



**Verified Carbon  
Standard**

## DORI ALIMENTOS LTDA - BIOMASS BASED PROJECT - BRAZIL



**Document Prepared by Sustainable Carbon – Projetos Ambientais Ltda**

|                          |                                                                                                                                                                                      |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Project Title</b>     | Dori Alimentos Ltda - Biomass Based Project - Brazil                                                                                                                                 |
| <b>Version</b>           | 05                                                                                                                                                                                   |
| <b>Report ID</b>         | VCS Monitoring Period 05                                                                                                                                                             |
| <b>Date of Issue</b>     | 25 February 2021                                                                                                                                                                     |
| <b>Project ID</b>        | 332                                                                                                                                                                                  |
| <b>Monitoring Period</b> | 01-July-2018 to 31-July-2020                                                                                                                                                         |
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# 1 PROJECT DETAILS

## 1.1 Summary Description of the Implementation Status of the Project

This project activity was developed by CantorCO2e Brazil, and is now being carried out by Sustainable Carbon - Projetos Ambientais LTDA.

The project activity is a bundle project of two production units of *Dori Alimentos LTDA* and consists in promoting the fuel switch in *Dori's* boiler. *Dori Alimentos LTDA* is a candy industry that was created in 1967. *Dori* manufactures all kinds of candies, chocolates and peanuts in different flavours, to meet domestic and international demand. The company exports its products to 50 different countries, including Latin America, Australia, South Africa, United States and some European countries. Besides that, *Dori Alimentos LTDA* has distribution center throughout Brazil.

In the candies manufacturing process, steam is used in several different stages of the production process, for example in the greenhouse providing heat to dry the final products or during the production in order to increase the humidity of some candies' ingredients.

The project activity involves the use of biomass as a source of fuel to supply steam for the production process, replacing shale oil, which is the fuel commonly used in industries at São Paulo and Paraná. In both units, Eucalyptus and Pinus wood chips are used, and in *Dori's* head office peanut shells are applied. The fuel switch started in December 2004; however, the regular operation of the boiler with biomass began on August 2005 in *Dori's* head office and on *Dori's* subsidiary company on January 2005.

Since 2008, the boilers in both production units have been working predominantly with renewable biomass to generate steam. There is still a minor consumption of shale oil in Rolândia, which is related to the period of equipment maintenance or cleaning, which usually lasts from two to three hours. In 2013 *Dori's* head office substituted the shale oil for natural gas which has a smaller CO<sub>2</sub> Emission factor, 73.3 tCO<sub>2</sub>/TJ and 56.1 tCO<sub>2</sub>/TJ respectively. This change occurred because of the availability of a natural gas pipeline in Marília region that brought an opportunity to *Dori's* Head Office to change the type of fossil fuel utilized to natural gas mainly due to its advantages regarding the decrease of environmental impacts when compared with the shale oil previously utilized. Financially, the switch to natural gas was not an advantage for the company. According to Arruda (2009)<sup>1</sup> the price for generate 1TJ using shale oil is around R\$ 5,000.00, six times cheaper than using natural gas, R\$ 30,000.00.

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<sup>1</sup> ARRUDA, M. Z. Análise de Combustíveis de Caldeiras. Universidade de Passo Fundo, 2009. Available at: <<http://usuarios.upf.br/~engeamb/TCCs/2009-2/MATEUS%20ZART%20DE%20ARRUDA.pdf>>. Last visit on: 03/09/2020.

The implementation of this project activity in *Dori Alimentos LTDA* has as objective reduce the use of fossil fuel and substitutes it by renewable biomasses to feed boilers and generate steam to sustain the production. The intention is to minimize environmental impacts related to the consumption of fossil fuels and mitigate greenhouse gas (GHG) emissions.

The emission reductions due to the switch of fossil fuel (shale oil and natural gas) to renewable biomasses were equal to **22,925 tCO<sub>2e</sub>** during the monitoring period from 01/07/2018 to 31/07/2020.

## 1.2 Sectoral Scope and Project Type

The project is associated to the following scope, as per UNFCCC definitions:

1 - Energy industries (renewable - / non-renewable sources);

This is not an AFOLU project. This is not a grouped project.

## 1.3 Project Proponent

The project proponents contributed to the current report by assigning the following roles and responsibilities to:

|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Organization name</b> | Dori Alimentos LTDA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Contact person</b>    | Mrs. Márcia S. Cavicchioli de Oliveira;<br>Mrs Silvia Cristina Pinas.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Title</b>             | Mrs. Márcia S. Cavicchioli de Oliveira, Environmental management system coordinator is responsible to provide all information of Marília Plant and to lead the visit of the candy industry. Also, she gives detailed information on process and production lines, environmental challenges, technological challenges, research and development history and food market challenges. Furthermore, she is responsible for the monitoring data, providing the quantification of the amount of steam produced and of the amount of biomass.<br><br>Mrs Silvia Cristina Pinas Environmental management technician responsible to provide all information of Rolândia Plant and to lead the visit of the candy industry. Also she is responsible for the monitoring data, providing all the information necessary for the Monitoring Report. |
| <b>Address</b>           | Dori Alimentos S.A. (Matriz)<br>Av. República, 5159/85 - Distrito Industrial Santo Barion.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

|           |                                                                                                                                                   |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------|
|           | CEP 17512-035 - Marília/SP<br>Dori Alimentos S.A. (Filial Rolândia/PR)<br>Av. Itamaraty, 1324 - Parque Industrial.<br>CEP 86600-000 - Rolândia/PR |
| Telephone | Dori Alimentos S.A. (Matriz)<br>+55 14 3408-3000<br>Dori Alimentos S.A. (Filial Rolândia/PR)<br>+55 43 3255 2400                                  |
| Email     | marcia.oliveira@dori.com.br<br>silvia.pinas@dori.com.br                                                                                           |

As the project authorized contact, Sustainable Carbon was given the responsibility of preparing the present project report and to accompany the proponents until the end of the crediting period.

|                   |                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Organization name | Sustainable Carbon – Projetos Ambientais Ltda                                                                                                                                                                                                                                                                                                                                     |
| Contact person    | Marcelo Hector Sabbagh Haddad<br>Guilherme Lucas Medeiros Prado<br>Carolina Pendl Abinajm<br>Dênis Gonçalves<br>Lyara Carolina Montone do Amaral<br>Yara Fernandes da Silva<br>Amanda Barussi<br>Heloísa Dornelles                                                                                                                                                                |
| Title             | Marcelo Hector Sabbagh Haddad: Technical Coordinator<br>Guilherme Lucas Medeiros Prado: Technical Analyst<br>Carolina Pendl Abinajm: Technical Analyst<br>Dênis Gonçalves: Technical Consultant<br>Lyara Carolina Montone do Amaral: Technical Analyst<br>Yara Fernandes da Silva: Technical Analyst<br>Amanda Barussi: Technical Analyst<br>Heloísa Dornelles: Technical Analyst |
| Address           | R. Doutor Bacelar. 368 – Conj. 23 – Vila Clementino<br>São Paulo – SP – Brazil<br>Postal Code: 04026-001                                                                                                                                                                                                                                                                          |

|           |                               |
|-----------|-------------------------------|
| Telephone | +55 11 2649 0036              |
| Email     | tecnica@sustainablecarbon.com |

## 1.4 Other Entities Involved in the Project

No other entity is involved in this project activity.

## 1.5 Project Start Date

According to version 02 of the VCS PD<sup>2</sup>, project start date was defined as the date when the project began reducing or removing GHG emissions through employment of renewable biomass.

| Unity                     | Project Start Date |
|---------------------------|--------------------|
| <i>Dori's Head Office</i> | 01/03/2005         |
| <i>Dori's Subsidiary</i>  | 01/12/2004         |

## 1.6 Project Crediting Period

The second crediting period for this project started on 01/04/2016 and ends on 31/03/2026.

VCS project crediting period: 10 years, two times renewable.

## 1.7 Project Location

### -Head Office

Av. República, 5.159/85 - Distrito industrial Santo Barion - CEP 17512-035 Marília, SP, Brazil;

The coordinates are: 22° 12' 50" S and 49° 56' 45" W

### -Subsidiary

Av. Itamaraty, 1324 - pq. Industrial - CEP 86600-000 Rolândia, PR, Brazil.

The coordinates are: 23° 18' 36" S and 51° 22' 8" W

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<sup>2</sup> Document available at: <https://registry.terra.org/app/projectDetail/VCS/332>. Last visited on 03/09/2020.



**Figure 1** Geographic location of the cities of the project activity that has the following coordinates

## 1.8 Title and Reference of Methodology

The project applies a small-scale methodology approved under the Clean Development Mechanism, as follows:

**Category AMS-I.C:** Thermal energy production with or without electricity - Version 20.0 (Valid from June 14<sup>th</sup>, 2014 onwards)<sup>3</sup>. This category comprises renewable energy technologies that supply individual households or users with thermal energy that displaces fossil fuels.

## 1.9 Participation under other GHG Programs

- Emission Trading Programs and Other Binding Limits: The project activity is not included in an emission trading program or any other mechanism that includes GHG allowance trading.
- Other Forms of Environmental Credit: The project activity is not creating any other form of environmental credit under any specific program.
- Participation under Other GHG Programs: The project activity is not registered under any other GHG program.

<sup>3</sup> This version of the methodology is available at: <http://cdm.unfccc.int/methodologies/DB/JSEM51TG3UVKADPA25IPUHXJ85HE8A>. Last visited on 03/09/2020.

### 1.10 Other Forms of Credit

This project is not creating any other form of environmental credit under any specific program. Social Carbon Methodology is being applied only as a Sustainability tool in association with VCS standard.

### 1.11 Sustainable Development

The project activity contributes to the level reduction of greenhouse gas (GHG) emissions by avoiding the incentive of non-renewable fuels utilization. In addition, the project activity will contribute to the sustainable development of the host country, such as:

- The use of clean and efficient technologies through the use of renewable biomass as fuel. By these means, the project is in accordance to Agenda 21, Brazilian Sustainable Development Criteria and Sustainable Development Goals;
- A pioneer initiative that encourages the development of new technologies throughout the country, which replaces the use of non-renewable fuels with renewable biomass which presents an efficient thermal energy generation potential as shown in the project demonstration.
- The use of renewable biomasses results in GHG emission reductions. This way the project does not cause any additional negative impacts as all generated energy is a result of the best exploitation of the natural resources available. In addition, the project improves the local environmental conditions by establishing proper treatment for the renewable biomasses and by contributing to the fossil fuels' reduction.

## 2 SAFEGUARDS

### 2.1 No Net Harm

The only negative impact identified is that the project activity will generate ashes due to the burning of the biomass, but this impact will be mitigated by using the ashes generated in Marília site as fertilizer and the ashes generated in Rolândia site are destined to a worm farm to produce compost.

The burning of the new biomasses also emits particulate material and CO<sub>2</sub>, as well as when using fossil fuel. However, GHG emission reductions will be improved since they are renewable biomasses which have carbon neutral lifecycles.

### 2.2 Local Stakeholder Consultation

**The formal stakeholder consultation was carried out during the validation of the project. Currently the company's environmental management area is available to receive any kind of suggestions and comments from the community through the website, SCS, telephone, e-mail or even personally.**

### 2.3 AFOLU-Specific Safeguards

Not Applicable, this is not an AFOLU project.

## 3 IMPLEMENTATION STATUS

### 3.1 Implementation Status of the Project Activity

The project description document of the second credit period was validated by the Designated Operational Entity Earthood Services Private Limited and this present monitoring report will be verified by RINA Services S.p.A.

The emission reductions are achieved by displacing the use of fossil fuels to provide thermal energy in Dori candy industry that occurs with the renewable biomasses employed in this project activity. The Dori's Head Office implemented the use of natural gas during the first crediting period of the project activity, in substitution to the shale oil previously utilized. This decision was made due to the new natural gas pipeline available in Marília region, which brings an opportunity to the Dori's Head Office to change the type of fossil fuel utilized to natural gas due to its advantages regarding the environmental impacts when compared with the shale oil previously utilized. Thus, currently, the emission reductions are achieved by displacing the use of natural gas in the Marília site and shale oil in the Rolândia site.

The boilers have been utilized in the company since 2005 and their lifetime is more than 20 years. Considering the low utilization, since the boilers of natural gas and shale oil are only for back up use, the lifetime of the boilers would encompass all the project crediting period.

In the head office unity, wood chips are bought in bulk and discharged in a third company that realizes the bagging work, the full bags are transported to Dori Alimentos in Marília where it keeps stored under a shed until its use. The same kind of storage and bagging work happens with the peanut shells which are residues from Dori's production making this sector self-sustainable. Biomass transportation from the bags to the metallic silo will take place by means of a conveyor belt that will start and stop automatically based on the biomass amount required by the boiler.

The Dori's subsidiary unity does not make use of bags for biomass storage and the first silo feeding is made by a motorized cart which feed the wood chips directly into the first mill hopper. From there, the wood chips go through a conveyor belt into a classifier where the thicker wood chips are excluded. The selected wood chips fall into the second silo, and then they are carried by a conveyor belt to the metallic silo which feeds the boiler with the help of two screws that dose the biomass. This dosage is controlled by an automated system which controls other instruments such as pressure and flow meter.

This Monitoring Report refers to the fifth monitoring period of this project and includes data from 01-07-2018 to 31-07-2020.

## 3.2 Deviations

### 3.2.1 Methodology Deviations

There were no methodology deviations during this monitoring period.

### 3.2.2 Project Description Deviations

During the present monitoring period Marília and Rolândia units did not have all the road weight calibration certification and did not presented all the flow meter calibration evidence. Following conservative assumptions or discount factors, it is used as reference the paragraph 231 point b.ii of the Standard CDM Project Standard for Project Activities (version 02.0 [CDM-EB93-A04-STAN](#)), a 10% was discounted for the months when there was no calibration certificate<sup>4</sup>.

Also, for the leakage due to transportation of biomass calculation, two parameters that were not described in the Project Description were now included in the MR, according to the applied methodology AMS-I.C. v.20. This methodology requires the use of the methodological tool 16 - "Project and Leakage Emissions from Biomass", v. 04.0, for calculating leakage emissions from biomass, which in turn requires the use of the methodological tool 12 - "Project and leakage emissions from transportation of freight", v. 01.1.0, for calculating emissions resulting from transportation of biomass, if distance is more than 200 km. The tool 12 requests the utilization of the parameters EFCO<sub>2</sub>, f (default CO<sub>2</sub> emission factor for freight transportation activity f) and FR<sub>f,m</sub> (total mass of freight transported in freight transportation activity f in monitoring period m). Thus, this deviation does not impact the applicability of the methodology, additionality or the appropriateness of the baseline scenario, and the project remains in compliance with the applied methodology. In addition, according to VCS rules, project description deviations shall be reported in all subsequent verification reports. Therefore, this section also describes below all Project Description Deviations verified in the 4<sup>th</sup> monitoring report, which comprised the period from 01/04/2016 to 30/06/2018. During the 4<sup>th</sup> monitoring period Rolândia unit have never calibrated the flow meter. To the periods that flow meter has not been calibrated an accuracy error of 0.1% was applied to the steam generation, according to the manufacturer's instructions. Once Marília unit did not presented all the flow meter calibration evidences an accuracy error of 0.04% was applied to the data according to the manufacturer's instructions. Furthermore, Rolândia unit did not have the road weight calibration certification. According to the "CDM validation and verification standard

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<sup>4</sup> CDM Project Standard for Project Activities. Available at: <[https://cdm.unfccc.int/filestorage/e/x/t/extfile-20181221092046529-Reg\\_stan04v02.pdf/Reg\\_stan04v02.pdf?t=d3h8cW51dWRpfDDkuO-2EZT-Zs4wRijcmRz2](https://cdm.unfccc.int/filestorage/e/x/t/extfile-20181221092046529-Reg_stan04v02.pdf/Reg_stan04v02.pdf?t=d3h8cW51dWRpfDDkuO-2EZT-Zs4wRijcmRz2)>. Last visited: 01/02/2021.

for project activities (CDM-EB93-A05-STAN)<sup>5</sup> due to lack of information, it was applied +5% of error ensuring the most conservative scenario regarding the generation of leakage.

### 3.3 Grouped Projects

Not applicable. This is not a grouped project. The project activity is a bundled project of two production units of Dori Alimentos LTDA: the company's head office, situated in the city of Marília - State of São Paulo, and the subsidiary production plant, located in the city of Rolândia - State of Paraná.

## 4 DATA AND PARAMETERS

### 4.1 Data and Parameters Available at Validation

|                                                                                              |                                                                                                                                                                                                                                                                                                                                      |
|----------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data / Parameter                                                                             | EF <sub>projected fossil fuel</sub>                                                                                                                                                                                                                                                                                                  |
| Data unit                                                                                    | tCO <sub>2</sub> /TJ                                                                                                                                                                                                                                                                                                                 |
| Description                                                                                  | CO <sub>2</sub> Emission factor of fossil fuel                                                                                                                                                                                                                                                                                       |
| Source of data                                                                               | Value checked at:<br><br>-IPCC: Intergovernmental Panel on Climate Change. Available at: <a href="http://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/2_Volume2/V2_2_Ch2_Stationary_Combustion.pdf">http://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/2_Volume2/V2_2_Ch2_Stationary_Combustion.pdf</a> . Last visited on 03/09/2020. |
| Value applied                                                                                | Baseline Emissions<br>73.3 tCO <sub>2</sub> /TJ (shale oil)<br>56.1 tCO <sub>2</sub> /TJ (natural gas)<br>Project Emissions<br>79.2 tCO <sub>2</sub> /TJ (shale oil)<br>58.3 tCO <sub>2</sub> /TJ (natural gas)                                                                                                                      |
| Justification of choice of data or description of measurement methods and procedures applied | It was considered IPCC default value for fossil fuel (shale oil and natural gas). The CO <sub>2</sub> emissions from the consumption of fossil fuel in the project activity have to be discounted of the emission reductions (project emissions).                                                                                    |
| Purpose of Data                                                                              | This parameter calculates emissions from the use of the fossil fuel considering the amount that would be utilized in the baseline scenario. Also, it was used to calculate the project emissions.                                                                                                                                    |
| Comments                                                                                     | Applicable for stationary combustion in the manufacturing industries and construction. Data will be kept for two years after                                                                                                                                                                                                         |

<sup>5</sup> CDM validation and verification standard for project activities Available at: [https://cdm.unfccc.int/filestorage/e/x/t/extfile-20170502114945594-reg\\_stan06.pdf/reg\\_stan06.pdf?t=WVh8cGNvcDQwfDAvJfoBNSvGS8O77sy7FM64](https://cdm.unfccc.int/filestorage/e/x/t/extfile-20170502114945594-reg_stan06.pdf/reg_stan06.pdf?t=WVh8cGNvcDQwfDAvJfoBNSvGS8O77sy7FM64). Last visited: 28/12/2020

|  |                                                                                                                           |
|--|---------------------------------------------------------------------------------------------------------------------------|
|  | the end of the crediting period or the last issuance of carbon credits for this project activity, whichever occurs later. |
|--|---------------------------------------------------------------------------------------------------------------------------|

|                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Data / Parameter</b>                                                                             | <b>NCV<sub>fossilfuel</sub></b>                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Data unit</b>                                                                                    | TJ/Tonne of fossil fuel                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Description</b>                                                                                  | Net Calorific Value                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Source of data</b>                                                                               | Value average checked at:<br>IPCC - Intergovernmental Panel on Climate Change. <sup>6</sup>                                                                                                                                                                                                                                                                                                                                                  |
| <b>Value applied</b>                                                                                | Baseline Emissions<br>0.0381 TJ/Tonne (shale oil)<br>0.048 TJ/Tonne (natural gas)<br>Project Emissions<br>0.0452 TJ/Tonne (shale oil)<br>0.0504 TJ/Tonne (natural gas)                                                                                                                                                                                                                                                                       |
| <b>Justification of choice of data or description of measurement methods and procedures applied</b> | It was considered IPCC default value for fossil fuel, as recommended in the applied methodology - "Tool to calculate project or leakage CO <sub>2</sub> emissions from fossil fuel combustion", on Data/parameter table 4 <sup>7</sup> , source of data option d.                                                                                                                                                                            |
| <b>Purpose of Data</b>                                                                              | This value provided the energy generated by the amount of fossil fuel that would be used in the absence of the project and the energy generated by the amount of fossil fuel consumed in the current period.                                                                                                                                                                                                                                 |
| <b>Comments</b>                                                                                     | IPCC default values shall be used only when country or project specific data are not available or difficult to obtain, according to "Guidance on IPCC default values" (Extract of the report of the twenty-fifth meeting of the Executive Board, paragraph 59).<br><br>Data will be kept for two years after the end of the crediting period or the last issuance of carbon credits income for this project activity, whichever occurs later |

|                         |                                       |
|-------------------------|---------------------------------------|
| <b>Data / Parameter</b> | <b><math>\rho_{fossilfuel}</math></b> |
| <b>Data unit</b>        | tonne/m <sup>3</sup>                  |

<sup>6</sup> [https://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/2\\_Volume2/V2\\_1\\_Ch1\\_Introduction.pdf](https://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/2_Volume2/V2_1_Ch1_Introduction.pdf) last visited on 03/08/2020

<sup>7</sup>Methodological tool – Tool to calculate project or leakage CO<sub>2</sub> emissions from fossil fuel combustion. Available at <http://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-03-v3.pdf> Last visited: 03/09/2020

|                                                                                              |                                                                                                                                                                                                                            |
|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Description                                                                                  | Specific gravity of the fossil fuel                                                                                                                                                                                        |
| Source of data                                                                               | Value provided by the fuel provider through the technical form of the fossil fuel.                                                                                                                                         |
| Value applied                                                                                | 0.9700 (shale oil)<br>0.000766 (natural gas)                                                                                                                                                                               |
| Justification of choice of data or description of measurement methods and procedures applied | Project participants measured this data, as recommended in the applied methodology - "Tool to calculate project or leakage CO2 emissions from fossil fuel combustion", on Data/parameter table 3, source of data option b. |
| Purpose of Data                                                                              | This parameter is used to calculate baseline emissions from the use of fossil fuel, measured in liters, which would be used in the baseline scenario. This data is used to convert measured values to tonnes.              |
| Comments                                                                                     | Data will be kept for two years after the end of the crediting period or the last issuance of carbon credits for this project activity, whichever occurs later.                                                            |

| Data / Parameter                                                                             | $\rho_{renbiomass}$                                                                                                                                                                                                                                                                                                                                     |  |           |                                          |            |       |               |       |
|----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------|------------------------------------------|------------|-------|---------------|-------|
| Data unit                                                                                    | Tonne / m <sup>3</sup>                                                                                                                                                                                                                                                                                                                                  |  |           |                                          |            |       |               |       |
| Description                                                                                  | Specific gravity of renewable biomass                                                                                                                                                                                                                                                                                                                   |  |           |                                          |            |       |               |       |
| Source of data                                                                               | Value measured and recorded by the project proponent.                                                                                                                                                                                                                                                                                                   |  |           |                                          |            |       |               |       |
| Value applied                                                                                | <table><tr><th>Biomasses</th><th>Specific Gravity (tonne/m<sup>3</sup>)</th></tr><tr><td>Wood chips</td><td>0.350</td></tr><tr><td>Peanut shells</td><td>0.117</td></tr></table>                                                                                                                                                                        |  | Biomasses | Specific Gravity (tonne/m <sup>3</sup> ) | Wood chips | 0.350 | Peanut shells | 0.117 |
| Biomasses                                                                                    | Specific Gravity (tonne/m <sup>3</sup> )                                                                                                                                                                                                                                                                                                                |  |           |                                          |            |       |               |       |
| Wood chips                                                                                   | 0.350                                                                                                                                                                                                                                                                                                                                                   |  |           |                                          |            |       |               |       |
| Peanut shells                                                                                | 0.117                                                                                                                                                                                                                                                                                                                                                   |  |           |                                          |            |       |               |       |
| Justification of choice of data or description of measurement methods and procedures applied | Project participants measured this data, as recommended in the applied methodology - “Tool to calculate project or leakage CO2 emissions from fossil fuel combustion”, on Data/parameter table 3, source of data option b.                                                                                                                              |  |           |                                          |            |       |               |       |
| Purpose of Data                                                                              | The amount of biomasses was monitored in accordance to the weight or volume described in the receipts from the providers. Where the values in the receipts are described in m <sup>3</sup> , it is necessary the conversion to tonnes through the specific gravity of each biomass. In addition, this information was utilized to evaluate the leakage. |  |           |                                          |            |       |               |       |
| Comments                                                                                     | Data will be kept for two years after the end of the crediting period or the last issuance of carbon credits for this project activity, whichever occurs later.                                                                                                                                                                                         |  |           |                                          |            |       |               |       |

| Data / Parameter                                                                             | EF <sub>CO<sub>2</sub>f</sub>                                                                                                                                                                                                                                                                                   |  |  |               |                 |                |     |                |     |
|----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|---------------|-----------------|----------------|-----|----------------|-----|
| Data unit                                                                                    | gCO <sub>2</sub> /t km                                                                                                                                                                                                                                                                                          |  |  |               |                 |                |     |                |     |
| Description                                                                                  | Default CO <sub>2</sub> emission factor for freight transportation activity f                                                                                                                                                                                                                                   |  |  |               |                 |                |     |                |     |
| Source of data                                                                               | Methodological tool: Project and leakage emissions from transportation of freight. Available at: < <a href="https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-12-v1.1.0.pdf">https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-12-v1.1.0.pdf</a> >. Last visit on: 28/12/2019 |  |  |               |                 |                |     |                |     |
| Value applied                                                                                | <table><tr><th>Vehicle class</th><th>Emission factor</th></tr><tr><td>Light vehicles</td><td>245</td></tr><tr><td>Heavy vehicles</td><td>129</td></tr></table>                                                                                                                                                  |  |  | Vehicle class | Emission factor | Light vehicles | 245 | Heavy vehicles | 129 |
| Vehicle class                                                                                | Emission factor                                                                                                                                                                                                                                                                                                 |  |  |               |                 |                |     |                |     |
| Light vehicles                                                                               | 245                                                                                                                                                                                                                                                                                                             |  |  |               |                 |                |     |                |     |
| Heavy vehicles                                                                               | 129                                                                                                                                                                                                                                                                                                             |  |  |               |                 |                |     |                |     |
| Justification of choice of data or description of measurement methods and procedures applied | The source of data will be the methodological tool default values, a reliable validated document developed by UNFCCC                                                                                                                                                                                            |  |  |               |                 |                |     |                |     |
| Purpose of Data                                                                              | Calculation of project emissions                                                                                                                                                                                                                                                                                |  |  |               |                 |                |     |                |     |
| Comments                                                                                     | This parameter will be utilized to calculate project emissions for freight that exceeds 200 km.<br>Data will be kept for two years after the end of the crediting period or the last issuance of carbon credits for this project activity, whichever occurs later                                               |  |  |               |                 |                |     |                |     |

|                                                                                              |                                                                                                                                                                                                                                              |  |  |
|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| Data / Parameter                                                                             | <b>Efficiency Factor</b>                                                                                                                                                                                                                     |  |  |
| Data unit                                                                                    | Tonne of fossil fuel per tonne of steam.                                                                                                                                                                                                     |  |  |
| Description                                                                                  | Efficiency of the boiler, used for determining the amount of fossil fuel consumed, based on the amount of steam generated                                                                                                                    |  |  |
| Source of data                                                                               | This value was calculated through historical steam generation data and fossil fuel consumption registries provided by <i>Dori Alimentos LTDA</i> .                                                                                           |  |  |
| Value applied                                                                                | 0.074074 (shale oil)<br>0.056741 (natural gas)                                                                                                                                                                                               |  |  |
| Justification of choice of data or description of measurement methods and procedures applied | This parameter was calculated through historical data provided by Dori Alimentos LTDA. The efficiency of the boiler is 0.074074 tonne of shale oil per tonne of steam generate and 0.056741 tonne of natural gas per tonne of steam generate |  |  |
| Purpose of Data                                                                              | Required to calculate the amount of fossil fuel generated by the amount of steam calculated with the steam flow meter.                                                                                                                       |  |  |

|          |                                                                                                                                                                 |
|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Comments | Data will be kept for two years after the end of the crediting period or the last issuance of carbon credits for this project activity, whichever occurs later. |
|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                                                                                              |                                                                                                                                                                                                                 |
|----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data / Parameter                                                                             | COEF <sub>i,y</sub>                                                                                                                                                                                             |
| Data unit                                                                                    | tCO <sub>2</sub> e / tonne of fossil fuel                                                                                                                                                                       |
| Description                                                                                  | CO <sub>2</sub> emission coefficient of the fossil fuel                                                                                                                                                         |
| Source of data                                                                               | Value calculated through the parameters NCV <sub>fossil fuel</sub> and EF <sub>fossil fuel</sub><br><br>COEF <sub>i,y</sub> = NCV <sub>fossil fuel</sub> * EF <sub>fossil fuel</sub> [tCO <sub>2</sub> e/tonne] |
| Value applied                                                                                | Project Emissions<br>3.57984 (shale oil)<br>2.93832 (natural gas)                                                                                                                                               |
| Justification of choice of data or description of measurement methods and procedures applied | Required by the “Tool to calculate project or leakage CO <sub>2</sub> emissions from fossil fuel combustion” (version 03, EB 96, Annex 4).                                                                      |
| Purpose of Data                                                                              | This parameter is utilized to calculate the project emissions (CO <sub>2</sub> emissions from the consumption of shale oil and natural gas in the project activity).                                            |
| Comments                                                                                     | Data will be kept for two years after the end of the crediting period or the last issuance of carbon credits for this project activity, whichever occurs later.                                                 |

|                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data / Parameter                                                                             | η <sub>th</sub>                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Data unit                                                                                    | %                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Description                                                                                  | The efficiency of the plant using fossil fuel that would have been used in the absence of the project activity.                                                                                                                                                                                                                                                                                                                                         |
| Source of data                                                                               | Value provided by the project proponent                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Value applied                                                                                | 100%                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Justification of choice of data or description of measurement methods and procedures applied | Dori's facilities did not monitor the energy generated by the fossil fuel consumed. However, it is well known the amount of fossil fuel and the amount of fuel required to generate one tonne of steam. Therefore, this project estimates the baseline emissions through the energy generated by the real consumption of fossil fuel and assuming that η <sub>th</sub> is 100%. The efficiency of 100% was considered in order to be more conservative. |

|                 |                                                                                                                                                                 |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Purpose of Data | The purpose of this parameter is to determine the efficiency of the plant.                                                                                      |
| Comments        | Data will be kept for two years after the end of the crediting period or the last issuance of carbon credits for this project activity, whichever occurs later. |

## 4.2 Data and Parameters Monitored

| Data / Parameter                                                | Q <sub>renbiomass</sub>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |          |                                |          |  |        |                             |  |                                |  |         |          |         |          |      |       |     |     |   |        |       |     |     |   |           |       |     |    |   |         |       |       |     |   |          |       |     |    |   |          |     |     |    |   |            |       |       |     |   |         |       |     |    |   |          |     |     |    |   |       |       |     |    |   |       |     |     |    |   |     |       |     |    |   |      |       |     |    |   |      |       |     |     |   |        |       |       |     |   |           |       |     |     |   |         |       |       |     |   |          |     |       |     |   |          |     |     |    |   |            |        |       |       |   |
|-----------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|--------------------------------|----------|--|--------|-----------------------------|--|--------------------------------|--|---------|----------|---------|----------|------|-------|-----|-----|---|--------|-------|-----|-----|---|-----------|-------|-----|----|---|---------|-------|-------|-----|---|----------|-------|-----|----|---|----------|-----|-----|----|---|------------|-------|-------|-----|---|---------|-------|-----|----|---|----------|-----|-----|----|---|-------|-------|-----|----|---|-------|-----|-----|----|---|-----|-------|-----|----|---|------|-------|-----|----|---|------|-------|-----|-----|---|--------|-------|-------|-----|---|-----------|-------|-----|-----|---|---------|-------|-------|-----|---|----------|-----|-------|-----|---|----------|-----|-----|----|---|------------|--------|-------|-------|---|
| Data unit                                                       | Tonnes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |          |                                |          |  |        |                             |  |                                |  |         |          |         |          |      |       |     |     |   |        |       |     |     |   |           |       |     |    |   |         |       |       |     |   |          |       |     |    |   |          |     |     |    |   |            |       |       |     |   |         |       |     |    |   |          |     |     |    |   |       |       |     |    |   |       |     |     |    |   |     |       |     |    |   |      |       |     |    |   |      |       |     |     |   |        |       |       |     |   |           |       |     |     |   |         |       |       |     |   |          |     |       |     |   |          |     |     |    |   |            |        |       |       |   |
| Description                                                     | Amount of renewable biomass (per year)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |          |                                |          |  |        |                             |  |                                |  |         |          |         |          |      |       |     |     |   |        |       |     |     |   |           |       |     |    |   |         |       |       |     |   |          |       |     |    |   |          |     |     |    |   |            |       |       |     |   |         |       |     |    |   |          |     |     |    |   |       |       |     |    |   |       |     |     |    |   |     |       |     |    |   |      |       |     |    |   |      |       |     |     |   |        |       |       |     |   |           |       |     |     |   |         |       |       |     |   |          |     |       |     |   |          |     |     |    |   |            |        |       |       |   |
| Source of data                                                  | Values measured and supplied by the project proponent                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |          |                                |          |  |        |                             |  |                                |  |         |          |         |          |      |       |     |     |   |        |       |     |     |   |           |       |     |    |   |         |       |       |     |   |          |       |     |    |   |          |     |     |    |   |            |       |       |     |   |         |       |     |    |   |          |     |     |    |   |       |       |     |    |   |       |     |     |    |   |     |       |     |    |   |      |       |     |    |   |      |       |     |     |   |        |       |       |     |   |           |       |     |     |   |         |       |       |     |   |          |     |       |     |   |          |     |     |    |   |            |        |       |       |   |
| Description of measurement methods and procedures to be applied | As predicted in the VCS PD, the amount of renewable biomass would be monitored in accordance to the weight described in the receipts from the providers and the number of trucks which arrives in the companies.<br><br>The Q <sub>renbiomass</sub> was monitored by an internal control.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |          |                                |          |  |        |                             |  |                                |  |         |          |         |          |      |       |     |     |   |        |       |     |     |   |           |       |     |    |   |         |       |       |     |   |          |       |     |    |   |          |     |     |    |   |            |       |       |     |   |         |       |     |    |   |          |     |     |    |   |       |       |     |    |   |       |     |     |    |   |     |       |     |    |   |      |       |     |    |   |      |       |     |     |   |        |       |       |     |   |           |       |     |     |   |         |       |       |     |   |          |     |       |     |   |          |     |     |    |   |            |        |       |       |   |
| Frequency of monitoring/recording                               | Monthly                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |          |                                |          |  |        |                             |  |                                |  |         |          |         |          |      |       |     |     |   |        |       |     |     |   |           |       |     |    |   |         |       |       |     |   |          |       |     |    |   |          |     |     |    |   |            |       |       |     |   |         |       |     |    |   |          |     |     |    |   |       |       |     |    |   |       |     |     |    |   |     |       |     |    |   |      |       |     |    |   |      |       |     |     |   |        |       |       |     |   |           |       |     |     |   |         |       |       |     |   |          |     |       |     |   |          |     |     |    |   |            |        |       |       |   |
| Value monitored                                                 | <table><tr><th rowspan="2">Period</th><th colspan="2">Wood chips consume (tonnes)</th><th colspan="2">Peanut shells consume (tonnes)</th></tr><tr><th>Marília</th><th>Rolândia</th><th>Marília</th><th>Rolândia</th></tr><tr><td>July</td><td>1,146</td><td>793</td><td>115</td><td>0</td></tr><tr><td>August</td><td>1,375</td><td>780</td><td>100</td><td>0</td></tr><tr><td>September</td><td>1,201</td><td>690</td><td>92</td><td>0</td></tr><tr><td>October</td><td>1,141</td><td>1,002</td><td>103</td><td>0</td></tr><tr><td>November</td><td>1,133</td><td>868</td><td>98</td><td>0</td></tr><tr><td>December</td><td>861</td><td>634</td><td>85</td><td>0</td></tr><tr><td>Total 2018</td><td>6,858</td><td>4,767</td><td>592</td><td>0</td></tr><tr><td>January</td><td>1,164</td><td>835</td><td>98</td><td>0</td></tr><tr><td>February</td><td>964</td><td>769</td><td>84</td><td>0</td></tr><tr><td>March</td><td>1,001</td><td>809</td><td>79</td><td>0</td></tr><tr><td>April</td><td>903</td><td>793</td><td>67</td><td>0</td></tr><tr><td>May</td><td>1,256</td><td>757</td><td>83</td><td>0</td></tr><tr><td>June</td><td>1,071</td><td>170</td><td>73</td><td>0</td></tr><tr><td>July</td><td>1,012</td><td>875</td><td>131</td><td>0</td></tr><tr><td>August</td><td>1,055</td><td>1,049</td><td>144</td><td>0</td></tr><tr><td>September</td><td>1,046</td><td>932</td><td>109</td><td>0</td></tr><tr><td>October</td><td>1,046</td><td>1,008</td><td>121</td><td>0</td></tr><tr><td>November</td><td>920</td><td>1,092</td><td>101</td><td>0</td></tr><tr><td>December</td><td>924</td><td>874</td><td>95</td><td>0</td></tr><tr><td>Total 2019</td><td>12,362</td><td>9,961</td><td>1,185</td><td>0</td></tr></table> |          |                                |          |  | Period | Wood chips consume (tonnes) |  | Peanut shells consume (tonnes) |  | Marília | Rolândia | Marília | Rolândia | July | 1,146 | 793 | 115 | 0 | August | 1,375 | 780 | 100 | 0 | September | 1,201 | 690 | 92 | 0 | October | 1,141 | 1,002 | 103 | 0 | November | 1,133 | 868 | 98 | 0 | December | 861 | 634 | 85 | 0 | Total 2018 | 6,858 | 4,767 | 592 | 0 | January | 1,164 | 835 | 98 | 0 | February | 964 | 769 | 84 | 0 | March | 1,001 | 809 | 79 | 0 | April | 903 | 793 | 67 | 0 | May | 1,256 | 757 | 83 | 0 | June | 1,071 | 170 | 73 | 0 | July | 1,012 | 875 | 131 | 0 | August | 1,055 | 1,049 | 144 | 0 | September | 1,046 | 932 | 109 | 0 | October | 1,046 | 1,008 | 121 | 0 | November | 920 | 1,092 | 101 | 0 | December | 924 | 874 | 95 | 0 | Total 2019 | 12,362 | 9,961 | 1,185 | 0 |
| Period                                                          | Wood chips consume (tonnes)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |          | Peanut shells consume (tonnes) |          |  |        |                             |  |                                |  |         |          |         |          |      |       |     |     |   |        |       |     |     |   |           |       |     |    |   |         |       |       |     |   |          |       |     |    |   |          |     |     |    |   |            |       |       |     |   |         |       |     |    |   |          |     |     |    |   |       |       |     |    |   |       |     |     |    |   |     |       |     |    |   |      |       |     |    |   |      |       |     |     |   |        |       |       |     |   |           |       |     |     |   |         |       |       |     |   |          |     |       |     |   |          |     |     |    |   |            |        |       |       |   |
|                                                                 | Marília                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Rolândia | Marília                        | Rolândia |  |        |                             |  |                                |  |         |          |         |          |      |       |     |     |   |        |       |     |     |   |           |       |     |    |   |         |       |       |     |   |          |       |     |    |   |          |     |     |    |   |            |       |       |     |   |         |       |     |    |   |          |     |     |    |   |       |       |     |    |   |       |     |     |    |   |     |       |     |    |   |      |       |     |    |   |      |       |     |     |   |        |       |       |     |   |           |       |     |     |   |         |       |       |     |   |          |     |       |     |   |          |     |     |    |   |            |        |       |       |   |
| July                                                            | 1,146                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 793      | 115                            | 0        |  |        |                             |  |                                |  |         |          |         |          |      |       |     |     |   |        |       |     |     |   |           |       |     |    |   |         |       |       |     |   |          |       |     |    |   |          |     |     |    |   |            |       |       |     |   |         |       |     |    |   |          |     |     |    |   |       |       |     |    |   |       |     |     |    |   |     |       |     |    |   |      |       |     |    |   |      |       |     |     |   |        |       |       |     |   |           |       |     |     |   |         |       |       |     |   |          |     |       |     |   |          |     |     |    |   |            |        |       |       |   |
| August                                                          | 1,375                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 780      | 100                            | 0        |  |        |                             |  |                                |  |         |          |         |          |      |       |     |     |   |        |       |     |     |   |           |       |     |    |   |         |       |       |     |   |          |       |     |    |   |          |     |     |    |   |            |       |       |     |   |         |       |     |    |   |          |     |     |    |   |       |       |     |    |   |       |     |     |    |   |     |       |     |    |   |      |       |     |    |   |      |       |     |     |   |        |       |       |     |   |           |       |     |     |   |         |       |       |     |   |          |     |       |     |   |          |     |     |    |   |            |        |       |       |   |
| September                                                       | 1,201                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 690      | 92                             | 0        |  |        |                             |  |                                |  |         |          |         |          |      |       |     |     |   |        |       |     |     |   |           |       |     |    |   |         |       |       |     |   |          |       |     |    |   |          |     |     |    |   |            |       |       |     |   |         |       |     |    |   |          |     |     |    |   |       |       |     |    |   |       |     |     |    |   |     |       |     |    |   |      |       |     |    |   |      |       |     |     |   |        |       |       |     |   |           |       |     |     |   |         |       |       |     |   |          |     |       |     |   |          |     |     |    |   |            |        |       |       |   |
| October                                                         | 1,141                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 1,002    | 103                            | 0        |  |        |                             |  |                                |  |         |          |         |          |      |       |     |     |   |        |       |     |     |   |           |       |     |    |   |         |       |       |     |   |          |       |     |    |   |          |     |     |    |   |            |       |       |     |   |         |       |     |    |   |          |     |     |    |   |       |       |     |    |   |       |     |     |    |   |     |       |     |    |   |      |       |     |    |   |      |       |     |     |   |        |       |       |     |   |           |       |     |     |   |         |       |       |     |   |          |     |       |     |   |          |     |     |    |   |            |        |       |       |   |
| November                                                        | 1,133                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 868      | 98                             | 0        |  |        |                             |  |                                |  |         |          |         |          |      |       |     |     |   |        |       |     |     |   |           |       |     |    |   |         |       |       |     |   |          |       |     |    |   |          |     |     |    |   |            |       |       |     |   |         |       |     |    |   |          |     |     |    |   |       |       |     |    |   |       |     |     |    |   |     |       |     |    |   |      |       |     |    |   |      |       |     |     |   |        |       |       |     |   |           |       |     |     |   |         |       |       |     |   |          |     |       |     |   |          |     |     |    |   |            |        |       |       |   |
| December                                                        | 861                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 634      | 85                             | 0        |  |        |                             |  |                                |  |         |          |         |          |      |       |     |     |   |        |       |     |     |   |           |       |     |    |   |         |       |       |     |   |          |       |     |    |   |          |     |     |    |   |            |       |       |     |   |         |       |     |    |   |          |     |     |    |   |       |       |     |    |   |       |     |     |    |   |     |       |     |    |   |      |       |     |    |   |      |       |     |     |   |        |       |       |     |   |           |       |     |     |   |         |       |       |     |   |          |     |       |     |   |          |     |     |    |   |            |        |       |       |   |
| Total 2018                                                      | 6,858                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 4,767    | 592                            | 0        |  |        |                             |  |                                |  |         |          |         |          |      |       |     |     |   |        |       |     |     |   |           |       |     |    |   |         |       |       |     |   |          |       |     |    |   |          |     |     |    |   |            |       |       |     |   |         |       |     |    |   |          |     |     |    |   |       |       |     |    |   |       |     |     |    |   |     |       |     |    |   |      |       |     |    |   |      |       |     |     |   |        |       |       |     |   |           |       |     |     |   |         |       |       |     |   |          |     |       |     |   |          |     |     |    |   |            |        |       |       |   |
| January                                                         | 1,164                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 835      | 98                             | 0        |  |        |                             |  |                                |  |         |          |         |          |      |       |     |     |   |        |       |     |     |   |           |       |     |    |   |         |       |       |     |   |          |       |     |    |   |          |     |     |    |   |            |       |       |     |   |         |       |     |    |   |          |     |     |    |   |       |       |     |    |   |       |     |     |    |   |     |       |     |    |   |      |       |     |    |   |      |       |     |     |   |        |       |       |     |   |           |       |     |     |   |         |       |       |     |   |          |     |       |     |   |          |     |     |    |   |            |        |       |       |   |
| February                                                        | 964                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 769      | 84                             | 0        |  |        |                             |  |                                |  |         |          |         |          |      |       |     |     |   |        |       |     |     |   |           |       |     |    |   |         |       |       |     |   |          |       |     |    |   |          |     |     |    |   |            |       |       |     |   |         |       |     |    |   |          |     |     |    |   |       |       |     |    |   |       |     |     |    |   |     |       |     |    |   |      |       |     |    |   |      |       |     |     |   |        |       |       |     |   |           |       |     |     |   |         |       |       |     |   |          |     |       |     |   |          |     |     |    |   |            |        |       |       |   |
| March                                                           | 1,001                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 809      | 79                             | 0        |  |        |                             |  |                                |  |         |          |         |          |      |       |     |     |   |        |       |     |     |   |           |       |     |    |   |         |       |       |     |   |          |       |     |    |   |          |     |     |    |   |            |       |       |     |   |         |       |     |    |   |          |     |     |    |   |       |       |     |    |   |       |     |     |    |   |     |       |     |    |   |      |       |     |    |   |      |       |     |     |   |        |       |       |     |   |           |       |     |     |   |         |       |       |     |   |          |     |       |     |   |          |     |     |    |   |            |        |       |       |   |
| April                                                           | 903                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 793      | 67                             | 0        |  |        |                             |  |                                |  |         |          |         |          |      |       |     |     |   |        |       |     |     |   |           |       |     |    |   |         |       |       |     |   |          |       |     |    |   |          |     |     |    |   |            |       |       |     |   |         |       |     |    |   |          |     |     |    |   |       |       |     |    |   |       |     |     |    |   |     |       |     |    |   |      |       |     |    |   |      |       |     |     |   |        |       |       |     |   |           |       |     |     |   |         |       |       |     |   |          |     |       |     |   |          |     |     |    |   |            |        |       |       |   |
| May                                                             | 1,256                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 757      | 83                             | 0        |  |        |                             |  |                                |  |         |          |         |          |      |       |     |     |   |        |       |     |     |   |           |       |     |    |   |         |       |       |     |   |          |       |     |    |   |          |     |     |    |   |            |       |       |     |   |         |       |     |    |   |          |     |     |    |   |       |       |     |    |   |       |     |     |    |   |     |       |     |    |   |      |       |     |    |   |      |       |     |     |   |        |       |       |     |   |           |       |     |     |   |         |       |       |     |   |          |     |       |     |   |          |     |     |    |   |            |        |       |       |   |
| June                                                            | 1,071                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 170      | 73                             | 0        |  |        |                             |  |                                |  |         |          |         |          |      |       |     |     |   |        |       |     |     |   |           |       |     |    |   |         |       |       |     |   |          |       |     |    |   |          |     |     |    |   |            |       |       |     |   |         |       |     |    |   |          |     |     |    |   |       |       |     |    |   |       |     |     |    |   |     |       |     |    |   |      |       |     |    |   |      |       |     |     |   |        |       |       |     |   |           |       |     |     |   |         |       |       |     |   |          |     |       |     |   |          |     |     |    |   |            |        |       |       |   |
| July                                                            | 1,012                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 875      | 131                            | 0        |  |        |                             |  |                                |  |         |          |         |          |      |       |     |     |   |        |       |     |     |   |           |       |     |    |   |         |       |       |     |   |          |       |     |    |   |          |     |     |    |   |            |       |       |     |   |         |       |     |    |   |          |     |     |    |   |       |       |     |    |   |       |     |     |    |   |     |       |     |    |   |      |       |     |    |   |      |       |     |     |   |        |       |       |     |   |           |       |     |     |   |         |       |       |     |   |          |     |       |     |   |          |     |     |    |   |            |        |       |       |   |
| August                                                          | 1,055                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 1,049    | 144                            | 0        |  |        |                             |  |                                |  |         |          |         |          |      |       |     |     |   |        |       |     |     |   |           |       |     |    |   |         |       |       |     |   |          |       |     |    |   |          |     |     |    |   |            |       |       |     |   |         |       |     |    |   |          |     |     |    |   |       |       |     |    |   |       |     |     |    |   |     |       |     |    |   |      |       |     |    |   |      |       |     |     |   |        |       |       |     |   |           |       |     |     |   |         |       |       |     |   |          |     |       |     |   |          |     |     |    |   |            |        |       |       |   |
| September                                                       | 1,046                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 932      | 109                            | 0        |  |        |                             |  |                                |  |         |          |         |          |      |       |     |     |   |        |       |     |     |   |           |       |     |    |   |         |       |       |     |   |          |       |     |    |   |          |     |     |    |   |            |       |       |     |   |         |       |     |    |   |          |     |     |    |   |       |       |     |    |   |       |     |     |    |   |     |       |     |    |   |      |       |     |    |   |      |       |     |     |   |        |       |       |     |   |           |       |     |     |   |         |       |       |     |   |          |     |       |     |   |          |     |     |    |   |            |        |       |       |   |
| October                                                         | 1,046                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 1,008    | 121                            | 0        |  |        |                             |  |                                |  |         |          |         |          |      |       |     |     |   |        |       |     |     |   |           |       |     |    |   |         |       |       |     |   |          |       |     |    |   |          |     |     |    |   |            |       |       |     |   |         |       |     |    |   |          |     |     |    |   |       |       |     |    |   |       |     |     |    |   |     |       |     |    |   |      |       |     |    |   |      |       |     |     |   |        |       |       |     |   |           |       |     |     |   |         |       |       |     |   |          |     |       |     |   |          |     |     |    |   |            |        |       |       |   |
| November                                                        | 920                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 1,092    | 101                            | 0        |  |        |                             |  |                                |  |         |          |         |          |      |       |     |     |   |        |       |     |     |   |           |       |     |    |   |         |       |       |     |   |          |       |     |    |   |          |     |     |    |   |            |       |       |     |   |         |       |     |    |   |          |     |     |    |   |       |       |     |    |   |       |     |     |    |   |     |       |     |    |   |      |       |     |    |   |      |       |     |     |   |        |       |       |     |   |           |       |     |     |   |         |       |       |     |   |          |     |       |     |   |          |     |     |    |   |            |        |       |       |   |
| December                                                        | 924                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 874      | 95                             | 0        |  |        |                             |  |                                |  |         |          |         |          |      |       |     |     |   |        |       |     |     |   |           |       |     |    |   |         |       |       |     |   |          |       |     |    |   |          |     |     |    |   |            |       |       |     |   |         |       |     |    |   |          |     |     |    |   |       |       |     |    |   |       |     |     |    |   |     |       |     |    |   |      |       |     |    |   |      |       |     |     |   |        |       |       |     |   |           |       |     |     |   |         |       |       |     |   |          |     |       |     |   |          |     |     |    |   |            |        |       |       |   |
| Total 2019                                                      | 12,362                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 9,961    | 1,185                          | 0        |  |        |                             |  |                                |  |         |          |         |          |      |       |     |     |   |        |       |     |     |   |           |       |     |    |   |         |       |       |     |   |          |       |     |    |   |          |     |     |    |   |            |       |       |     |   |         |       |     |    |   |          |     |     |    |   |       |       |     |    |   |       |     |     |    |   |     |       |     |    |   |      |       |     |    |   |      |       |     |     |   |        |       |       |     |   |           |       |     |     |   |         |       |       |     |   |          |     |       |     |   |          |     |     |    |   |            |        |       |       |   |

|                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |               |               |              |          |
|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------------|--------------|----------|
|                                       | January                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 975           | 1,071         | 106          | 0        |
|                                       | February                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 926           | 744           | 97           | 0        |
|                                       | March                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 1,068         | 1,015         | 110          | 0        |
|                                       | April                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 638           | 94            | 55           | 0        |
|                                       | May                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 660           | 639           | 79           | 0        |
|                                       | June                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 740           | 633           | 85           | 0        |
|                                       | July                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 1,114         | 1,033         | 91           | 0        |
|                                       | <b>Total 2020</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <b>6,121</b>  | <b>5,229</b>  | <b>623</b>   | <b>0</b> |
|                                       | <b>Total monitoring period</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>25,340</b> | <b>19,957</b> | <b>2,401</b> | <b>0</b> |
| <b>Monitoring equipment</b>           | <p><i>Dori's</i> units have a road weight machine, both from Toledo, being part of accuracy class III (model 820J, serial number 10254955 for Marília site and model 810II, serial number 195 for Rolândia site) responsible for measurement of biomass purchased. The number of renewable biomasses was monitored in accordance with <i>Dori's</i> internal control spreadsheet. Data regarding renewable biomass were organized by month.</p> <p>During the present monitoring period Marília unit did not have all the road weight calibration certification. Following conservative assumptions or discount factors, it is used as reference the paragraph 231-point b. ii of the Standard CDM Project Standard for Project Activities (version 02.0 CDM-EB93-A04-STAN), a 10% was discounted for the months when there was no calibration certificate<sup>8</sup>.</p> |               |               |              |          |
| <b>QA/QC procedures to be applied</b> | <p>The weighing-machine was calibrated periodically according to the INMETRO<sup>9</sup> procedures and parameters, in order to guarantee the quality and precision of the amount of biomass weighted.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |               |               |              |          |
| <b>Purpose of the data</b>            | <p>This parameter was used to:</p> <ul style="list-style-type: none"> <li>a) Compare the total energy produced in a monitoring period to the thermal energy that would be necessary according to the VCS PD estimates;</li> <li>b) Demonstrate that the Project fits in small scale category for biomass renewable energy projects (capacity &lt; 45MWth);</li> </ul> <p>Calculation of leakage emissions due to competing use of biomass.</p>                                                                                                                                                                                                                                                                                                                                                                                                                              |               |               |              |          |

<sup>8</sup> CDM Project Standard for Project Activities. Available at: <[https://cdm.unfccc.int/filestorage/e/x/t/extfile-20181221092046529-Reg\\_stan04v02.pdf/Reg\\_stan04v02.pdf?t=d3h8cW51dWRpfDDkuO-2EZT-Zs4wRijcmRz2](https://cdm.unfccc.int/filestorage/e/x/t/extfile-20181221092046529-Reg_stan04v02.pdf/Reg_stan04v02.pdf?t=d3h8cW51dWRpfDDkuO-2EZT-Zs4wRijcmRz2)>. Last visited: 01/02/2021.

<sup>9</sup> INMETRO – Instituto Nacional de Metrologia, Normalização e Qualidade Industrial (National Institute for metrology, normalization and industrial quality) is a federal institution, responsible for verifying calibration and quality procedures in Brazil.

|                    |                                                                                                                                                                 |
|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Calculation method | Not applicable                                                                                                                                                  |
| Comments           | Data will be kept for two years after the end of the crediting period or the last issuance of carbon credits for this project activity, whichever occurs later. |

|                                                                 |                                                                                                                                                                                                                                                                                                                       |            |           |
|-----------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-----------|
| Data / Parameter                                                | EG <sub>thermal,y</sub>                                                                                                                                                                                                                                                                                               |            |           |
| Data unit                                                       | TJ                                                                                                                                                                                                                                                                                                                    |            |           |
| Description                                                     | Amount of heat supplied (per year)                                                                                                                                                                                                                                                                                    |            |           |
| Source of data                                                  | <p>The amount of steam generated (Q<sub>steam</sub> - tonnes) is measured by the project developer (Dori Alimentos) and converted in TJ through the equation:</p> $EG_{thermal,y} (TJ) = Q_{shaleoil} (tonnes) * NCV_{shaleoil} (TJ/ton)$ $EG_{thermal,y} (TJ) = Q_{naturalgas} (tonnes) * NCV_{naturalgas} (TJ/ton)$ |            |           |
| Description of measurement methods and procedures to be applied | The amount of heat supplied was calculated based on the amount of fossil fuel that would be consumed in the baseline scenario and the energy generated by it, through the Net Calorific Value of fossil fuel.                                                                                                         |            |           |
| Frequency of monitoring/recording                               | Monthly                                                                                                                                                                                                                                                                                                               |            |           |
| Value monitored                                                 | Period                                                                                                                                                                                                                                                                                                                | Marília    | Rolândia  |
|                                                                 | July                                                                                                                                                                                                                                                                                                                  | 14         | 6         |
|                                                                 | August                                                                                                                                                                                                                                                                                                                | 16         | 5         |
|                                                                 | September                                                                                                                                                                                                                                                                                                             | 14         | 6         |
|                                                                 | October                                                                                                                                                                                                                                                                                                               | 14         | 5         |
|                                                                 | November                                                                                                                                                                                                                                                                                                              | 14         | 5         |
|                                                                 | December                                                                                                                                                                                                                                                                                                              | 11         | 1         |
|                                                                 | <b>Total 2018</b>                                                                                                                                                                                                                                                                                                     | <b>82</b>  | <b>28</b> |
|                                                                 | January                                                                                                                                                                                                                                                                                                               | 14         | 4         |
|                                                                 | February                                                                                                                                                                                                                                                                                                              | 12         | 5         |
|                                                                 | March                                                                                                                                                                                                                                                                                                                 | 12         | 5         |
|                                                                 | April                                                                                                                                                                                                                                                                                                                 | 12         | 4         |
|                                                                 | May                                                                                                                                                                                                                                                                                                                   | 15         | 4         |
|                                                                 | June                                                                                                                                                                                                                                                                                                                  | 14         | -2        |
|                                                                 | July                                                                                                                                                                                                                                                                                                                  | 14         | 4         |
|                                                                 | August                                                                                                                                                                                                                                                                                                                | 14         | 6         |
|                                                                 | September                                                                                                                                                                                                                                                                                                             | 14         | 5         |
|                                                                 | October                                                                                                                                                                                                                                                                                                               | 14         | 6         |
|                                                                 | November                                                                                                                                                                                                                                                                                                              | 13         | 3         |
|                                                                 | December                                                                                                                                                                                                                                                                                                              | 12         | 2         |
|                                                                 | <b>Total 2019</b>                                                                                                                                                                                                                                                                                                     | <b>161</b> | <b>47</b> |

|                                                                 |                                                                                                                                                                                                                                                                                                                                               |                                    |                                   |
|-----------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|-----------------------------------|
|                                                                 | January                                                                                                                                                                                                                                                                                                                                       | 13                                 | 5                                 |
|                                                                 | February                                                                                                                                                                                                                                                                                                                                      | 12                                 | 5                                 |
|                                                                 | March                                                                                                                                                                                                                                                                                                                                         | 16                                 | 6                                 |
|                                                                 | April                                                                                                                                                                                                                                                                                                                                         | 8                                  | 1                                 |
|                                                                 | May                                                                                                                                                                                                                                                                                                                                           | 8                                  | 3                                 |
|                                                                 | June                                                                                                                                                                                                                                                                                                                                          | 9                                  | 4                                 |
|                                                                 | July                                                                                                                                                                                                                                                                                                                                          | 14                                 | 6                                 |
|                                                                 | Total 2020                                                                                                                                                                                                                                                                                                                                    | 80                                 | 29                                |
|                                                                 | Total monitoring period                                                                                                                                                                                                                                                                                                                       | 323                                | 104                               |
| Monitoring equipment                                            | No monitoring equipment was used to determine this parameter.                                                                                                                                                                                                                                                                                 |                                    |                                   |
| QA/QC procedures to be applied                                  | Not applied                                                                                                                                                                                                                                                                                                                                   |                                    |                                   |
| Purpose of the data                                             | This data was utilized to determine the amount of heat supplied in the baseline calculations.                                                                                                                                                                                                                                                 |                                    |                                   |
| Calculation method                                              | <p>The amount of heat supplied was calculated through the equation:</p> $EG_{\text{thermal,y}} \text{ (TJ)} = Q_{\text{shaleoil}} \text{ (tonnes)} * NCV_{\text{shaleoil}} \text{ (TJ/tonne)}$ $EG_{\text{thermal,y}} \text{ (TJ)} = Q_{\text{naturalgas}} \text{ (tonnes)} * NCV_{\text{naturalgas}} \text{ (TJ/tonne)}$                     |                                    |                                   |
| Comments                                                        | Data will be kept for two years after the end of the crediting period or the last issuance of carbon credits for this project activity, whichever occurs later.                                                                                                                                                                               |                                    |                                   |
| Data / Parameter                                                | $Q_{\text{fossilfuel}}$                                                                                                                                                                                                                                                                                                                       |                                    |                                   |
| Data unit                                                       | Tonnes                                                                                                                                                                                                                                                                                                                                        |                                    |                                   |
| Description                                                     | Amount fossil fuel that would be consumed in the baseline scenario                                                                                                                                                                                                                                                                            |                                    |                                   |
| Source of data                                                  | Calculated based on the amount of steam generated by boilers of <i>Dori's</i> units and an Efficiency Factor determined by historical data.                                                                                                                                                                                                   |                                    |                                   |
| Description of measurement methods and procedures to be applied | The amount of fossil fuel that would be consumed was calculated through the amount of steam generated, which is measured monthly by the project proponent, and an Efficiency Factor. The Efficiency Factor was determined through historical steam generation data and fossil fuel consumption registries according to the baseline scenario. |                                    |                                   |
| Frequency of monitoring/recording                               | Monthly                                                                                                                                                                                                                                                                                                                                       |                                    |                                   |
| Value monitored                                                 | Period                                                                                                                                                                                                                                                                                                                                        | Marília<br>(natural gas in tonnes) | Rolândia<br>(Shale oil in tonnes) |
|                                                                 | July                                                                                                                                                                                                                                                                                                                                          | 4                                  | 10                                |
|                                                                 | August                                                                                                                                                                                                                                                                                                                                        | 2                                  | 15                                |
|                                                                 | September                                                                                                                                                                                                                                                                                                                                     | 5                                  | 3                                 |

|                                |                                                                                                                                                                                                                                                              |            |            |
|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------|
|                                | October                                                                                                                                                                                                                                                      | 5          | 9          |
|                                | November                                                                                                                                                                                                                                                     | 14         | 5          |
|                                | December                                                                                                                                                                                                                                                     | 13         | 4          |
|                                | <b>Total 2018</b>                                                                                                                                                                                                                                            | <b>42</b>  | <b>45</b>  |
|                                | January                                                                                                                                                                                                                                                      | 18         | 7          |
|                                | February                                                                                                                                                                                                                                                     | 28         | 8          |
|                                | March                                                                                                                                                                                                                                                        | 24         | 8          |
|                                | April                                                                                                                                                                                                                                                        | 63         | 21         |
|                                | May                                                                                                                                                                                                                                                          | 37         | 18         |
|                                | June                                                                                                                                                                                                                                                         | 15         | 95         |
|                                | July                                                                                                                                                                                                                                                         | 24         | 30         |
|                                | August                                                                                                                                                                                                                                                       | 8          | 2          |
|                                | September                                                                                                                                                                                                                                                    | 12         | 2          |
|                                | October                                                                                                                                                                                                                                                      | 15         | 1          |
|                                | November                                                                                                                                                                                                                                                     | 31         | 1          |
|                                | December                                                                                                                                                                                                                                                     | 13         | 1          |
|                                | <b>Total 2019</b>                                                                                                                                                                                                                                            | <b>287</b> | <b>194</b> |
|                                | January                                                                                                                                                                                                                                                      | 21         | 2          |
|                                | February                                                                                                                                                                                                                                                     | 8          | 2          |
|                                | March                                                                                                                                                                                                                                                        | 12         | 7          |
|                                | April                                                                                                                                                                                                                                                        | 11         | 0          |
|                                | May                                                                                                                                                                                                                                                          | 6          | 2          |
|                                | June                                                                                                                                                                                                                                                         | 18         | 4          |
|                                | July                                                                                                                                                                                                                                                         | 22         | 2          |
|                                | <b>Total 2020</b>                                                                                                                                                                                                                                            | <b>96</b>  | <b>19</b>  |
|                                | <b>Total monitoring period</b>                                                                                                                                                                                                                               | <b>425</b> | <b>258</b> |
| Monitoring equipment           | No monitoring equipment was used to determine this parameter.                                                                                                                                                                                                |            |            |
| QA/QC procedures to be applied | The project developer was responsible for gathering and maintaining in adequate archives all data from steam production (measured by flow meter daily).                                                                                                      |            |            |
| Purpose of the data            | This parameter determined the amount of fossil fuel that would be consumed in the absence of the project activity.                                                                                                                                           |            |            |
| Calculation method             | <p>The amount of fossil fuel that would be consumed in the baseline scenario was calculated through the equation:</p> $Q_{\text{fossil fuel}} = Q_{\text{steam}} (\text{tonnes of steam}) * \text{Efficiency Factor (tonnes of fossil fuel/tonne of steam)}$ |            |            |
| Comments                       | Data will be kept for two years after the end of the crediting period or the last issuance of carbon credits for this project activity, whichever occurs later.                                                                                              |            |            |

|                  |                    |
|------------------|--------------------|
| Data / Parameter | $Q_{\text{steam}}$ |
| Data unit        | Tonnes             |

| Description                                                     | Amount of steam generated by the boiler                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |          |  |        |         |          |      |       |       |        |       |       |           |       |       |         |       |       |          |       |      |          |       |     |            |        |       |         |       |       |          |       |       |       |       |       |       |       |       |     |       |       |      |       |      |      |       |       |        |       |       |           |       |       |         |       |       |          |       |       |          |       |     |            |        |        |         |       |       |          |       |       |       |       |       |       |       |     |     |       |       |      |       |       |      |       |       |            |        |        |                         |         |        |
|-----------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|--|--------|---------|----------|------|-------|-------|--------|-------|-------|-----------|-------|-------|---------|-------|-------|----------|-------|------|----------|-------|-----|------------|--------|-------|---------|-------|-------|----------|-------|-------|-------|-------|-------|-------|-------|-------|-----|-------|-------|------|-------|------|------|-------|-------|--------|-------|-------|-----------|-------|-------|---------|-------|-------|----------|-------|-------|----------|-------|-----|------------|--------|--------|---------|-------|-------|----------|-------|-------|-------|-------|-------|-------|-------|-----|-----|-------|-------|------|-------|-------|------|-------|-------|------------|--------|--------|-------------------------|---------|--------|
| Source of data                                                  | Value measured daily by the project proponent ( <i>Dori Alimentos</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |          |  |        |         |          |      |       |       |        |       |       |           |       |       |         |       |       |          |       |      |          |       |     |            |        |       |         |       |       |          |       |       |       |       |       |       |       |       |     |       |       |      |       |      |      |       |       |        |       |       |           |       |       |         |       |       |          |       |       |          |       |     |            |        |        |         |       |       |          |       |       |       |       |       |       |       |     |     |       |       |      |       |       |      |       |       |            |        |        |                         |         |        |
| Description of measurement methods and procedures to be applied | As described in the VCS PD, the amount of steam generated would be measured monthly by a flow meter installed in the boiler by the project proponent and registered in electronic format (Excel spreadsheets).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |          |  |        |         |          |      |       |       |        |       |       |           |       |       |         |       |       |          |       |      |          |       |     |            |        |       |         |       |       |          |       |       |       |       |       |       |       |       |     |       |       |      |       |      |      |       |       |        |       |       |           |       |       |         |       |       |          |       |       |          |       |     |            |        |        |         |       |       |          |       |       |       |       |       |       |       |     |     |       |       |      |       |       |      |       |       |            |        |        |                         |         |        |
| Frequency of monitoring/recording                               | Monthly                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |          |  |        |         |          |      |       |       |        |       |       |           |       |       |         |       |       |          |       |      |          |       |     |            |        |       |         |       |       |          |       |       |       |       |       |       |       |       |     |       |       |      |       |      |      |       |       |        |       |       |           |       |       |         |       |       |          |       |       |          |       |     |            |        |        |         |       |       |          |       |       |       |       |       |       |       |     |     |       |       |      |       |       |      |       |       |            |        |        |                         |         |        |
| Value monitored                                                 | <table><tr><th>Period</th><th>Marília</th><th>Rolândia</th></tr><tr><td>July</td><td>4,542</td><td>1,836</td></tr><tr><td>August</td><td>5,358</td><td>1,673</td></tr><tr><td>September</td><td>4,762</td><td>1,858</td></tr><tr><td>October</td><td>5,002</td><td>1,508</td></tr><tr><td>November</td><td>5,014</td><td>1,39</td></tr><tr><td>December</td><td>3,954</td><td>371</td></tr><tr><td>Total 2018</td><td>28,631</td><td>8,983</td></tr><tr><td>January</td><td>4,849</td><td>1,194</td></tr><tr><td>February</td><td>3,922</td><td>1,725</td></tr><tr><td>March</td><td>4,029</td><td>1,590</td></tr><tr><td>April</td><td>3,838</td><td>1,117</td></tr><tr><td>May</td><td>5,056</td><td>1,229</td></tr><tr><td>June</td><td>4,594</td><td>-484</td></tr><tr><td>July</td><td>4,625</td><td>1,358</td></tr><tr><td>August</td><td>4,753</td><td>1,972</td></tr><tr><td>September</td><td>4,655</td><td>1,621</td></tr><tr><td>October</td><td>4,698</td><td>1,836</td></tr><tr><td>November</td><td>4,681</td><td>1,004</td></tr><tr><td>December</td><td>4,581</td><td>848</td></tr><tr><td>Total 2019</td><td>54,281</td><td>15,009</td></tr><tr><td>January</td><td>4,887</td><td>1,871</td></tr><tr><td>February</td><td>4,568</td><td>1,702</td></tr><tr><td>March</td><td>5,602</td><td>1,987</td></tr><tr><td>April</td><td>2,553</td><td>277</td></tr><tr><td>May</td><td>2,658</td><td>1,180</td></tr><tr><td>June</td><td>3,032</td><td>1,283</td></tr><tr><td>July</td><td>4,468</td><td>2,067</td></tr><tr><td>Total 2020</td><td>27,769</td><td>10,367</td></tr><tr><td>Total monitoring period</td><td>110,681</td><td>34,359</td></tr></table> |          |  | Period | Marília | Rolândia | July | 4,542 | 1,836 | August | 5,358 | 1,673 | September | 4,762 | 1,858 | October | 5,002 | 1,508 | November | 5,014 | 1,39 | December | 3,954 | 371 | Total 2018 | 28,631 | 8,983 | January | 4,849 | 1,194 | February | 3,922 | 1,725 | March | 4,029 | 1,590 | April | 3,838 | 1,117 | May | 5,056 | 1,229 | June | 4,594 | -484 | July | 4,625 | 1,358 | August | 4,753 | 1,972 | September | 4,655 | 1,621 | October | 4,698 | 1,836 | November | 4,681 | 1,004 | December | 4,581 | 848 | Total 2019 | 54,281 | 15,009 | January | 4,887 | 1,871 | February | 4,568 | 1,702 | March | 5,602 | 1,987 | April | 2,553 | 277 | May | 2,658 | 1,180 | June | 3,032 | 1,283 | July | 4,468 | 2,067 | Total 2020 | 27,769 | 10,367 | Total monitoring period | 110,681 | 34,359 |
| Period                                                          | Marília                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Rolândia |  |        |         |          |      |       |       |        |       |       |           |       |       |         |       |       |          |       |      |          |       |     |            |        |       |         |       |       |          |       |       |       |       |       |       |       |       |     |       |       |      |       |      |      |       |       |        |       |       |           |       |       |         |       |       |          |       |       |          |       |     |            |        |        |         |       |       |          |       |       |       |       |       |       |       |     |     |       |       |      |       |       |      |       |       |            |        |        |                         |         |        |
| July                                                            | 4,542                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 1,836    |  |        |         |          |      |       |       |        |       |       |           |       |       |         |       |       |          |       |      |          |       |     |            |        |       |         |       |       |          |       |       |       |       |       |       |       |       |     |       |       |      |       |      |      |       |       |        |       |       |           |       |       |         |       |       |          |       |       |          |       |     |            |        |        |         |       |       |          |       |       |       |       |       |       |       |     |     |       |       |      |       |       |      |       |       |            |        |        |                         |         |        |
| August                                                          | 5,358                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 1,673    |  |        |         |          |      |       |       |        |       |       |           |       |       |         |       |       |          |       |      |          |       |     |            |        |       |         |       |       |          |       |       |       |       |       |       |       |       |     |       |       |      |       |      |      |       |       |        |       |       |           |       |       |         |       |       |          |       |       |          |       |     |            |        |        |         |       |       |          |       |       |       |       |       |       |       |     |     |       |       |      |       |       |      |       |       |            |        |        |                         |         |        |
| September                                                       | 4,762                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 1,858    |  |        |         |          |      |       |       |        |       |       |           |       |       |         |       |       |          |       |      |          |       |     |            |        |       |         |       |       |          |       |       |       |       |       |       |       |       |     |       |       |      |       |      |      |       |       |        |       |       |           |       |       |         |       |       |          |       |       |          |       |     |            |        |        |         |       |       |          |       |       |       |       |       |       |       |     |     |       |       |      |       |       |      |       |       |            |        |        |                         |         |        |
| October                                                         | 5,002                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 1,508    |  |        |         |          |      |       |       |        |       |       |           |       |       |         |       |       |          |       |      |          |       |     |            |        |       |         |       |       |          |       |       |       |       |       |       |       |       |     |       |       |      |       |      |      |       |       |        |       |       |           |       |       |         |       |       |          |       |       |          |       |     |            |        |        |         |       |       |          |       |       |       |       |       |       |       |     |     |       |       |      |       |       |      |       |       |            |        |        |                         |         |        |
| November                                                        | 5,014                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 1,39     |  |        |         |          |      |       |       |        |       |       |           |       |       |         |       |       |          |       |      |          |       |     |            |        |       |         |       |       |          |       |       |       |       |       |       |       |       |     |       |       |      |       |      |      |       |       |        |       |       |           |       |       |         |       |       |          |       |       |          |       |     |            |        |        |         |       |       |          |       |       |       |       |       |       |       |     |     |       |       |      |       |       |      |       |       |            |        |        |                         |         |        |
| December                                                        | 3,954                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 371      |  |        |         |          |      |       |       |        |       |       |           |       |       |         |       |       |          |       |      |          |       |     |            |        |       |         |       |       |          |       |       |       |       |       |       |       |       |     |       |       |      |       |      |      |       |       |        |       |       |           |       |       |         |       |       |          |       |       |          |       |     |            |        |        |         |       |       |          |       |       |       |       |       |       |       |     |     |       |       |      |       |       |      |       |       |            |        |        |                         |         |        |
| Total 2018                                                      | 28,631                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 8,983    |  |        |         |          |      |       |       |        |       |       |           |       |       |         |       |       |          |       |      |          |       |     |            |        |       |         |       |       |          |       |       |       |       |       |       |       |       |     |       |       |      |       |      |      |       |       |        |       |       |           |       |       |         |       |       |          |       |       |          |       |     |            |        |        |         |       |       |          |       |       |       |       |       |       |       |     |     |       |       |      |       |       |      |       |       |            |        |        |                         |         |        |
| January                                                         | 4,849                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 1,194    |  |        |         |          |      |       |       |        |       |       |           |       |       |         |       |       |          |       |      |          |       |     |            |        |       |         |       |       |          |       |       |       |       |       |       |       |       |     |       |       |      |       |      |      |       |       |        |       |       |           |       |       |         |       |       |          |       |       |          |       |     |            |        |        |         |       |       |          |       |       |       |       |       |       |       |     |     |       |       |      |       |       |      |       |       |            |        |        |                         |         |        |
| February                                                        | 3,922                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 1,725    |  |        |         |          |      |       |       |        |       |       |           |       |       |         |       |       |          |       |      |          |       |     |            |        |       |         |       |       |          |       |       |       |       |       |       |       |       |     |       |       |      |       |      |      |       |       |        |       |       |           |       |       |         |       |       |          |       |       |          |       |     |            |        |        |         |       |       |          |       |       |       |       |       |       |       |     |     |       |       |      |       |       |      |       |       |            |        |        |                         |         |        |
| March                                                           | 4,029                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 1,590    |  |        |         |          |      |       |       |        |       |       |           |       |       |         |       |       |          |       |      |          |       |     |            |        |       |         |       |       |          |       |       |       |       |       |       |       |       |     |       |       |      |       |      |      |       |       |        |       |       |           |       |       |         |       |       |          |       |       |          |       |     |            |        |        |         |       |       |          |       |       |       |       |       |       |       |     |     |       |       |      |       |       |      |       |       |            |        |        |                         |         |        |
| April                                                           | 3,838                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 1,117    |  |        |         |          |      |       |       |        |       |       |           |       |       |         |       |       |          |       |      |          |       |     |            |        |       |         |       |       |          |       |       |       |       |       |       |       |       |     |       |       |      |       |      |      |       |       |        |       |       |           |       |       |         |       |       |          |       |       |          |       |     |            |        |        |         |       |       |          |       |       |       |       |       |       |       |     |     |       |       |      |       |       |      |       |       |            |        |        |                         |         |        |
| May                                                             | 5,056                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 1,229    |  |        |         |          |      |       |       |        |       |       |           |       |       |         |       |       |          |       |      |          |       |     |            |        |       |         |       |       |          |       |       |       |       |       |       |       |       |     |       |       |      |       |      |      |       |       |        |       |       |           |       |       |         |       |       |          |       |       |          |       |     |            |        |        |         |       |       |          |       |       |       |       |       |       |       |     |     |       |       |      |       |       |      |       |       |            |        |        |                         |         |        |
| June                                                            | 4,594                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | -484     |  |        |         |          |      |       |       |        |       |       |           |       |       |         |       |       |          |       |      |          |       |     |            |        |       |         |       |       |          |       |       |       |       |       |       |       |       |     |       |       |      |       |      |      |       |       |        |       |       |           |       |       |         |       |       |          |       |       |          |       |     |            |        |        |         |       |       |          |       |       |       |       |       |       |       |     |     |       |       |      |       |       |      |       |       |            |        |        |                         |         |        |
| July                                                            | 4,625                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 1,358    |  |        |         |          |      |       |       |        |       |       |           |       |       |         |       |       |          |       |      |          |       |     |            |        |       |         |       |       |          |       |       |       |       |       |       |       |       |     |       |       |      |       |      |      |       |       |        |       |       |           |       |       |         |       |       |          |       |       |          |       |     |            |        |        |         |       |       |          |       |       |       |       |       |       |       |     |     |       |       |      |       |       |      |       |       |            |        |        |                         |         |        |
| August                                                          | 4,753                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 1,972    |  |        |         |          |      |       |       |        |       |       |           |       |       |         |       |       |          |       |      |          |       |     |            |        |       |         |       |       |          |       |       |       |       |       |       |       |       |     |       |       |      |       |      |      |       |       |        |       |       |           |       |       |         |       |       |          |       |       |          |       |     |            |        |        |         |       |       |          |       |       |       |       |       |       |       |     |     |       |       |      |       |       |      |       |       |            |        |        |                         |         |        |
| September                                                       | 4,655                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 1,621    |  |        |         |          |      |       |       |        |       |       |           |       |       |         |       |       |          |       |      |          |       |     |            |        |       |         |       |       |          |       |       |       |       |       |       |       |       |     |       |       |      |       |      |      |       |       |        |       |       |           |       |       |         |       |       |          |       |       |          |       |     |            |        |        |         |       |       |          |       |       |       |       |       |       |       |     |     |       |       |      |       |       |      |       |       |            |        |        |                         |         |        |
| October                                                         | 4,698                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 1,836    |  |        |         |          |      |       |       |        |       |       |           |       |       |         |       |       |          |       |      |          |       |     |            |        |       |         |       |       |          |       |       |       |       |       |       |       |       |     |       |       |      |       |      |      |       |       |        |       |       |           |       |       |         |       |       |          |       |       |          |       |     |            |        |        |         |       |       |          |       |       |       |       |       |       |       |     |     |       |       |      |       |       |      |       |       |            |        |        |                         |         |        |
| November                                                        | 4,681                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 1,004    |  |        |         |          |      |       |       |        |       |       |           |       |       |         |       |       |          |       |      |          |       |     |            |        |       |         |       |       |          |       |       |       |       |       |       |       |       |     |       |       |      |       |      |      |       |       |        |       |       |           |       |       |         |       |       |          |       |       |          |       |     |            |        |        |         |       |       |          |       |       |       |       |       |       |       |     |     |       |       |      |       |       |      |       |       |            |        |        |                         |         |        |
| December                                                        | 4,581                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 848      |  |        |         |          |      |       |       |        |       |       |           |       |       |         |       |       |          |       |      |          |       |     |            |        |       |         |       |       |          |       |       |       |       |       |       |       |       |     |       |       |      |       |      |      |       |       |        |       |       |           |       |       |         |       |       |          |       |       |          |       |     |            |        |        |         |       |       |          |       |       |       |       |       |       |       |     |     |       |       |      |       |       |      |       |       |            |        |        |                         |         |        |
| Total 2019                                                      | 54,281                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 15,009   |  |        |         |          |      |       |       |        |       |       |           |       |       |         |       |       |          |       |      |          |       |     |            |        |       |         |       |       |          |       |       |       |       |       |       |       |       |     |       |       |      |       |      |      |       |       |        |       |       |           |       |       |         |       |       |          |       |       |          |       |     |            |        |        |         |       |       |          |       |       |       |       |       |       |       |     |     |       |       |      |       |       |      |       |       |            |        |        |                         |         |        |
| January                                                         | 4,887                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 1,871    |  |        |         |          |      |       |       |        |       |       |           |       |       |         |       |       |          |       |      |          |       |     |            |        |       |         |       |       |          |       |       |       |       |       |       |       |       |     |       |       |      |       |      |      |       |       |        |       |       |           |       |       |         |       |       |          |       |       |          |       |     |            |        |        |         |       |       |          |       |       |       |       |       |       |       |     |     |       |       |      |       |       |      |       |       |            |        |        |                         |         |        |
| February                                                        | 4,568                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 1,702    |  |        |         |          |      |       |       |        |       |       |           |       |       |         |       |       |          |       |      |          |       |     |            |        |       |         |       |       |          |       |       |       |       |       |       |       |       |     |       |       |      |       |      |      |       |       |        |       |       |           |       |       |         |       |       |          |       |       |          |       |     |            |        |        |         |       |       |          |       |       |       |       |       |       |       |     |     |       |       |      |       |       |      |       |       |            |        |        |                         |         |        |
| March                                                           | 5,602                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 1,987    |  |        |         |          |      |       |       |        |       |       |           |       |       |         |       |       |          |       |      |          |       |     |            |        |       |         |       |       |          |       |       |       |       |       |       |       |       |     |       |       |      |       |      |      |       |       |        |       |       |           |       |       |         |       |       |          |       |       |          |       |     |            |        |        |         |       |       |          |       |       |       |       |       |       |       |     |     |       |       |      |       |       |      |       |       |            |        |        |                         |         |        |
| April                                                           | 2,553                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 277      |  |        |         |          |      |       |       |        |       |       |           |       |       |         |       |       |          |       |      |          |       |     |            |        |       |         |       |       |          |       |       |       |       |       |       |       |       |     |       |       |      |       |      |      |       |       |        |       |       |           |       |       |         |       |       |          |       |       |          |       |     |            |        |        |         |       |       |          |       |       |       |       |       |       |       |     |     |       |       |      |       |       |      |       |       |            |        |        |                         |         |        |
| May                                                             | 2,658                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 1,180    |  |        |         |          |      |       |       |        |       |       |           |       |       |         |       |       |          |       |      |          |       |     |            |        |       |         |       |       |          |       |       |       |       |       |       |       |       |     |       |       |      |       |      |      |       |       |        |       |       |           |       |       |         |       |       |          |       |       |          |       |     |            |        |        |         |       |       |          |       |       |       |       |       |       |       |     |     |       |       |      |       |       |      |       |       |            |        |        |                         |         |        |
| June                                                            | 3,032                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 1,283    |  |        |         |          |      |       |       |        |       |       |           |       |       |         |       |       |          |       |      |          |       |     |            |        |       |         |       |       |          |       |       |       |       |       |       |       |       |     |       |       |      |       |      |      |       |       |        |       |       |           |       |       |         |       |       |          |       |       |          |       |     |            |        |        |         |       |       |          |       |       |       |       |       |       |       |     |     |       |       |      |       |       |      |       |       |            |        |        |                         |         |        |
| July                                                            | 4,468                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 2,067    |  |        |         |          |      |       |       |        |       |       |           |       |       |         |       |       |          |       |      |          |       |     |            |        |       |         |       |       |          |       |       |       |       |       |       |       |       |     |       |       |      |       |      |      |       |       |        |       |       |           |       |       |         |       |       |          |       |       |          |       |     |            |        |        |         |       |       |          |       |       |       |       |       |       |       |     |     |       |       |      |       |       |      |       |       |            |        |        |                         |         |        |
| Total 2020                                                      | 27,769                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 10,367   |  |        |         |          |      |       |       |        |       |       |           |       |       |         |       |       |          |       |      |          |       |     |            |        |       |         |       |       |          |       |       |       |       |       |       |       |       |     |       |       |      |       |      |      |       |       |        |       |       |           |       |       |         |       |       |          |       |       |          |       |     |            |        |        |         |       |       |          |       |       |       |       |       |       |       |     |     |       |       |      |       |       |      |       |       |            |        |        |                         |         |        |
| Total monitoring period                                         | 110,681                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 34,359   |  |        |         |          |      |       |       |        |       |       |           |       |       |         |       |       |          |       |      |          |       |     |            |        |       |         |       |       |          |       |       |       |       |       |       |       |       |     |       |       |      |       |      |      |       |       |        |       |       |           |       |       |         |       |       |          |       |       |          |       |     |            |        |        |         |       |       |          |       |       |       |       |       |       |       |     |     |       |       |      |       |       |      |       |       |            |        |        |                         |         |        |
| Monitoring equipment                                            | Flow meter equipment, installed in the boiler, was used to determine this parameter. A flow meter equipment was installed at <i>Marília's</i> unit is specified as SMAR LD301, which is part of accuracy range 2, serial number 186894-04, technology developed by HART®. For                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |          |  |        |         |          |      |       |       |        |       |       |           |       |       |         |       |       |          |       |      |          |       |     |            |        |       |         |       |       |          |       |       |       |       |       |       |       |       |     |       |       |      |       |      |      |       |       |        |       |       |           |       |       |         |       |       |          |       |       |          |       |     |            |        |        |         |       |       |          |       |       |       |       |       |       |       |     |     |       |       |      |       |       |      |       |       |            |        |        |                         |         |        |

|                                |                                                                                                                                                                                                                                                    |
|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                | Rolândia units the flow meter installed is specified as VLM10 by Spirax Sarco, scale accuracy of 99.9% and serial number 121341-VLM001.                                                                                                            |
| QA/QC procedures to be applied | The project developer was responsible for gathering and maintaining in adequate archive all data from steam generation (measured by flow meter daily) and also for controlling the flow meter calibration (according to the INMETRO requirements). |
| Purpose of the data            | This parameter was utilized to calculate the baseline emissions. Through the amount of steam generation is possible to determine the amount of fossil fuel that would be consumed in the baseline scenario.                                        |
| Calculation method             | Not applied                                                                                                                                                                                                                                        |
| Comments                       | Data will be kept for two years after the end of the crediting period or the last issuance of carbon credits for this project activity, whichever occurs later.                                                                                    |

|                                                                 |                                                                                                                                                                           |
|-----------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data / Parameter                                                | $D_{f,m}$                                                                                                                                                                 |
| Data unit                                                       | Kilometer                                                                                                                                                                 |
| Description                                                     | Return trip distance between the origin and destination of freight transportation activity f in monitoring period m                                                       |
| Source of data                                                  | Monitored                                                                                                                                                                 |
| Description of measurement methods and procedures to be applied | <b>Determined once for each freight transportation activity f for a reference trip using the vehicle odometer or any other appropriate sources (e.g. on-line sources)</b> |
| Frequency of monitoring/recording                               | To be updated whenever the distance changes                                                                                                                               |

| Value monitored                     | <table> <tr> <th>Provider</th><th>Trip distance (km)</th></tr> <tr> <td>Anderson Luiz Martins E Cia Lt</td><td>87,8</td></tr> <tr> <td>Femin Industria E Comercio De Madei</td><td>47,2</td></tr> <tr> <td>Maximino Pastorello S.A.</td><td>31</td></tr> <tr> <td>Ser Oil Comercial Eireli</td><td>36</td></tr> <tr> <td>Dasos Florestal Ltda</td><td>36,2</td></tr> <tr> <td>Combustiveis Gasoil Ltda</td><td>36,2</td></tr> <tr> <td>Imperio Da Energia - Eireli</td><td>316</td></tr> <tr> <td>Agf De Almeida Eucaliptos Epp</td><td>9,4</td></tr> <tr> <td>Combusalte Comercio E Transp.</td><td>29</td></tr> <tr> <td>Gas Brasileiro Distribuidora S/A</td><td>14,8</td></tr> <tr> <td>Mancano &amp; Ozawa Ltda Me</td><td>13,6</td></tr> <tr> <td>Jc Comercio De Residuos Agricolas</td><td>25,4</td></tr> </table> | Provider | Trip distance (km) | Anderson Luiz Martins E Cia Lt | 87,8 | Femin Industria E Comercio De Madei | 47,2 | Maximino Pastorello S.A. | 31 | Ser Oil Comercial Eireli | 36 | Dasos Florestal Ltda | 36,2 | Combustiveis Gasoil Ltda | 36,2 | Imperio Da Energia - Eireli | 316 | Agf De Almeida Eucaliptos Epp | 9,4 | Combusalte Comercio E Transp. | 29 | Gas Brasileiro Distribuidora S/A | 14,8 | Mancano & Ozawa Ltda Me | 13,6 | Jc Comercio De Residuos Agricolas | 25,4 |
|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|--------------------|--------------------------------|------|-------------------------------------|------|--------------------------|----|--------------------------|----|----------------------|------|--------------------------|------|-----------------------------|-----|-------------------------------|-----|-------------------------------|----|----------------------------------|------|-------------------------|------|-----------------------------------|------|
| Provider                            | Trip distance (km)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |          |                    |                                |      |                                     |      |                          |    |                          |    |                      |      |                          |      |                             |     |                               |     |                               |    |                                  |      |                         |      |                                   |      |
| Anderson Luiz Martins E Cia Lt      | 87,8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |          |                    |                                |      |                                     |      |                          |    |                          |    |                      |      |                          |      |                             |     |                               |     |                               |    |                                  |      |                         |      |                                   |      |
| Femin Industria E Comercio De Madei | 47,2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |          |                    |                                |      |                                     |      |                          |    |                          |    |                      |      |                          |      |                             |     |                               |     |                               |    |                                  |      |                         |      |                                   |      |
| Maximino Pastorello S.A.            | 31                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |          |                    |                                |      |                                     |      |                          |    |                          |    |                      |      |                          |      |                             |     |                               |     |                               |    |                                  |      |                         |      |                                   |      |
| Ser Oil Comercial Eireli            | 36                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |          |                    |                                |      |                                     |      |                          |    |                          |    |                      |      |                          |      |                             |     |                               |     |                               |    |                                  |      |                         |      |                                   |      |
| Dasos Florestal Ltda                | 36,2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |          |                    |                                |      |                                     |      |                          |    |                          |    |                      |      |                          |      |                             |     |                               |     |                               |    |                                  |      |                         |      |                                   |      |
| Combustiveis Gasoil Ltda            | 36,2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |          |                    |                                |      |                                     |      |                          |    |                          |    |                      |      |                          |      |                             |     |                               |     |                               |    |                                  |      |                         |      |                                   |      |
| Imperio Da Energia - Eireli         | 316                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |          |                    |                                |      |                                     |      |                          |    |                          |    |                      |      |                          |      |                             |     |                               |     |                               |    |                                  |      |                         |      |                                   |      |
| Agf De Almeida Eucaliptos Epp       | 9,4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |          |                    |                                |      |                                     |      |                          |    |                          |    |                      |      |                          |      |                             |     |                               |     |                               |    |                                  |      |                         |      |                                   |      |
| Combusalte Comercio E Transp.       | 29                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |          |                    |                                |      |                                     |      |                          |    |                          |    |                      |      |                          |      |                             |     |                               |     |                               |    |                                  |      |                         |      |                                   |      |
| Gas Brasileiro Distribuidora S/A    | 14,8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |          |                    |                                |      |                                     |      |                          |    |                          |    |                      |      |                          |      |                             |     |                               |     |                               |    |                                  |      |                         |      |                                   |      |
| Mancano & Ozawa Ltda Me             | 13,6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |          |                    |                                |      |                                     |      |                          |    |                          |    |                      |      |                          |      |                             |     |                               |     |                               |    |                                  |      |                         |      |                                   |      |
| Jc Comercio De Residuos Agricolas   | 25,4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |          |                    |                                |      |                                     |      |                          |    |                          |    |                      |      |                          |      |                             |     |                               |     |                               |    |                                  |      |                         |      |                                   |      |
| Monitoring equipment                | No monitoring equipment is used to determine this parameter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |          |                    |                                |      |                                     |      |                          |    |                          |    |                      |      |                          |      |                             |     |                               |     |                               |    |                                  |      |                         |      |                                   |      |
| QA/QC procedures to be applied      | Data available regarding the company freight of biomass transportation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |          |                    |                                |      |                                     |      |                          |    |                          |    |                      |      |                          |      |                             |     |                               |     |                               |    |                                  |      |                         |      |                                   |      |
| Purpose of the data                 | This parameter is used to calculate project emissions for freight that exceeds 200 km                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |          |                    |                                |      |                                     |      |                          |    |                          |    |                      |      |                          |      |                             |     |                               |     |                               |    |                                  |      |                         |      |                                   |      |
| Calculation method                  | Information in section 5.3 - Leakage                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |          |                    |                                |      |                                     |      |                          |    |                          |    |                      |      |                          |      |                             |     |                               |     |                               |    |                                  |      |                         |      |                                   |      |
| Comments                            | This parameter was not monitored during the first crediting period. Values will be monitored at the Monitoring Report from now on. Data will be kept for two years after the end of the crediting period or the last issuance of carbon credits for this project activity, whichever occurs later                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |          |                    |                                |      |                                     |      |                          |    |                          |    |                      |      |                          |      |                             |     |                               |     |                               |    |                                  |      |                         |      |                                   |      |

|                  |                                                                                               |
|------------------|-----------------------------------------------------------------------------------------------|
| Data / Parameter | $FR_{f,m}$                                                                                    |
| Data unit        | Tonnes                                                                                        |
| Description      | Total mass of freight transported in freight transportation activity f in monitoring period m |
| Source of data   | Records by project participants or records by truck operators                                 |

| Description of measurement methods and procedures to be applied | This parameter is recorded by the company in a spreadsheet with the biomass delivered by suppliers.                                                                                                                                                                                                               |               |               |  |          |                 |  |  |      |      |      |               |               |               |                             |      |           |          |
|-----------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------------|--|----------|-----------------|--|--|------|------|------|---------------|---------------|---------------|-----------------------------|------|-----------|----------|
| Frequency of monitoring/recording                               | Annually                                                                                                                                                                                                                                                                                                          |               |               |  |          |                 |  |  |      |      |      |               |               |               |                             |      |           |          |
| Value monitored                                                 | <table><tr><th rowspan="3">Provider</th><th colspan="3">FRf,m in tonnes</th></tr><tr><th>2018</th><th>2019</th><th>2020</th></tr><tr><th>Wood Residues</th><th>Wood Residues</th><th>Wood Residues</th></tr><tr><td>IMPERIO DA ENERGIA - EIRELI</td><td>0,00</td><td>10.169,44</td><td>5.499,44</td></tr></table> |               |               |  | Provider | FRf,m in tonnes |  |  | 2018 | 2019 | 2020 | Wood Residues | Wood Residues | Wood Residues | IMPERIO DA ENERGIA - EIRELI | 0,00 | 10.169,44 | 5.499,44 |
| Provider                                                        | FRf,m in tonnes                                                                                                                                                                                                                                                                                                   |               |               |  |          |                 |  |  |      |      |      |               |               |               |                             |      |           |          |
|                                                                 | 2018                                                                                                                                                                                                                                                                                                              | 2019          | 2020          |  |          |                 |  |  |      |      |      |               |               |               |                             |      |           |          |
|                                                                 | Wood Residues                                                                                                                                                                                                                                                                                                     | Wood Residues | Wood Residues |  |          |                 |  |  |      |      |      |               |               |               |                             |      |           |          |
| IMPERIO DA ENERGIA - EIRELI                                     | 0,00                                                                                                                                                                                                                                                                                                              | 10.169,44     | 5.499,44      |  |          |                 |  |  |      |      |      |               |               |               |                             |      |           |          |
| Monitoring equipment                                            | No monitoring equipment is used to determine this parameter                                                                                                                                                                                                                                                       |               |               |  |          |                 |  |  |      |      |      |               |               |               |                             |      |           |          |
| QA/QC procedures to be applied                                  | Data available regarding the company freight of biomass transportation                                                                                                                                                                                                                                            |               |               |  |          |                 |  |  |      |      |      |               |               |               |                             |      |           |          |
| Purpose of the data                                             | This parameter is used to calculate project emissions for freight that exceeds 200 km                                                                                                                                                                                                                             |               |               |  |          |                 |  |  |      |      |      |               |               |               |                             |      |           |          |
| Calculation method                                              | Information in section 5.3 - Leakage                                                                                                                                                                                                                                                                              |               |               |  |          |                 |  |  |      |      |      |               |               |               |                             |      |           |          |
| Comments                                                        | This parameter was not monitored during the first crediting period. Values will be monitored at the Monitoring Report from now on. Data will be kept for two years after the end of the crediting period or the last issuance of carbon credits for this project activity, whichever occurs later                 |               |               |  |          |                 |  |  |      |      |      |               |               |               |                             |      |           |          |

|                                                                 |                                                                                                                                                                                                                                     |
|-----------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data / Parameter                                                | <b>Leakage due to transportation of Biomass</b>                                                                                                                                                                                     |
| Data unit                                                       | tCO <sub>2</sub> e                                                                                                                                                                                                                  |
| Description                                                     | Leakage resulting from transportation of biomass                                                                                                                                                                                    |
| Source of data                                                  | Distance of biomass suppliers will be monitored through a registry of all biomass providers containing their addresses.                                                                                                             |
| Description of measurement methods and procedures to be applied | The distance between the provider and <i>Dori's</i> units will be monitored through Google Maps, or similar. In case of more than 200 kilometers distance between the source and the company, leakage estimates must be calculated. |

| Frequency of monitoring/recording        | Annually                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                          |       |  |  |      |      |      |       |   |     |     |     |
|------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|-------|--|--|------|------|------|-------|---|-----|-----|-----|
| Value monitored                          | <table><tr><th colspan="4">Leakage due to transportation of Biomass</th></tr><tr><th>2018</th><th>2019</th><th>2020</th><th>Total</th></tr><tr><td>0</td><td>415</td><td>225</td><td>640</td></tr></table>                                                                                                                                                                                                                                                                                                                              | Leakage due to transportation of Biomass |       |  |  | 2018 | 2019 | 2020 | Total | 0 | 415 | 225 | 640 |
| Leakage due to transportation of Biomass |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                          |       |  |  |      |      |      |       |   |     |     |     |
| 2018                                     | 2019                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 2020                                     | Total |  |  |      |      |      |       |   |     |     |     |
| 0                                        | 415                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 225                                      | 640   |  |  |      |      |      |       |   |     |     |     |
| Monitoring equipment                     | No monitoring equipment was used to determine this parameter                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                          |       |  |  |      |      |      |       |   |     |     |     |
| QA/QC procedures to be applied           | Information about the location biomass suppliers will be monitored to check the occurrence of leakage.                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                          |       |  |  |      |      |      |       |   |     |     |     |
| Purpose of data                          | Calculation of leakage emissions. This parameter is used to evaluate if there is any source of indirect emission, specifically, the leakage considered in this project activity is regarding the applied methodology, version 20, which specifies that in cases where collection, processing and transportation of biomass residues is outside the project boundaries and due to the project activity, biomass residues transported over a distance of 200 kilometers CO <sub>2</sub> emissions shall be taken into account as leakage. |                                          |       |  |  |      |      |      |       |   |     |     |     |
| Calculation method                       | The distance between the provider and <i>Dori's</i> units will be monitored through Google Maps, or similar.                                                                                                                                                                                                                                                                                                                                                                                                                            |                                          |       |  |  |      |      |      |       |   |     |     |     |
| Comments                                 | Data will be kept for two years after the end of the crediting period or the last issuance of carbon credits for this project activity, whichever occurs later.                                                                                                                                                                                                                                                                                                                                                                         |                                          |       |  |  |      |      |      |       |   |     |     |     |

|                                                                 |                                                                                                               |
|-----------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| Data / Parameter                                                | <b>Renewable Biomass origin</b>                                                                               |
| Data unit                                                       | Not applicable                                                                                                |
| Description                                                     | Origin of renewable biomass                                                                                   |
| Source of data                                                  | Documents proving that the biomass is renewable.                                                              |
| Description of measurement methods and procedures to be applied | The documentation from renewable biomass providers was provided to prove the renewable origin of the biomass. |
| Frequency of monitoring/recording                               | At each monitored period                                                                                      |
| Value monitored                                                 | Not directly applied for the calculation. It was considered that all biomass used are renewable.              |
| Monitoring equipment                                            | No monitoring equipment was used to determine this parameter.                                                 |

|                                |                                                                                                                                                                                                                                                                                                    |
|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| QA/QC procedures to be applied | The biomasses were considered renewable as they were in accordance with the definition given by the Annex 18, EB 23 of UNFCCC definition.                                                                                                                                                          |
| Purpose of the data            | This parameter was utilized to prove the renewable origin of the biomasses utilized in the project.                                                                                                                                                                                                |
| Calculation method             | Not applicable                                                                                                                                                                                                                                                                                     |
| Comments                       | <p>All the renewable biomasses utilized in the monitoring period were already described in the project design document.</p> <p>Data will be kept for two years after the end of the crediting period or the last issuance of carbon credits for this project activity, whichever occurs later.</p> |

| Data / Parameter                                                | FC <sub>i,j,y</sub>                                                                                                                                                                                                                                                                                                                                                                                                                                         |          |  |        |                                                              |  |         |          |      |    |    |      |     |     |      |    |    |       |     |     |                 |     |  |
|-----------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|--|--------|--------------------------------------------------------------|--|---------|----------|------|----|----|------|-----|-----|------|----|----|-------|-----|-----|-----------------|-----|--|
| Data unit                                                       | Tonnes per year                                                                                                                                                                                                                                                                                                                                                                                                                                             |          |  |        |                                                              |  |         |          |      |    |    |      |     |     |      |    |    |       |     |     |                 |     |  |
| Description                                                     | Amount of fossil fuel combusted in the project activity                                                                                                                                                                                                                                                                                                                                                                                                     |          |  |        |                                                              |  |         |          |      |    |    |      |     |     |      |    |    |       |     |     |                 |     |  |
| Source of data                                                  | Amount of shale oil and natural gas consumed are monitored by the project proponent                                                                                                                                                                                                                                                                                                                                                                         |          |  |        |                                                              |  |         |          |      |    |    |      |     |     |      |    |    |       |     |     |                 |     |  |
| Description of measurement methods and procedures to be applied | The amount of shale oil and natural gas consumed was measured through the variation observed at SAP system which control the amount required by the responsible for feeding the boiler. Also the total amount of fuel purchased was registered through receipt registries archived in Dori´s units at the SAP system. The measurement is registered in m³ for natural gas at <i>Marília</i> ’s unit, and in liter for shale oil at <i>Rolândia</i> ’s unit. |          |  |        |                                                              |  |         |          |      |    |    |      |     |     |      |    |    |       |     |     |                 |     |  |
| Frequency of monitoring/recording                               | Annually                                                                                                                                                                                                                                                                                                                                                                                                                                                    |          |  |        |                                                              |  |         |          |      |    |    |      |     |     |      |    |    |       |     |     |                 |     |  |
| Value monitored                                                 | <table><tr><th rowspan="2">Period</th><th colspan="2">FC <sub>i,j,y</sub> - Total of Fossil Fuel consumed (tonnes)</th></tr><tr><th>Marília</th><th>Rolandia</th></tr><tr><td>2018</td><td>42</td><td>45</td></tr><tr><td>2019</td><td>287</td><td>194</td></tr><tr><td>2020</td><td>74</td><td>19</td></tr><tr><td>TOTAL</td><td>403</td><td>258</td></tr><tr><td>Total - Project</td><td colspan="2">661</td></tr></table>                                |          |  | Period | FC <sub>i,j,y</sub> - Total of Fossil Fuel consumed (tonnes) |  | Marília | Rolandia | 2018 | 42 | 45 | 2019 | 287 | 194 | 2020 | 74 | 19 | TOTAL | 403 | 258 | Total - Project | 661 |  |
| Period                                                          | FC <sub>i,j,y</sub> - Total of Fossil Fuel consumed (tonnes)                                                                                                                                                                                                                                                                                                                                                                                                |          |  |        |                                                              |  |         |          |      |    |    |      |     |     |      |    |    |       |     |     |                 |     |  |
|                                                                 | Marília                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Rolandia |  |        |                                                              |  |         |          |      |    |    |      |     |     |      |    |    |       |     |     |                 |     |  |
| 2018                                                            | 42                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 45       |  |        |                                                              |  |         |          |      |    |    |      |     |     |      |    |    |       |     |     |                 |     |  |
| 2019                                                            | 287                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 194      |  |        |                                                              |  |         |          |      |    |    |      |     |     |      |    |    |       |     |     |                 |     |  |
| 2020                                                            | 74                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 19       |  |        |                                                              |  |         |          |      |    |    |      |     |     |      |    |    |       |     |     |                 |     |  |
| TOTAL                                                           | 403                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 258      |  |        |                                                              |  |         |          |      |    |    |      |     |     |      |    |    |       |     |     |                 |     |  |
| Total - Project                                                 | 661                                                                                                                                                                                                                                                                                                                                                                                                                                                         |          |  |        |                                                              |  |         |          |      |    |    |      |     |     |      |    |    |       |     |     |                 |     |  |

|                                |                                                                                                                                                                                              |
|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Monitoring equipment           | No monitoring equipment was used to determine this parameter. This parameter was measured according to SAP registries.                                                                       |
| QA/QC procedures to be applied | The project developer was responsible for gathering and maintaining in adequate archives all documents related to the shale oil and natural gas consumption and purchase.                    |
| Purpose of the data            | The purpose of this parameter was to estimate the amount of fossil fuel utilized in Dori's units, in order to discount the project emissions of the total emission reduction of the project. |
| Calculation method             | Not applicable.                                                                                                                                                                              |
| Comments                       | Data will be kept for two years after the end of the crediting period or the last issuance of carbon credits for this project activity, whichever occurs later.                              |

### 4.3 Monitoring Plan

The monitoring is done with the aim of determining the most approximate quantity of fossil fuel that, in the absence of the project, would be used in the *Dori's* boilers and consequently the amount of GHG that would be emitted in tonnes of CO<sub>2</sub>e. Section 3.2 describes data and parameters monitored, as well as the procedures involved on the monitoring plan.

*Dori Alimentos* personnel are responsible to monitor the operating conditions at head office and subsidiary unity, including the amount of renewable biomass consumed, amount of steam and heat generated by the boiler and amount of fossil fuel combusted. They are also responsible to store invoices, receipts of sales and other documents related to purchase or acquisition of biomass.

Based on this information, Sustainable Carbon is responsible to assess if the biomasses are from renewable origin, to evaluate if there is a surplus of renewable biomass and to calculate emission reductions, including an assessment of leakage emissions.

Sustainable Carbon assists the *Dori's* personnel to double check the monitored data on biomass, steam generated by the boiler and fossil fuel combusted. However, no internal auditing was performed on data related to this monitoring period. Non-conformities identified in the double check procedures are clarified between Sustainable Carbon technical team and the monitoring responsible on each unity.

The responsible for the monitoring plan is *Mrs. Márcia S. Cavicchioli* from *Dori's* head office unity. Sustainable Carbon technical team (including those members described on Section 1.3) was also involved in the project monitoring.

## 5 QUANTIFICATION OF GHG EMISSION REDUCTIONS AND REMOVALS

### 5.1 Baseline Emissions

According to the methodology applied to this project activity (AMSI-C, version 20), the baseline emissions calculations consider renewable energy technologies that displace technologies using fossil fuels. The calculations for this project activity consider the baseline emissions for heat production: In this monitoring period that encompasses 25 months, the project generated 540 TJ per year. Converting this number to MWh, it was generated 150,088 MWh per year, which corresponds to the use of 17 MW<sub>thermal</sub> that is less than the limits of 45 MW<sub>thermal</sub> for Type I Small Scale project activities. "For thermal energy produced using fossil fuels and/or grid electricity the baseline emissions are calculated as follows:"

$$BE_{thermal,CO_2,y} = \left( \frac{EG_{thermal,y}}{\eta_{BL,thermal}} \right) \times EF_{FF,CO_2} \quad \text{Equation (01)}$$

Where:

$BE_{thermal,CO_2,y}$  = Baseline emissions from thermal energy displaced by the project activity during the year y (tCO<sub>2</sub>)

$EG_{thermal,y}$  = Net quantity of thermal energy supplied by the project activity during the year y (TJ)

$EF_{FF,CO_2}$  = CO<sub>2</sub> emission factor of the fossil fuel that would have been used in the baseline plant (tCO<sub>2</sub>/TJ)

$\eta_{BL,thermal}$  = Efficiency of the plant using fossil fuel that would have been used in the absence of the project activity

Dori's Rolândia unit facilities do not use to monitor the energy generated by the shale oil consumed. However, it is well known the amount of shale oil consumed as well as the amount of fuel required to generate a tonne of steam. Therefore, this project estimated baseline emissions through the energy generated by the real consumption of fossil fuel and assuming that  $\eta_{BL}$  is 100%.

As no specific equation is mandatory under the methodology applied to this project activity (AMSI-C: Thermal energy for the user with or without electricity, version 20) to calculate the net quantity of heat supplied by the project activity ( $EG_{thermal,y}$ ) during the year y (in TJ), this parameter was calculated

according to the equation 02, which is an equation established by the project proponent based on the amount of fossil fuel consumed by the project (specific data available at the project activity sites) and on the net calorific value of the fossil fuel (default value provided by the IPCC):

$$EG_{thermal,y} = Q_{fossilfuel} \times NCV_{fossilfuel} \quad \text{Equation (02)}$$

Where:

$Q_{fossilfuel}$  = Amount of fossil fuel (shale oil or natural gas) consumed (tonne)

$NCV_{fossilfuel}$  = Net calorific value of fossil fuel (shale oil or natural gas) (TJ/tonne)

The baseline emission for the current monitoring period are described as follow:

| Year               | Baseline emissions (tCO <sub>2</sub> e) |
|--------------------|-----------------------------------------|
| 2018 <sup>10</sup> | 6,675                                   |
| 2019               | 12,452                                  |
| 2020 <sup>11</sup> | 6,629                                   |
| <b>Total</b>       | <b>25,756</b>                           |

## 5.2 Project Emissions

The project emissions are those related to the CO<sub>2</sub> emissions from the consumption of fossil fuels shale oil in Rolândia site and Natural Gas in Marília site. The project emissions are calculated according to the third version of the methodological tool “Tool to calculate project or leakage CO<sub>2</sub> emissions from fossil fuel combustion” (EB 96, annex 4).

Both shale oil and natural gas consumption are considered a minor emission source in the project activity, once the small amount of fossil fuel consumption is required only to perform cleaning and maintenance of the steam generation equipment, so it is a sporadic routine.

The project emissions (PE<sub>y</sub>) are calculated through equation 03:

$$PE_{FC,j,y} = \sum_i FC_{i,j,y} \times COEF_{i,y} \quad \text{Equation (03)}$$

<sup>10</sup> From July to December

<sup>11</sup> From January to July

Where:

$FC_{i,j,y}$  = quantity of fuel type i combusted in process j during the year y (mass or volume unit/yr)

$COEF_{i,y}$  = CO2 emission coefficient of fuel type i in year y (tCO2/mass or volume unit)

$i$  = fuel types combusted in process j during the year y

The parameter COEF  $i,y$  is calculated as per the following equation, based on net calorific value and CO2 emission factor of the fuel type i, as follows:

$$COEF_{i,y} = NCV_{i,y} \times EF_{CO2,i,y} \quad \text{Equation (04)}$$

Where:

$EF_{CO2,i,y}$  = Weighted average CO2 emission factor of fuel type i in year y (tCO2/TJ)

$NCV_{i,y}$  = Weighted average net calorific value of the fuel type in year y (TJ/ mass or volume unit)

$i$  = fuel types combusted in process j during the year y

The project emission for the current monitoring period are described as follow:

| Year         | Project emissions |
|--------------|-------------------|
| 2018         | 290               |
| 2019         | 1,544             |
| 2020         | 357               |
| <b>Total</b> | <b>2,191</b>      |

## Emission Reductions

According to the methodology applied the emission reductions are calculated as follows:

$$ER_y = BE_y - PE_y - LE_y \quad \text{Equation (05)}$$

Where:

$ER_y$  = Emission Reductions in year y (tCO<sub>2</sub>e)

$BE_y$  = Baseline Emissions in year y (tCO<sub>2</sub>e)

$PE_y$  = Project emissions in year y (tCO<sub>2</sub>e)

$LE_y$  = Leakage emissions in year y (tCO<sub>2</sub>e)

The emission reduction for the current monitoring period are described as follow:

| Year         | Emission reductions |
|--------------|---------------------|
| 2018         | 6,385               |
| 2019         | 10,493              |
| 2020         | 6,047               |
| <b>Total</b> | <b>22,925</b>       |

## 5.3 Leakage

The leakage predicted in the baseline and monitoring methodology AMS-I.C - Thermal energy for the user with or without electricity (version 13, EB 38) is estimated as 640 (six hundred and forty) tCO<sub>2</sub>e during the entire monitoring period.

The leakage from biomass projects, like the project activity, shall also be estimated according to the “General guidance on leakage in biomass project activities (Annex 28, EB 47)<sup>12</sup>” of Indicative Simplified Baseline and Monitoring Methodologies for Selected Small-Scale CDM Project Activity Categories, which identifies different emission sources based on type of biomass being considered. Table below identifies the sources of leakage applicable to each type of biomass.

<sup>12</sup> UNFCCC. General guidance on leakage in biomass project activities - Version 03. Available at: [http://cdm.unfccc.int/methodologies/SSCmethodologies/approved/history/c\\_leak\\_biomass/guid\\_biomass\\_v03.pdf](http://cdm.unfccc.int/methodologies/SSCmethodologies/approved/history/c_leak_biomass/guid_biomass_v03.pdf). Last visited on 04/01/2018.

| Biomass Type                                              | Activity/Source                                                            | Shift of pre project activities | Emissions from biomass generation/cultivation | Competing use of biomass |
|-----------------------------------------------------------|----------------------------------------------------------------------------|---------------------------------|-----------------------------------------------|--------------------------|
| Biomass from forests                                      | Existing forests                                                           | -                               | -                                             | X                        |
|                                                           | New forests                                                                | X                               | X                                             | -                        |
| Biomass from croplands or grasslands (woody or non-woody) | In the absence of the project the land would be used as a cropland/wetland | X                               | X                                             | -                        |
|                                                           | In the absence of the project the land will be abandoned                   | -                               | X                                             | -                        |
| Biomass residues or waste                                 | Biomass residues or wastes are collected and use.                          | -                               | -                                             | X                        |

**Table 1.** Sources of leakage according to the type of the biomass

Observing table above, the source of leakage of the present project is showed below according to each type of biomass applied to the *Dori's* units.

### **Wood Chips**

The total production of wood in 2016 in São Paulo and Paraná was 56,025,091m<sup>3</sup>, according to IBGE data<sup>13</sup>. The average of annual consumption of wood chips by the head office in Marília is estimated as around 34,934 m<sup>3</sup>. The average of annual consumption of wood chips in the second office in Rolândia was around 34,162m<sup>3</sup>. Considering that approximately 22% is the production of wood chips so it will generate<sup>14</sup> 12,325,520.02m<sup>3</sup> of wood residues the total of wood chip, the project wood chips consumption (69,066m<sup>3</sup>) represents around 0.56% of the São Paulo and Paraná wood chips production.

<sup>13</sup> According to <https://cidades.ibge.gov.br/brasil/sp/pesquisa/31/29644> Last visit: January, 2018

<sup>14</sup> EMBRAPA, Comunicado Técnico No, Nov/92, p.1-2. Available at:

## Peanut Shell

In 2016 the production of peanut was 190,480 tonnes in São Paulo and Paraná. Separately São Paulo produced 177,520 tonnes while Paraná produced 12,960 tonnes, according to IBGE data. The annual average consumption of peanut shell by the head office in Marília is 15,871.79 tonnes. The shell of the peanut has a weight of 30% of the total weight of the peanut<sup>15</sup>. Then, the consumption of Marília's office represents 0.27% of the São Paulo and Paraná peanut shell production. Rolândia does not use peanut shells.

The methodology says that the project will have leakage if the process and transportation of biomass residues is outside the project boundary and cannot be transported over 200 kilometers. According to Dori's biomass information, there is a supplier at the Rolândia unit through which biomass is transported over 200 kilometers. Considering this, the appropriate discounts were applied.

According to the Methodological tool Project and Leakage Emissions from Transportation of Freight it is possible using conservative default values to determine leakage emissions from road transportation of freight. This option relies on conservative default emission factors to estimate leakage emissions from road transportation of freight. These default values are established for two vehicle classes: light vehicles and heavy vehicles.

Under this option, the following data were monitored separately for each freight transportation activity  $f$  to estimates the emissions: the quantity of freight transported ( $FR_{f,m}$ ); the origin and destination of the freight transported and the road distance between the origin and the destination ( $D_{f,m}$ ); and the vehicle class used. Leakage emissions were determined 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  $m$  (t CO<sub>2</sub>)

$D_{f,m}$  = Return trip road distance between the origin and destination of freight transportation activity  $f$  in monitoring period  $m$  (km)

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<[http://www.cpatas.embrapa.br/public\\_eletronica/downloads/COT51.pdf](http://www.cpatas.embrapa.br/public_eletronica/downloads/COT51.pdf)>. Last visit in January, 2018.

<sup>15</sup> According to Atlas de bioenergia <[http://www.moretti.agrarias.ufpr.br/eletrificacao\\_rural/livro\\_atlas\\_de\\_bioenergia\\_2008.pdf](http://www.moretti.agrarias.ufpr.br/eletrificacao_rural/livro_atlas_de_bioenergia_2008.pdf)> Last visit in January, 2018

$FR_{f,m}$  = Total mass of freight transported activity  $f$  in monitoring period  $m$  (t)

$EF_{CO_2,f}$  = Default CO<sub>2</sub> emission factor for freight transportation activity  $f$  (g CO<sub>2</sub> / t km)

$f$  = Freight transportation activities conducted in the project activity in monitoring period  $m$

## 5.4 Net GHG Emission Reductions and Removals

Information's below on tables below concerns about the net GHG Emissions Reductions and Removals from the current monitoring period of *DORI Alimentos Ltda.*

| Year  | Baseline emissions or removals (tCO <sub>2e</sub> ) | Project emissions or removals (tCO <sub>2e</sub> ) | Leakage emissions (tCO <sub>2e</sub> ) | Net GHG emission reductions or removals (tCO <sub>2e</sub> ) |
|-------|-----------------------------------------------------|----------------------------------------------------|----------------------------------------|--------------------------------------------------------------|
| 2018  | 6,675                                               | 290                                                | 0                                      | 6,385                                                        |
| 2019  | 12,452                                              | 1,544                                              | 415                                    | 10,493                                                       |
| 2020  | 6,629                                               | 357                                                | 225                                    | 6,047                                                        |
| Total | 25,756                                              | 2,191                                              | 640                                    | 22,925                                                       |