safety practices.</p> <p>During these meetings the employees are encouraged to share their opinions about the company, their jobs and the activities developed in the factory. The dates of the meetings and the subjects to be discussed are announced in advance.</p> <p>Every two years, an individual satisfaction survey is also carried out with all employees. The last application took place in May/June 2022. The data is presented to the Kitambar's Director who analyses it and evaluates the actions</p> |

|                                                      |                                                                                                                                                                         |                                                                                            |                                                                                                                                |                                                                                                                                       |                                                                                                                   |
|------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
|                                                      | to be taken. The results are presented at the following meeting, which in 2022 will be at the end of the year.                                                          |                                                                                            |                                                                                                                                |                                                                                                                                       |                                                                                                                   |
| Lack of a consultation system for employee feedback. | There are attempts to implement an employee consultation system but it is not being properly utilized. Example: There is a suggestion box, but employees do not use it. | The system for employee consultation is being utilized but is limited to a suggestion box. | In addition to scenario 3, the factory has implemented or is currently implementing one or more suggestions made by employees. | The factory promotes periodic satisfaction surveys among employees. Example: monthly meetings, book for documenting information, etc. | In addition to scenario 5, the factory has stipulated targets and timelines for solutions to employee complaints. |
| Score                                                | 6                                                                                                                                                                       |                                                                                            |                                                                                                                                |                                                                                                                                       |                                                                                                                   |
| Justification                                        | The factory has periodic satisfaction surveys among employees and has stipulated targets and timelines for their complaints                                             |                                                                                            |                                                                                                                                |                                                                                                                                       |                                                                                                                   |
| Evidence                                             | Interviews.                                                                                                                                                             |                                                                                            |                                                                                                                                |                                                                                                                                       |                                                                                                                   |

#### 4.6.2 Human Resource

|           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Indicator | <b>Additional employee benefits</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Situation | <p>In addition to the fixed wage, the ceramic factory offers the following benefits to employees:</p> <ul style="list-style-type: none"> <li>- Health insurance: the company pays 50% of the employee Health Insurance;</li> <li>- Dental Insurance: the company pays 100% of the employee Dental Insurance;</li> <li>- End of year party: due to the COVID-19 pandemic in 2020 the ceramic factory did not offer the end of the year party;</li> <li>- Saturday Off: the company granted the employee's request of having the Saturdays off;</li> <li>- Commission based on production: except for the administration, cleaning and maintenance staffs, all employees receive commission for every thousand pieces produced;</li> <li>- Transportation: the company provides round trip transportation for employees between the city of São Caetano and the factory. São Caetano is the city where almost all employees live; this place was chosen by the employees.</li> </ul> |

|                                                         |                                                                                                                                                                                                                                                                                                                                                             |                                                                               |                                                      |                                                                 |                                                                                                                  |
|---------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|------------------------------------------------------|-----------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|
|                                                         | <ul style="list-style-type: none"> <li>- Meal: the company offers meal vouchers 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 four times a week.</li> </ul> |                                                                               |                                                      |                                                                 |                                                                                                                  |
| 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. |
| <b>Score</b>                                            | 6                                                                                                                                                                                                                                                                                                                                                           |                                                                               |                                                      |                                                                 |                                                                                                                  |
| <b>Justification</b>                                    | <p>It was verified by the performed interviews that the ceramic has implemented several additional benefits to all employees.</p> <p>The ceramic intends to implement labor gymnastics in workplace.</p>                                                                                                                                                    |                                                                               |                                                      |                                                                 |                                                                                                                  |
| <b>Evidence</b>                                         | Interviews and site visit.                                                                                                                                                                                                                                                                                                                                  |                                                                               |                                                      |                                                                 |                                                                                                                  |

|                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Indicator</b> | <b>Health and safety practices</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Situation</b> | <p>The ceramic factory has CIPA. The Commission members promotes speeches, training programs and internal communication about health and safety practices.</p> <p>The ceramic applied to PCMSO and PPRA, both mandatory programs created to identify environmental risks and prevent occupational diseases and accidents.</p> <p>Kitambar Ceramic also evaluates the risks and degree of exposure of employees to agents harmful to health through the Technical Report on Working Environment Conditions - LTCAT and the Health and Hazard Report - LIP. It also has a Health and Safety Technician, who is responsible for all the health and security issues.</p> <p>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 delivery. The importance and need for the correct use of PPEs is encouraged both through lectures and through signs.</p> <p>In 2021, 5 employees participated in fire prevention and firefighting training.</p> |

|                                                                                                                         |                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                           |                                                                                                                                                       |                                                                                                                                                                                                                 |
|-------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                         |                                                                                                                                                | <p>During the monitoring period, the factory provided COVID-19 vaccines to the employees, encouraging employees to protect against severe illness or death from COVID-19.</p> <p>In partnership with the Industry Social Service - SESI, Kitambar offered hearing and respiratory effort tests, in addition to providing guidance on disease prevention.</p> |                                                                                                                                                                                                                                                                                           |                                                                                                                                                       |                                                                                                                                                                                                                 |
| 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. | <p>In addition to scenario 5, the factory develops complementary programs such as PPR, PPRPS and PCA; and/or</p> <p>The factory encourages physical activity or conducts activities for disease prevention.</p> |
| <b>Score</b>                                                                                                            | 6                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                           |                                                                                                                                                       |                                                                                                                                                                                                                 |
| <b>Justification</b>                                                                                                    | It was verified by the performed interviews and CIPA meeting minutes, PCMSO and PPRA of the companies were presented to the verification team. |                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                           |                                                                                                                                                       |                                                                                                                                                                                                                 |
| <b>Evidence</b>                                                                                                         | Interviews, CIPA meeting minutes, PCMSO and PPRA.                                                                                              |                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                           |                                                                                                                                                       |                                                                                                                                                                                                                 |

|                  |                                                                                                                                                                                                                                                                                                            |
|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Indicator</b> | <b>Training and capacity building programs</b>                                                                                                                                                                                                                                                             |
| <b>Situation</b> | <p>During the period analyzed. Kitambar offered several building courses and lectures to employees. The courses and the number of employees who took them are presented below:</p> <ul style="list-style-type: none"> <li>- Digital marketing and social media strategies course – 4 employees;</li> </ul> |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                   |                                                                                  |                                                                                                                                                                                                                                              |                                                                                                                                                                                                             |                                                                                                                                    |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>- Quality management system in the ceramic industry – 2 employees;</li> <li>- Management of processes and performance indicators – 1 employee;</li> <li>- Performance and innovation for the ceramic tile market – 1 employee;</li> <li>- Emotional intelligence in conflict management – 1 employee;</li> <li>- Management for results – 11 employees.</li> </ul> <p>Kitambar has a planning control where it is established the next capacity building programs that the factory intends to participate according to the Federation of Industries courses and training calendar.</p> |                                                                                                                                                   |                                                                                  |                                                                                                                                                                                                                                              |                                                                                                                                                                                                             |                                                                                                                                    |
| 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<br><br>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<br><br>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. |
| <b>Score</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 6                                                                                                                                                 |                                                                                  |                                                                                                                                                                                                                                              |                                                                                                                                                                                                             |                                                                                                                                    |
| <b>Justification</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | It was verified by the performed interviews that the ceramics has established a strategic plan regarding training and capacity building programs. |                                                                                  |                                                                                                                                                                                                                                              |                                                                                                                                                                                                             |                                                                                                                                    |
| <b>Evidence</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Interviews.                                                                                                                                       |                                                                                  |                                                                                                                                                                                                                                              |                                                                                                                                                                                                             |                                                                                                                                    |

#### 4.6.3 Financial Resource

|                  |                                                                                                                                                                        |
|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Indicator</b> | <b>Biomass supply</b>                                                                                                                                                  |
| <b>Situation</b> | Currently the ceramic factory uses two types of biomass: Algarroba wood and Sawdust. The factory has total control of the source and amount of renewable biomass used. |

|                                                                                                                                                |                                                                                                                                                       |                                                                                                                                          |                                                                                                                                                      |                                                                                                                                                      |                                                                                                                                             |
|------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                | The factory has total control of the source and amount of renewable biomass used and 23% of the fuel is coming from agro-industrial waste.            |                                                                                                                                          |                                                                                                                                                      |                                                                                                                                                      |                                                                                                                                             |
| 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. |
| <b>Score</b>                                                                                                                                   | 4                                                                                                                                                     |                                                                                                                                          |                                                                                                                                                      |                                                                                                                                                      |                                                                                                                                             |
| <b>Justification</b>                                                                                                                           | It was verified by the performed interviews that the ceramics have control of the suppliers and 23% of the fuel is coming from agro-industrial waste. |                                                                                                                                          |                                                                                                                                                      |                                                                                                                                                      |                                                                                                                                             |
| <b>Evidence</b>                                                                                                                                | Records of purchase of biomasses and report of daily production of ceramic device.                                                                    |                                                                                                                                          |                                                                                                                                                      |                                                                                                                                                      |                                                                                                                                             |

|                                                                                                                         |                                                                                                                                                                                                                                                                                                                  |                                                                                                                                             |                                                                                                                                                                  |                                                                                                                                                               |                                                                                                                                                                   |
|-------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Indicator</b>                                                                                                        | <b>Planning and control</b>                                                                                                                                                                                                                                                                                      |                                                                                                                                             |                                                                                                                                                                  |                                                                                                                                                               |                                                                                                                                                                   |
| <b>Situation</b>                                                                                                        | The factory has organized controls of the income received from carbon credit sales, as well as of the destination for proceeds. The ceramic factory will continue the investment planned in the 8 <sup>th</sup> monitoring period, about improvements in the production system and acquisition of new equipment. |                                                                                                                                             |                                                                                                                                                                  |                                                                                                                                                               |                                                                                                                                                                   |
| The factory has no organized controls of the income received from carbon credit sales nor the destination for proceeds. | The factory has partial control of the income received from carbon credit sales and the destination for proceeds.                                                                                                                                                                                                | The factory has organized controls of the income received from carbon credit sales, but control of the destination for proceeds is partial. | The factory has organized controls of the income received from carbon credit sales, as well as of the destination for proceeds. However, the factory presents no | The factory has organized controls of the income received from carbon credit sales, as well as of the destination for proceeds. However, the factory presents | The factory has organized controls of the income received from carbon credit sales, as well as of the destination for proceeds. The factory presents satisfactory |

|                      |                                                                                                                                                         |  |                  |                             |                                                                        |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------|-----------------------------|------------------------------------------------------------------------|
|                      |                                                                                                                                                         |  | future planning. | incomplete future planning. | future planning (timeline, budget, responsible involved and benefits). |
| <b>Score</b>         | 6                                                                                                                                                       |  |                  |                             |                                                                        |
| <b>Justification</b> | The ceramic has records of the income received from carbon credit sales and total control over its destination, besides a satisfactory future planning. |  |                  |                             |                                                                        |
| <b>Evidence</b>      | Interviews and records of carbon credits                                                                                                                |  |                  |                             |                                                                        |

|                                                                                                                                                                     |                                                                                                                                                                                                                                                         |                                                                                                                              |                                                                                                                              |                                                                                                                              |                                                                                                                               |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Indicator</b>                                                                                                                                                    | <b>Carbon credit investments</b>                                                                                                                                                                                                                        |                                                                                                                              |                                                                                                                              |                                                                                                                              |                                                                                                                               |
| <b>Situation</b>                                                                                                                                                    | 100% of the income generated by carbon credit sales was invested in the factory. During the monitored period, the financial resource was invested in the renovation of the kilns and in the adaptation process for migration to the free energy market. |                                                                                                                              |                                                                                                                              |                                                                                                                              |                                                                                                                               |
| 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 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 . |
| <b>Score</b>                                                                                                                                                        | 6                                                                                                                                                                                                                                                       |                                                                                                                              |                                                                                                                              |                                                                                                                              |                                                                                                                               |
| <b>Justification</b>                                                                                                                                                | 100% of the income generated by carbon credit sales was invested in the factory and community.                                                                                                                                                          |                                                                                                                              |                                                                                                                              |                                                                                                                              |                                                                                                                               |
| <b>Evidence</b>                                                                                                                                                     | Interviews and records of carbon credits.                                                                                                                                                                                                               |                                                                                                                              |                                                                                                                              |                                                                                                                              |                                                                                                                               |

#### 4.6.4 Natural Resource

| Indicator                                          | Environmental management                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                   |                                                                                                           |                                                                       |                                                                                    |
|----------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|------------------------------------------------------------------------------------|
| Situation                                          | <p>The ceramic factory shows some initiatives regarding environmental management:</p> <ul style="list-style-type: none"> <li>- Energy: In 2021 the Kitambar started to consume electricity from the free energy market, a special trading environment whereby sellers and purchasers can trade electric energy freely among themselves in compliance with the regulations for the sector. Free market energy contracts tend to be more economical and purchasers have more control over the type of energy they are consuming, since they can choose to contract only renewable energy sources, as is the case of Kitambar, which buys energy generated by wind and solar plants;</li> <li>- Water: In partnership with the Federal Rural University of Pernambuco, Kitambar implemented a system to collect rainwater to use in the production process, as a manner to reduce public water consumption.</li> <li>- 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. Besides, the remaining materials, such as gloves and EPIs, contaminated with oil are collected by a company also responsible for the treatment and correct final disposal of waste.</li> <li>- Air: Kitambar has annual reports that monitor the atmospheric emissions.</li> </ul> |                                                                                                                   |                                                                                                           |                                                                       |                                                                                    |
| There are no environmental management initiatives. | There are up to two specific initiatives to prevent/reduce the main environmental impacts caused by the Ceramic factory.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | There are more than two initiatives to prevent / reduce the main environmental impacts caused by Ceramic factory. | In addition the scenario 3, the factory is structuring an environmental management system in the company. | The factory has implemented a formal environmental management system. | The factory's environmental management system has been certified 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.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                   |                                                                                                           |                                                                       |                                                                                    |
| Evidence                                           | Interviews and site visit.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                   |                                                                                                           |                                                                       |                                                                                    |

| Indicator                                                                                                                                                                       | Brazilian environmental legislation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                               |                                                                                                                                                                                                                                                 |                                                                                          |  |                                                                                                                                                                                  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Situation                                                                                                                                                                       | <p>The ceramic is in conformity with the environmental laws and possesses:</p> <ul style="list-style-type: none"><li>- License for clay extraction nº 840.089/2002 issued by the National Department for Mineral Production - DNPM/PE, valid until July 23<sup>rd</sup>, 2022, which is in process of getting renewed.</li><li>- Operation License nº 19/2022, issued by the Autarchy of Urbanization and Environment of Caruaru, expiring on April 1<sup>st</sup>, 2024.</li><li>- Federal Technical Registry issued by Brazilian Institute of Environment and Natural Resources – IBAMA - valid until October 26<sup>rd</sup>, 2022.</li><li>- The ceramic uses water from the public supply and also buys water from a company that has the water grant license nº 336-P/21 issued by the Secretary of Infrastructure and Water Resources of the state of Pernambuco and valid until March, 2023. The water is transported by trucks.</li></ul> |                                                                                                                                                                               |                                                                                                                                                                                                                                                 |                                                                                          |  |                                                                                                                                                                                  |
| <p>The factory does not possess any of the following:</p> <p>-operating license</p> <p>-license for clay extraction</p> <p>-water grant</p> <p>- federal technical registry</p> | <p>The factory only possess two of the following:</p> <p>-operating license</p> <p>-license for clay extraction</p> <p>-water grant</p> <p>- federal technical registry</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <p>The factory only possess three of the following:</p> <p>-operating license</p> <p>-license for clay extraction</p> <p>-water grant</p> <p>- federal technical registry</p> | <p>The factory possess all of the following:</p> <p>-operating license</p> <p>-license for clay extraction</p> <p>-water grant</p> <p>- federal technical registry</p> <p>However, they do not meet all the conditions established by them.</p> | <p>All licenses are up to date and all conditions established by them are being met.</p> |  | <p>In addition to the previous scenario, the factory collaborates with public administration and/or civil society organizations for cooperation with environmental projects.</p> |
| Score                                                                                                                                                                           | 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                               |                                                                                                                                                                                                                                                 |                                                                                          |  |                                                                                                                                                                                  |
| Justification                                                                                                                                                                   | All licenses cover the entire monitoring period and all conformity conditions.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                               |                                                                                                                                                                                                                                                 |                                                                                          |  |                                                                                                                                                                                  |
| Evidence                                                                                                                                                                        | Licenses                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                               |                                                                                                                                                                                                                                                 |                                                                                          |  |                                                                                                                                                                                  |

| Indicator                                                           | Voluntary environmental initiatives                                                                                                                         |                                                                                                                                                                               |                                                                                                                       |                                                                                                         |                                                                                                                                                               |  |
|---------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Situation                                                           | During the monitoring period the ceramic factory planted native tree seedlings into the Ceramic's factory property, showing continuity for this initiative. |                                                                                                                                                                               |                                                                                                                       |                                                                                                         |                                                                                                                                                               |  |
| 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                                                               | 3                                                                                                                                                           |                                                                                                                                                                               |                                                                                                                       |                                                                                                         |                                                                                                                                                               |  |
| Justification                                                       | The ceramic is continuing the initiative of planting native tree seedlings.                                                                                 |                                                                                                                                                                               |                                                                                                                       |                                                                                                         |                                                                                                                                                               |  |
| Evidence                                                            | Interviews                                                                                                                                                  |                                                                                                                                                                               |                                                                                                                       |                                                                                                         |                                                                                                                                                               |  |

#### 4.6.5 Biodiversity/Technology Resource

| Indicator | Technological advances to improve efficiency of the production process                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Situation | <p>The factory meets the following aspects:</p> <ul style="list-style-type: none"> <li>- possess a dryer that recycles the heat from the kilns;</li> <li>- the factory has eight Round kilns, considered intermittent kilns; however, it was explained that 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;</li> <li>- controls the kiln temperature: the factory keeps a record of thermocouples and the data is registered in a computer system. Recently Kitambar acquired an anemometer to improve the monitoring of the air entering the kilns and thus increase the efficiency of the firing;</li> <li>- the factory feeds kilns using semi-automatic equipment;</li> <li>- the factory controls and records production at different stages of the production process: molding machine, kiln loading and kiln unloading;</li> </ul> |

|               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                         |                                                         |                                                       |                                                         |
|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|---------------------------------------------------------|-------------------------------------------------------|---------------------------------------------------------|
|               | <p>- during the period analyzed there was no need for infrastructural improvements in the factory.</p> <p>During the 08<sup>th</sup> monitoring period, Kitambar started a project to improve the production system through the replacement of equipment such as carts and shelves to dry out the tiles, the purchase of a 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. However, the equipment is still in the testing and adaptation phase, as the test result did not meet the expected quality standard.</p> <p>In 2021 Kitambar hired a specialized consultancy to implement a management system aimed at establishing indicators, targets and standardizing processes. The first stage of the project was expected to last 1 year ending in June 2022. According to the Kitambar’s Director, the ceramic factory currently has a consistent control over production management and has increased productivity by 25%. In addition, they began to carry out strategic production planning.</p> <p>In 2022 a Kitambar’s intern won the FIEP award "IEL Prize - Euvaldo Lodi Institute" for outstanding company, innovative company category, as a result of this consultancy.</p> |                                                         |                                                         |                                                       |                                                         |
|               | 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 | <p>It was evidenced by the performed interviews with ceramic representatives and during the site visit that the ceramic has several equipment that enable improvements in the efficiency of the production process.</p> <p>The ceramic intends to start manufacturing solid brick to be used in masonry and paving.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                         |                                                         |                                                       |                                                         |
| Evidence      | Interviews and site visit.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                         |                                                         |                                                       |                                                         |
| Indicator     | Technological advances to improve the general conditions of the working environment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                         |                                                         |                                                       |                                                         |

|                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                         |                                                       |                                                         |                                                                                                                         |
|-----------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|-------------------------------------------------------|---------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| Situation                                                       | The factory meets all the characteristics:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                         |                                                       |                                                         |                                                                                                                         |
|                                                                 | <ul style="list-style-type: none"><li>- there is no excess of dust and debris – there is an employee in charge of cleaning;</li><li>- the factory is a well-ventilated place;</li><li>- the factory has translucent tiles, which provides a well-lit working environment;</li><li>- the noise in the ceramic factory does not exceed the established by law;</li><li>- the factory uses signing according to the applicable norms.</li><li>- Kitambar also implemented a new firefighting system, in addition to increase signage and training for employees.</li></ul> |                                                         |                                                       |                                                         |                                                                                                                         |
|                                                                 | 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.                                                                                                                                                                                                                                                                                                                                                                                |                                                         |                                                       |                                                         |                                                                                                                         |
| 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 site visit that the ceramic meets all described characteristics to improve the general conditions of the working environment.                                                                                                                                                                                                                                                                                                                                                                                          |                                                         |                                                       |                                                         |                                                                                                                         |
| Evidence                                                        | Interviews and site visit.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                         |                                                       |                                                         |                                                                                                                         |

| 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 center 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 the tile produced in the factory. |                                                          |                                                  |                                          |                                                                     |  |
| No efforts were made to analyze 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                                               | All products have quality certification and there is an in-house quality lab.                                                                                                                                                                                                                                                                                         |                                                          |                                                  |                                          |                                                                     |  |
| Evidence                                                    | Interviews and site visit.                                                                                                                                                                                                                                                                                                                                            |                                                          |                                                  |                                          |                                                                     |  |

#### 4.6.6 Carbon Resource

| Indicator                                        | Stakeholder consultation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                              |                                              |                                             |                                            |  |
|--------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|----------------------------------------------|---------------------------------------------|--------------------------------------------|--|
| Situation                                        | <p>The formal stakeholder consultation was carried out during the new validation of the project. Kitambar's Director is President of the Pernambuco Ceramics Union, and member of the Municipal Council for the Defense of the Environment, as a representative of the Federation of Industries of the State of Pernambuco. In these forums, he participates in meetings and events and is always in contact with stakeholders who can share their opinions about the project.</p> <p>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.</p> <p>Aside from that, there are meetings with the working staff every six 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.</p> |                                              |                                              |                                             |                                            |  |
| During the time period analyzed, the factory did | During the time period analyzed, the factory                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | During the time period analyzed, the factory | During the time period analyzed, the factory | As well as the previous scenario, there are | As well as the previous scenario, the next |  |

|                                         |                                                                                                                                                                                        |                                                                                                                        |                                                                                                                       |                                                      |                                                           |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|-----------------------------------------------------------|
| not conduct a stakeholder consultation. | conducted an informal (no records) stakeholder consultation.                                                                                                                           | conducted a formal (with records) stakeholder consultation; however negative comments were made regarding the project. | conducted a formal (with records) stakeholder consultation, and no negative comments were made regarding the project. | continuous means of communication with stakeholders. | consultation is being planned together with stakeholders. |
| <b>Score</b>                            | 5                                                                                                                                                                                      |                                                                                                                        |                                                                                                                       |                                                      |                                                           |
| <b>Justification</b>                    | 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. |                                                                                                                        |                                                                                                                       |                                                      |                                                           |
| <b>Evidence</b>                         | Interviews.                                                                                                                                                                            |                                                                                                                        |                                                                                                                       |                                                      |                                                           |

|                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                   |                                                |                                                |                                                   |
|------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|------------------------------------------------|------------------------------------------------|---------------------------------------------------|
| <b>Indicator</b>                               | <b>Green marketing</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                   |                                                |                                                |                                                   |
| <b>Situation</b>                               | <p>Kitambar is constantly improving its marketing strategies. The factory sees positive results with these marketing strategies and intends to continue investing on them. In 2022, 4 employees took the Digital marketing and social media strategies course provided by the ceramic factory. Besides, Kitambar has a team specialized in the area, made up of a journalist and a communication company.</p> <p>Kitambar markets their environmental practices on their website and social media pages. However, in the second semester of 2022 the site was hacked and was under maintenance.</p> <p>Facebook page: <a href="https://pt-br.facebook.com/kitambar.pe">https://pt-br.facebook.com/kitambar.pe</a></p> <p>Twitter account: <a href="https://twitter.com/kitambar">https://twitter.com/kitambar</a></p> <p>Instagram page: <a href="https://www.instagram.com/kitambar/">https://www.instagram.com/kitambar/</a></p> <p>And through YouTube, with the carbon project's video: <a href="https://www.youtube.com/watch?v=2eda7yM02mo&amp;t=59s">https://www.youtube.com/watch?v=2eda7yM02mo&amp;t=59s</a></p> <p>And at the local radio.</p> |                                                   |                                                |                                                |                                                   |
| The factory does not have marketing strategies | The factory markets their environmental practices only using                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | The factory markets their environmental practices | The factory has an established green marketing | The factory has an established green marketing | As well as the previous scenario, the factory has |

|                                         |                                                                                                                                |                                                                                            |                                                    |                                     |                                     |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|----------------------------------------------------|-------------------------------------|-------------------------------------|
| based on their environmental practices. | one means of communication. Example: magazine advertisement.                                                                   | using more than one means of communication. Example: magazine advertisement and billboard. | strategy, but still has not seen positive results. | strategy and sees positive results. | plans to invest in Green marketing. |
| <b>Score</b>                            | 6                                                                                                                              |                                                                                            |                                                    |                                     |                                     |
| <b>Justification</b>                    | It was evidenced by the performed interviews with the representatives that the ceramic has plans to invest in green marketing. |                                                                                            |                                                    |                                     |                                     |
| <b>Evidence</b>                         | Interviews.                                                                                                                    |                                                                                            |                                                    |                                     |                                     |

|                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                      |                                                                                   |                                                        |                                                                                                                                                                                      |
|-------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|-----------------------------------------------------------------------------------|--------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Indicator</b>                                                              | <b>Project performance</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                      |                                                                                   |                                                        |                                                                                                                                                                                      |
| <b>Situation</b>                                                              | <p>The owner states that he is very satisfied with the carbon project because it changed the way of thinking, acting and planning socio-environmental actions. In his opinion, the community's view of the company has changed with the project.</p> <p>As a representative of the Federation of Industries of the State of Pernambuco, Kitambar's Director is always publicizing the company's initiatives nationwide.</p> <p>Mr. Antônio Marcos considers that the carbon project brought a competitive advantage for his business, as the company became a reference in environmental actions.</p> |                                                      |                                                                                   |                                                        |                                                                                                                                                                                      |
| 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 that the ceramic owner is very satisfied with the carbon project and considers it a very competitive advantage for the business. |
| Evidence      | Interviews.                                                                                                                                                                   |

## ANALYSIS OF SOCIALCARBON RESULTS

### 5.1 Current Performance

| Resource          | Critical | Satisfactory | Sustainable | Average Score | Performance  |
|-------------------|----------|--------------|-------------|---------------|--------------|
| Social            | 0%       | 33.3%        | 66.7%       | 4.7           | Satisfactory |
| Human             | 0%       | 0%           | 100%        | 6.0           | Sustainable  |
| Financial         | 0%       | 33.3%        | 66.7%       | 5.3           | Sustainable  |
| Natural           | 0%       | 66.7%        | 33.3%       | 3.7           | Satisfactory |
| Biodiversity/Tech | 0%       | 0%           | 100%        | 6.0           | Sustainable  |
| Carbon            | 33.3%    | 0%           | 66.7%       | 5.7           | Sustainable  |

### 5.2 Historical Performance

| Social                                                                                                                                                           | Point Zero | Point One | Point Two | Point Three | Point Four | Point Five | Point Six | Point Seven | Point Eight |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-----------|-----------|-------------|------------|------------|-----------|-------------|-------------|
|                                                                                                                                                                  | 3.3        | 2.1       | 2.9       | 4.3         | 5.0        | 4.7        | 5.0       | 5.0         | 4.7         |
| Historic Analysis: the Social resource has decreased in comparison with the previous report, as the ceramic has not achieved 30% of employees of minority group. |            |           |           |             |            |            |           |             |             |

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

Historic Analysis: the Human resource was maintained in comparison with the previous report. The ceramic continues to offer a significant amount of training courses to its employees.

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

Historic Analysis: the Financial resource was maintained in comparison with the previous report, as the ceramic presented an organized financial control of the investments and a future planning.

| Natural | Point Zero | Point One | Point Two | Point Three | Point Four | Point Five | Point Six | Point Seven | Point Eight |
|---------|------------|-----------|-----------|-------------|------------|------------|-----------|-------------|-------------|
|         | 3.0        | 2.4       | 3.4       | 4.3         | 4.3        | 4.7        | 4.7       | 4.7         | 3.7         |

Historic Analysis: the Natural resource has decreased in comparison with the previous report, partially due to the impact of the Covid-19 pandemic.

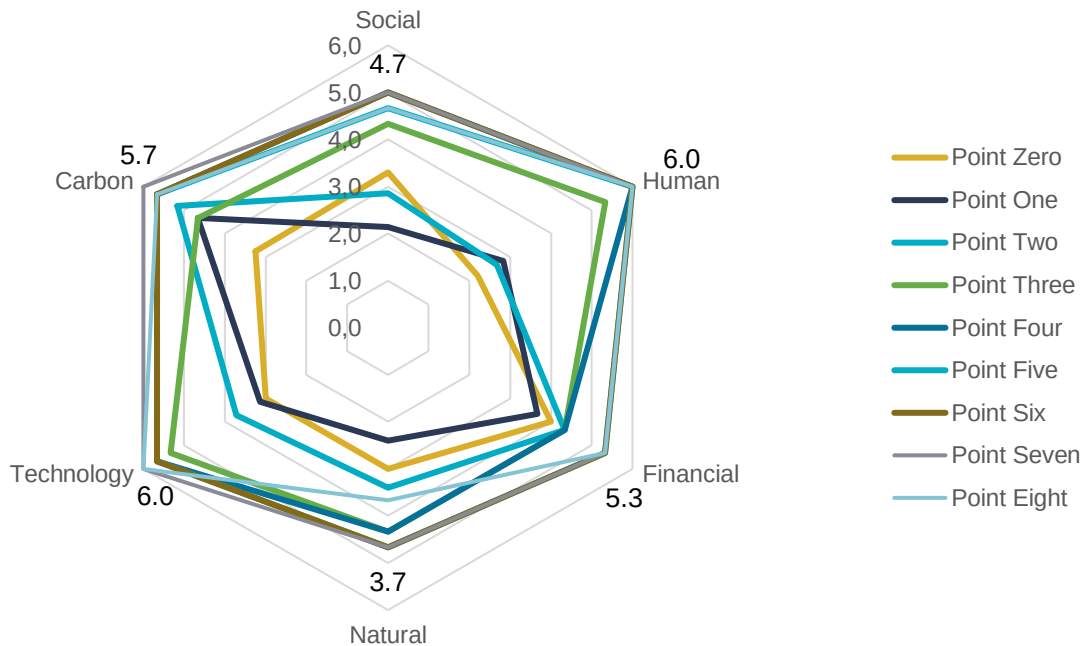
| Technology | Point Zero | Point One | Point Two | Point Three | Point Four | Point Five | Point Six | Point Seven | Point Eight |
|------------|------------|-----------|-----------|-------------|------------|------------|-----------|-------------|-------------|
|            | 3.0        | 3.1     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

Historic Analysis: the Technology resource was maintained in comparison with the previous report, as the ceramic continued to invest in improvements to the production and healthy working environment.

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

Historic Analysis: the Carbon resource decreased in comparison with the previous report, as the ceramic did not conduct a formal stakeholder consultation.

### 5.3 Performance Hexagon



## VERIFICATION OPINION

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 01/08/2020 to 31/03/2022 (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.

The GHG statement is the responsibility of the project proponent, whether the project conforms with the verification criteria for projects set out in VCS Version 4.

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;
- the actual operation conforms to the description in the VCS-PD;
- the latest templates of VCS+SOCIALCARBON Monitoring Report and VCS+SOCIALCARBON Verification Report<sup>14/</sup> available at Verra's website were used;

- due to Verra's exemption grant/<sup>14/</sup>, ESPL was authorized to perform the present verification of VCS project "Kitambar Switching Fuel Project", with VCS Project ID 33.

Thus, the GHG emissions reductions reported for the project activity for the period from 01/08/2020 to 31/03/2022 (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 can present a positive opinion about 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;
- although Social, Natural and Carbon resources had a decrease in the performance on this period in comparison to the previous one. 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 physical 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.

This verification was conducted in accordance with requirements of ISO 14064-3:2019.

The characterization of the Point 8 for the project as "SUSTAINABLE", as described in the referenced documents, is accurate. 01/08/2020 to 31/03/2022

Verification period: From 01-August-2020 to 31-March-2022.

SOCIALCARBON verification period: From 01-August-2020 to 31-March-2022.

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

| Year   | Baseline emissions or removals (tCO <sub>2</sub> e) | Project emissions or removals (tCO <sub>2</sub> e) | Leakage emissions (tCO <sub>2</sub> e) | Net GHG emission reductions or removals (tCO <sub>2</sub> e) |
|--------|-----------------------------------------------------|----------------------------------------------------|----------------------------------------|--------------------------------------------------------------|
| 2020*  | 12,924                                              | 7                                                  | 0                                      | 12,917                                                       |
| 2021   | 30,529                                              | 9                                                  | 0                                      | 30,520                                                       |
| 2022** | 7,326                                               | 0                                                  | 0                                      | 7,326                                                        |

|              |               |           |          |               |
|--------------|---------------|-----------|----------|---------------|
| <b>Total</b> | <b>50,779</b> | <b>16</b> | <b>0</b> | <b>50,763</b> |
|--------------|---------------|-----------|----------|---------------|

\* from 01/08/2020

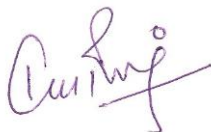
\*\* until 31/03/2022

In the table below, the comparison between the estimated ERs and the achieved ERs have been carried out for the same monitoring period.

|              | Net GHG ERs estimated<br>in PD (tCO <sub>2</sub> e) (A) | Net GHG ERs achieved<br>during this MP (tCO <sub>2</sub> e) (B) | % difference<br>(A-B)/A |
|--------------|---------------------------------------------------------|-----------------------------------------------------------------|-------------------------|
| <b>Total</b> | <b>59,313</b>                                           | <b>50,763</b>                                                   | <b>14.4%</b>            |

When comparing to the estimated values in the VCS-PD, the ERs achieved are approximately 14.4% lower. This result is mainly due to the reduction in the ceramic production and use of biomass, which is directly related to the number of ERs achieved.

Approved by



**Dr. Kaviraj Singh**

**Managing Director**

**Earthood Services Privated Limited**

**Date: 11/04/2024**

**Place: Gurgaon, Haryana**

## APPENDIX I: REFERENCES

| No. | Title                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | References                                                                                                                                         |
|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.  | <u>Methodology</u><br>AMS-I.E – Switch from non-renewable biomass for thermal applications by the user                                                                                                                                                                                                                                                                                                                                                                                                                                                   | version 07                                                                                                                                         |
| 2.  | VCS-PD (Registered)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | version 08 –<br>19/06/2018                                                                                                                         |
| 3.  | Joint VCS and SOCIALCARBON Monitoring Report – draft / revised                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | version 01 –<br>17/11/2022<br>version 02 –<br>21/12/2022<br>version 03 –<br>16/02/2023<br>version 04 –<br>10/03/2023<br>version 05 –<br>20/04/2023 |
| 4.  | Joint VCS and SOCIALCARBON Monitoring Report – final                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 07/03/2024                                                                                                                                         |
| 5.  | ER Spreadsheet – draft / revised                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | version 1<br>version 2<br>version 3<br>version 04                                                                                                  |
| 6.  | ER Spreadsheet – final                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | version 05                                                                                                                                         |
| 7.  | <u>Biomass</u><br>Records of biomass purchase                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 2020 / 2021 / 2022                                                                                                                                 |
| 8.  | <u>Production</u><br>Records of production of ceramic devices                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 2020 / 2021 / 2022                                                                                                                                 |
| 9.  | <u>Licenses</u> <ul style="list-style-type: none"> <li>- License for clay extraction # 840.089/2002 – issued by DNPM – valid until 22/07/2022</li> <li>- Operation License # 19/2022 – issued by the Autarchy of Urbanization and Environment of the City of Caruaru – valid until 01/04/2024</li> <li>- Federal Technical Registry # 26588 – issued by IBAMA – valid until 26/10/2022.</li> <li>- Water grant # 336-P/21 – issued by the Secretary of Infrastructure and Water Resources of the state of Pernambuco – valid until 28/02/2023</li> </ul> | 23/08/2002<br>-<br>26/07/2022<br>01/03/2021                                                                                                        |
| 10. | IPCC publications                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <a href="http://www.ipcc-nggip.iges.or.jp">www.ipcc-nggip.iges.or.jp</a>                                                                           |
| 11. | UNFCCC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <a href="http://cdm.unfccc.int">http://cdm.unfccc.int</a>                                                                                          |
| 12. | VERRA <ul style="list-style-type: none"> <li>- VCS Standard</li> <li>- VCS Program Guide</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <a href="https://verra.org/">https://verra.org/</a><br>version 4.5<br>version 4.4                                                                  |
| 13. | <u>Latest VCS+SOCIALCARBON available templates</u> <ul style="list-style-type: none"> <li>- VCS+SOCIALCARBON Monitoring Report template</li> <li>- VCS+SOCIALCARBON Verification Report template</li> </ul>                                                                                                                                                                                                                                                                                                                                              | version 4.0<br>version 4.0                                                                                                                         |

|     |                                                                                                                                                                                                                    |            |
|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| 14. | <u>Verra's exemption grant – one-time exemption from Section 4.1.27 (1) of the VCS Standard, v4.5, to project ID 033, authorizing Earthood Services Private Limited (ESPL) to perform the present verification</u> | 23/09/2023 |
|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|

## APPENDIX II: REFERENCES – SOCIALCARBON

| No. | Title                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | References                                                                             |
|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| 1.  | Joint VCS and SOCIALCARBON Monitoring Report – draft / revised                                                                                                                                                                                                                                                                                                                                                                                                                          | version 01 –<br>17/11/2022<br>version 02 –<br>21/12/2022<br>version 03 –<br>16/02/2023 |
| 2.  | Joint VCS and SOCIALCARBON Report – final                                                                                                                                                                                                                                                                                                                                                                                                                                               | version 04 –<br>10/03/2023                                                             |
| 3.  | Social Carbon Hexagon Excel spreadsheet – Point 8                                                                                                                                                                                                                                                                                                                                                                                                                                       | version 1<br>version 2                                                                 |
| 3.  | <u>Social Resource:</u><br>- Human resources documents<br>- Pictures                                                                                                                                                                                                                                                                                                                                                                                                                    | 2020 / 2021 / 2022                                                                     |
| 4.  | <u>Human Resource:</u><br>- Pictures<br>- CIPA meeting minutes<br>- PCMSO (Program of Medical Control of Occupational Health)<br>- PPRA (Program of Prevention of Environmental Risks)                                                                                                                                                                                                                                                                                                  | 2020 / 2021 / 2022                                                                     |
| 5.  | <u>Financial Resource:</u><br>- Records of purchase of biomasses<br>- Report of daily production of ceramic device<br>- Receipts of payment of the VCUs                                                                                                                                                                                                                                                                                                                                 | 2020 / 2021 / 2022                                                                     |
| 6.  | <u>Licenses</u><br>- License for clay extraction # 840.089/2002 – issued by DNPM – valid until 22/07/2022<br>- Operation License # 19/2022 – issued by the Autarchy of Urbanization and Environment of the City of Caruaru – valid until 01/04/2024<br>- Federal Technical Registry # 26588 – issued by IBAMA – valid until 26/10/2022.<br>- Water grant # 336-P/21 – issued by the Secretary of Infrastructure and Water Resources of the state of Pernambuco – valid until 28/02/2023 | 23/08/2002<br>-<br>26/07/2022<br>01/03/2021                                            |
| 7.  | <u>Carbon Resource:</u><br>- Sales invoices<br>- Ceramic website: <a href="http://www.kitambar.com.br">http://www.kitambar.com.br</a><br>- Facebook: <a href="https://pt-br.facebook.com/kitambar.pe">https://pt-br.facebook.com/kitambar.pe</a><br>- Pictures                                                                                                                                                                                                                          | 2020 / 2021 / 2022                                                                     |
| 8.  | Brazilian Red Ceramic factories Indicators                                                                                                                                                                                                                                                                                                                                                                                                                                              | version 1.1                                                                            |
| 9.  | Guidance for Completing SOCIALCARBON Reports                                                                                                                                                                                                                                                                                                                                                                                                                                            | version 4.0                                                                            |

|     |                       |                                                                         |
|-----|-----------------------|-------------------------------------------------------------------------|
| 10. | SOCIALCARBON Standard | version 6.0                                                             |
| 11. | SOCIALCARBON          | <a href="http://www.socialcarbon.org/">http://www.socialcarbon.org/</a> |

## APPENDIX III: ABBREVIATIONS

| Abbreviations     | Full texts                                                   |
|-------------------|--------------------------------------------------------------|
| CA                | Corrective Action / Clarification Action                     |
| CAR               | Corrective Action Request                                    |
| CIPA              | Internal Commission of Labor Accidents Prevention            |
| CO <sub>2</sub> e | 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)                                           |
| IBAMA             | Institute of the Environment and Natural Renewable Resources |
| MR                | Monitoring Report                                            |
| PA                | Project Activity                                             |
| PCMSO             | Program for Medical Control of Labor 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                                          |
| SENAI             | National 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. | 4.2.1 | Date: 06/12/2022 |
| <b>Description of CL</b>                                                                                                                                                    |    |             |       |                  |
| It is not clear the information in Section 2.1 that the ashes are incorporated to the clay, as it was revealed during the site visit that it is totally used as fertilizer. |    |             |       |                  |
| <b>Project participant response</b>                                                                                                                                         |    |             |       | Date: 21/12/2022 |
| The information was corrected in Section 2.1. Kitambar ceramic mitigated the impact of the ashes by reusing this residue as agriculture fertilizer.                         |    |             |       |                  |
| <b>DOE assessment</b>                                                                                                                                                       |    |             |       | Date: 26/01/2023 |
| The section was revised and the ashes are used as fertilizer.<br>CL is closed                                                                                               |    |             |       |                  |

### CAR from this verification

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |    |             |     |                  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|-------------|-----|------------------|
| CAR ID                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 01 | Section no. | 4.3 | Date: 06/12/2022 |
| <b>Description of CAR</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |    |             |     |                  |
| In Section 4.2 of the MR – parameter $Q_{renbiomass}$ : the quantities of biomass are not in accordance with presented evidence for the following months:<br>a. December/2020: algaroba and sawdust;<br>b. April/2021: sawdust;<br>c. May/2021: sawdust;<br>d. July/2021: algaroba;<br>e. September/2021: sawdust.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |    |             |     |                  |
| <b>Project participant response</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |    |             |     | Date: 21/12/2022 |
| The quantities of biomass were corrected with presented evidence for the following months in Section 4.2 of the MR – parameter $Q_{renbiomass}$ :<br>a. December/2020: algaroba and sawdust: Algaroba values were presented out of filter order in the Dropbox evidence sheet (“Cer Kitambar planilha de monitoramento 2020”). The values were confirmed with the evidence. Sawdust values have been corrected;<br>b. April/2021: sawdust: Sawdust values were presented out of filter order in the Dropbox evidence sheet (“Cer Kitambar planilha de monitoramento 2021”). The values were confirmed with the evidence;<br>c. May/2021: sawdust: Sawdust values have been corrected;<br>d. July/2021: algaroba: Algaroba values have been corrected;<br>e. September/2021: sawdust: Sawdust values have been corrected. |    |             |     |                  |
| <b>DOE assessment</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |    |             |     | Date: 26/01/2023 |

Section 4.2 of the MR was revised and the quantities of biomass are in accordance with presented evidence.

CAR is closed

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |    |                    |     |                         |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|--------------------|-----|-------------------------|
| <b>CAR ID</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 02 | <b>Section no.</b> | 4.3 | <b>Date:</b> 06/12/2022 |
| <b>Description of CAR</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |    |                    |     |                         |
| <p>In Section 4.2 of the MR:</p> <ol style="list-style-type: none"> <li>parameter <i>Renewable biomass surplus</i>: it is not clear why the values of validation are presented if the parameter shall be annually monitored, as per the registered monitoring plan;</li> <li>parameter <math>f_{NRB,y}</math>: it is not clear why just one value is presented if the parameter shall be annually monitored, as per the registered monitoring plan.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |    |                    |     |                         |
| <b>Project participant response</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |    |                    |     | <b>Date:</b> 21/12/2022 |
| <p>In Section 4.2 of the MR:</p> <ol style="list-style-type: none"> <li>Parameter Renewable biomass surplus: according to the “General guidance on leakage in biomass project activities”<sup>2</sup>, 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 analyzed 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, as it was and as can be seen in Section 5.3 Leakage. This section contains an assessment of the total of Algaroba Wood and Sawdust available in the region, considering other economic uses of biomass. And, according to the “General guidance on leakage in biomass project activities”, it has been demonstrated that there is a biomass surplus (Algaroba Wood) and a biomass surplus (Sawdust) greater than 25%<sup>3</sup> including the project activities consumption, and therefore this source of leakage can be neglected.</li> <li>Parameter <math>f_{NRB,y}</math>: the calculation of <math>f_{NRB,y}</math> was rectified and now the monitoring comprehends a yearly analysis. These annually values were calculated in the VCS-MR Calculation Kitambar Spreadsheet Version 02 - “FNRB,y” tab. The corresponding value for each year was used for the calculation of <i>Bey</i> - “9th period - VCU Calculations” Tab. Also, the values were reported in the section 4.2 “Data and Parameters Monitored” in the VCS+SocialCarbon Monitoring Report Version 02. The values for the <math>f_{NRB,y}</math> parameter calculated for the years 2020, 2021 and 2022 are as follows: <ul style="list-style-type: none"> <li>2020 = 92.00%</li> <li>2021 = 92.00%</li> <li>2022 = 92.00%</li> </ul> </li> </ol> |    |                    |     |                         |
| <b>DOE assessment</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |    |                    |     | <b>Date:</b> 26/01/2023 |
| <ol style="list-style-type: none"> <li>parameter <i>Renewable biomass surplus</i>: it is explained that the assessment was done in accordance with the General guidance on leakage in biomass project activities – v. 03, and as conditions are met, the parameter Renewable biomass surplus does not need to be updated;</li> <li>parameter <math>f_{NRB,y}</math>: although an yearly analysis was performed, it is not clear why the 2020 value of protected area extent of forest is used for all years and the 2016 value of annual growth is also used for all years of 2020, 2021 and 2022.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |    |                    |     |                         |

<sup>2</sup> Available at: [http://cdm.unfccc.int/methodologies/SSCmethodologies/AppB\\_SSC\\_AttachmentC.pdf](http://cdm.unfccc.int/methodologies/SSCmethodologies/AppB_SSC_AttachmentC.pdf), paragraph 18.

<sup>3</sup> Please, check Section 5.3 “Leakage” on the VCS MR Report Version 02.

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                         |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| CAR remains open                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                         |
| <b>Project participant response #2</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>Date: 16/02/2023</b> |
| <p>Calculations were revised.</p> <p>Until the moment of the last answer, there was no update for the extension of the forest protected area for 2021 and 2022. The values were updated annually with this draft response, as the data source was updated. The 2016 value of the annual growth was used for all years, following the most current data source available (Third Nacional Communication of Brazil to the UNFCCC). As there is no annual update of this data in the others National Communications of Brazil, the same value published in 2016 is used for all monitoring years.</p> |                         |
| <b>DOE assessment #2</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>Date: 03/03/2023</b> |
| <p>The PP has used the latest official data available for the calculation of parameter <math>f_{NRB,y}</math>, following the proposed monitoring plan.</p> <p>Nevertheless, the calculation of parameter <i>Renewable biomass surplus</i> is still not clear and the formulas used in the Excel and MR are not consistent.</p> <p>CAR remains open</p>                                                                                                                                                                                                                                            |                         |
| <b>Project participant response #3</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>Date: 10/03/2023</b> |
| <p>Parameter Renewable biomass surplus: was revised in accordance with monitoring plan.</p> <p>Parameter <math>f_{NRB,y}</math>: formulas were revised.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                       |                         |
| <b>DOE assessment #3</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>Date: 14/03/2023</b> |
| <p>a. the parameter <i>Renewable biomass surplus</i> was revised accordingly, with the calculations performed as per the registered monitoring plan;</p> <p>b. parameter <math>f_{NRB,y}</math>: all formulas are now consistent among them and in accordance with registered monitoring plan.</p> <p>CAR is closed</p>                                                                                                                                                                                                                                                                           |                         |

#### FAR from this verification

Not applicable

## APPENDIX V: FINDINGS – SOCIALCARBON

#### CL from this verification

|                                                                                                                                                                                                                                                                                                                                                                                                                                                   |    |                    |       |                         |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|--------------------|-------|-------------------------|
| <b>CL ID</b>                                                                                                                                                                                                                                                                                                                                                                                                                                      | 01 | <b>Section no.</b> | 4.6.4 | <b>Date:</b> 06/12/2022 |
| <b>Description of CL</b>                                                                                                                                                                                                                                                                                                                                                                                                                          |    |                    |       |                         |
| <p>In Section 6.1.4 – indicator Brazilian environmental legislation:</p> <p>a. as revealed during the site visit, the clay used by the ceramic comes from two different suppliers, but just one license is listed. In addition, from the one presented, it is missing the renewal protocol;</p> <p>b. there are outdated licenses in the presented list.</p>                                                                                      |    |                    |       |                         |
| <b>Project participant response</b>                                                                                                                                                                                                                                                                                                                                                                                                               |    |                    |       | <b>Date:</b> 21/12/2022 |
| <p>a. The information was corrected and the clay extraction licenses from both suppliers, as well as the protocol renewal are listed in Section 6.1.4 – indicator Brazilian environmental legislation, as described below:</p> <p style="padding-left: 40px;">License for clay extraction n° 307/2002 issued by the National Department for Mineral Production - DNPM/PE, valid until July 23rd, 2022, which is in process of getting renewed</p> |    |                    |       |                         |

as registered in the protocol n° 001/2022 issued by the Belo Jardim City Hall valid until August 17<sup>th</sup>, 2025.

License for clay extraction n° 05.20.06.001845-1 issued by the State Environmental Agency of Pernambuco, valid until June 18<sup>th</sup>, 2023.

- b. The outdated license was replaced. The Federal Technical Registry presented is valid until February 07<sup>th</sup>, 2023.

|                       |                         |
|-----------------------|-------------------------|
| <b>DOE assessment</b> | <b>Date: 26/01/2023</b> |
|-----------------------|-------------------------|

All licenses were correctly updated.

CL is closed.

#### CAR from this verification

| CAR ID                                                                                                                      | 01 | Section no. | 5.2 | Date: | 06/12/2022              |
|-----------------------------------------------------------------------------------------------------------------------------|----|-------------|-----|-------|-------------------------|
| <b>Description of CAR</b>                                                                                                   |    |             |     |       |                         |
| In Section 6.2.2, the value presented for resource Carbon for Point 8 is not in accordance with calculations.               |    |             |     |       |                         |
| <b>Project participant response</b>                                                                                         |    |             |     |       | <b>Date: 21/12/2022</b> |
| The value presented for resource Carbon for Point 8 was corrected in Section 6.2.2. The value 4.7 has been replaced by 5.7. |    |             |     |       |                         |
| <b>DOE assessment</b>                                                                                                       |    |             |     |       | <b>Date: 26/01/2023</b> |
| The value for resource Carbon was correctly revised.                                                                        |    |             |     |       |                         |
| CAR is closed.                                                                                                              |    |             |     |       |                         |

| CAR ID                                                                                                                     | 02 | Section no. | 5.3 | Date: | 06/12/2022              |
|----------------------------------------------------------------------------------------------------------------------------|----|-------------|-----|-------|-------------------------|
| <b>Description of CAR</b>                                                                                                  |    |             |     |       |                         |
| In Section 6.2.3, the values for resources Social, Natural and Carbon for Point 8 are not in accordance with calculations. |    |             |     |       |                         |
| <b>Project participant response</b>                                                                                        |    |             |     |       | <b>Date: 21/12/2022</b> |
| The values for resources Social, Natural and Carbon for Point 8 were corrected in Section 6.2.3.                           |    |             |     |       |                         |
| <b>DOE assessment</b>                                                                                                      |    |             |     |       | <b>Date: 26/01/2023</b> |
| The values for resources Social, Natural and Carbon were correctly revised.                                                |    |             |     |       |                         |
| CAR is closed.                                                                                                             |    |             |     |       |                         |

#### FAR from this verification

Not applicable

## APPENDIX VI: COMPETENCE OF TEAM MEMBERS AND TECHNICAL REVIEWERS

| Competence Statement |                     |
|----------------------|---------------------|
| <b>Name</b>          | 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 1.1, 1.2, 13.1)                         |      |            |
|                    |                                                 |      |            |
| Reviewed by        | Shifali Guleria                                 | Date | 30/01/2023 |
| Approved by        | Deepika Mahala                                  | Date | 30/01/2023 |

| Competence Statement |                              |      |            |
|----------------------|------------------------------|------|------------|
| Name                 | Camila Kamimura              |      |            |
| Education            | B.Sc. Environmental Engineer |      |            |
| Experience           | 9+ years                     |      |            |
| Field                | Environmental Management     |      |            |
| Approved Roles       |                              |      |            |
| Team Leader          | No                           |      |            |
| Validator            | No                           |      |            |
| Verifier             | No                           |      |            |
| Methodology Expert   | No                           |      |            |
| Local expert         | Brazil                       |      |            |
| Financial Expert     | No                           |      |            |
| Technical Reviewer   | No                           |      |            |
| TA Expert (X.X)      | No                           |      |            |
| Trainee              | Yes                          |      |            |
|                      |                              |      |            |
| Reviewed by          | Shifali Guleria              | Date | 28/04/2022 |
| Approved by          | Deepika Mahala               | Date | 28/04/2022 |

| Competence Statement |                                                                     |
|----------------------|---------------------------------------------------------------------|
| Name                 | Marcelo Sebben                                                      |
| Country              | Brazil                                                              |
| Education            | M.Sc. (Sustainable Energy System)<br>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.E, AMS-III.H, AMS-III.I. AMS-III.J. 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 | 04/06/2019 |
| Approved by        | Anshika Gupta                                                                                                                                                                                                                                                                                               | Date | 04/06/2019 |

| Competence Statement |                                                                                                                    |      |            |
|----------------------|--------------------------------------------------------------------------------------------------------------------|------|------------|
| Name                 | Shreya Garg                                                                                                        |      |            |
| Country              | India                                                                                                              |      |            |
| Education            | M.Sc. (Climate Science & Policy), TERI University                                                                  |      |            |
| Experience           | 9 Years +                                                                                                          |      |            |
| Field                | Climate Change                                                                                                     |      |            |
| Approved Roles       |                                                                                                                    |      |            |
| Team Leader          | Yes                                                                                                                |      |            |
| Validator            | Yes                                                                                                                |      |            |
| Verifier             | Yes                                                                                                                |      |            |
| Local expert         | AMS.I.A., AMS.I.C., AMS.I.D., AMS.I.F., AMS.II.D., AMS.II.G., AMS.II.J., AMS.III.AV., AMS.III.BL, ACM0002, ACM0012 |      |            |
| Financial Expert     | No                                                                                                                 |      |            |
| Technical Reviewer   | Yes                                                                                                                |      |            |
| TA Expert            | Yes                                                                                                                |      |            |
|                      | 1.1, 1.2, 3.1, 13.1                                                                                                |      |            |
| Reviewed by          | Shifali Guleria                                                                                                    | Date | 21/12/2022 |
| Approved by          | Deepika Mahala                                                                                                     | Date | 21/12/2022 |

| Competence Statement |                                                                        |
|----------------------|------------------------------------------------------------------------|
| Name                 | Shifali Guleria                                                        |
| Country              | India                                                                  |
| Education            | M.Sc. (Environmental Studies and Resource Management), TERI University |
| Experience           | 3+ year                                                                |
| Field                | Climate Change                                                         |

| Approved Roles     |                                                                      |      |            |
|--------------------|----------------------------------------------------------------------|------|------------|
| Team Leader        | Yes                                                                  |      |            |
| Validator          | Yes                                                                  |      |            |
| Verifier           | Yes                                                                  |      |            |
| Methodology Expert | Yes (AMS-I.A., AMS-II.G., AMS-II.E., AMS-III.A.V., AMS-I.D, ACM0002) |      |            |
| Local expert       | Yes (India)                                                          |      |            |
| Financial Expert   | No                                                                   |      |            |
| Technical Reviewer | Yes                                                                  |      |            |
| TA Expert          | Yes (1.2, 3.1)                                                       |      |            |
|                    |                                                                      |      |            |
| Reviewed by        | Deepika Mahala                                                       | Date | 16/02/2022 |
| Approved by        | Ashok Gautam                                                         | Date | 18/02/2022 |