



EARTHCHECK

# BENCHMARKING ASSESSMENT REPORT

DESTINATION BENCHMARKING

**MUNICIPIO DE BAIÃO**

PORTO, PORTUGAL



REPORT DATE: 11 April 2025

Benchmarking Data Collection Period: 1 January 2024 – 31 December 2024

*The planet deserves more than half measures*

## OVERVIEW

This annual assessment of **Município de Baião** was undertaken against EarthCheck benchmarking indicators and checklists developed for EarthCheck and listed below.<sup>1</sup> They have been carefully selected to track performance in key areas of environmental and social performance impact. EarthCheck benchmarking provides an organisation a vehicle for sustainability reporting and is based on the premise of continual improvement. By undertaking a Benchmarking Assessment an organisation meets the requirements of annual benchmarking which includes the collection and submission of benchmarking data to EarthCheck for review and completion of the Benchmarking Assessment Report.<sup>2</sup>

| <b>Indicator Measure (Benchmark)</b> |                 |   |
|--------------------------------------|-----------------|---|
| <b>1</b>                             | Policy          | Policy is produced and in place   |
| <b>2</b>                             | Energy          | Energy Consumption (GJ / Person Year)<br>Green Power (Purchased Electricity) (%) <sup>3</sup><br>Greenhouse Gas Emissions (Scope 1 and Scope 2) (t CO <sub>2</sub> -e / Person Year)<br>Greenhouse Gas Emissions Breakdown by Scope (t CO <sub>2</sub> -e / Person Year)<br>Indirect Emissions (Scope 3) (t CO <sub>2</sub> -e / Person Year)<br>Indirect Scope 3 Emissions Breakdown (t CO <sub>2</sub> -e / Person Year)  |
| <b>3</b>                             | Water           | Potable Water Consumption (kL / Person Year)<br>Recycled / Captured Water (%) <sup>3</sup>  |
| <b>4</b>                             | Waste           | Waste Sent to Landfill (m <sup>3</sup> / Person Year)<br>Recycled / Reused / Composted Waste (%) <sup>3</sup>   |
| <b>5</b>                             | Sector Specific | Nitrous Oxides Produced (kg / Person Year / Hectare)<br>Sulphur Dioxide Produced (kg / Person Year / Hectare)<br>Particulate Matter Produced (kg / Person Year / Hectare)<br>Significant Site Maintenance Fund (%)<br>Habitat Conservation Area (%)<br>Green Space (%)<br>Destination Safety – Homicide Rate (%)<br>Destination Safety – Theft Rate (%)<br>Destination Safety – Assault Rate (%)<br>Socio-Economic Benefit – Unemployment Rate (%)<br>Accredited Operations (%)<br>Water Samples Passed (%) |
| <b>Lead Agency Indicators</b>        |                 |   |
| <b>6</b>                             | Water Savings   | Water Savings Rating (Points)   |
| <b>7</b>                             | Waste Recycling | Waste Recycling Rating (Points)   |
| <b>8</b>                             | Paper           | Paper Products Rating (Points)  |
| <b>9</b>                             | Cleaning        | Cleaning Products Rating (Points)   |

---

|           |            |                                    |
|-----------|------------|------------------------------------|
| <b>10</b> | Pesticides | Pesticide Products Rating (Points) |
|-----------|------------|------------------------------------|

---

**Optional Indicators**

---

|           |                     |  |
|-----------|---------------------|--|
| <b>11</b> | Selected Indicators | Carbon Sequestration (%)<br>Renewable Energy (%)<br>Country Products Purchased (%)<br>Monetary Contributions to Communities (%)<br>Monetary Contributions to Conservation (%)<br>Staff Training (%)<br>Complaints (Number of Complaints) |
|-----------|---------------------|--|

---

<sup>1</sup> Refer to the EarthCheck Sector Benchmarking Indicator (SBI) document for more information. For frequently asked questions (FAQs) about benchmarking or specific help, please log on to 'My EarthCheck' and visit your EarthCheck Benchmarking software.

<sup>2</sup> To meet the requirements stipulated in the EarthCheck Company Standard organisations are required to collect and submit Benchmarking data against each of the Core Benchmarking Indicators by way of annual Benchmarking Assessment, and have in place a repeatable system for accurately recording Benchmarking data including a methodology for calculating the organisation's Activity Measure for each consecutive year.

As a standard policy, all EarthCheck indicators are continuously reviewed, along with the performance levels which operators have to achieve in order to meet the requirements of the Company Standard. This review takes into account "business-as-usual" changes in practices and equipment, and is used to update where appropriate Baseline and Best Practice levels.

<sup>3</sup> These indicators are for guidance only and do not affect the overall benchmarking evaluation.

<sup>4</sup> There may be a slight variation between total figures presented in the energy table and the data summary due to unit selection and data rounding.

EarthCheck® is a registered trademark of Earthcheck Pty Ltd.

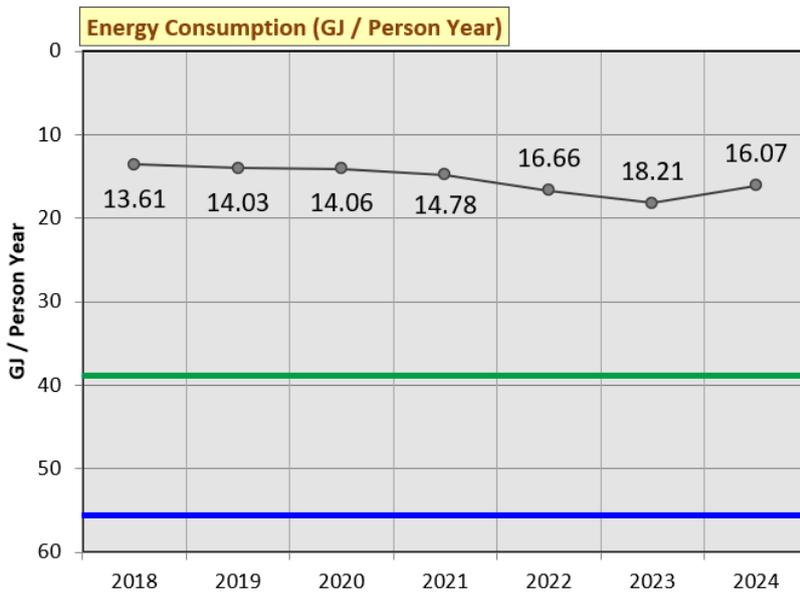
# DESTINATION PERFORMANCE BENCHMARKS

**Current performance:** Below Baseline \* At or above Baseline ✓ At or above Best Practice ★

## 1. Policy ★

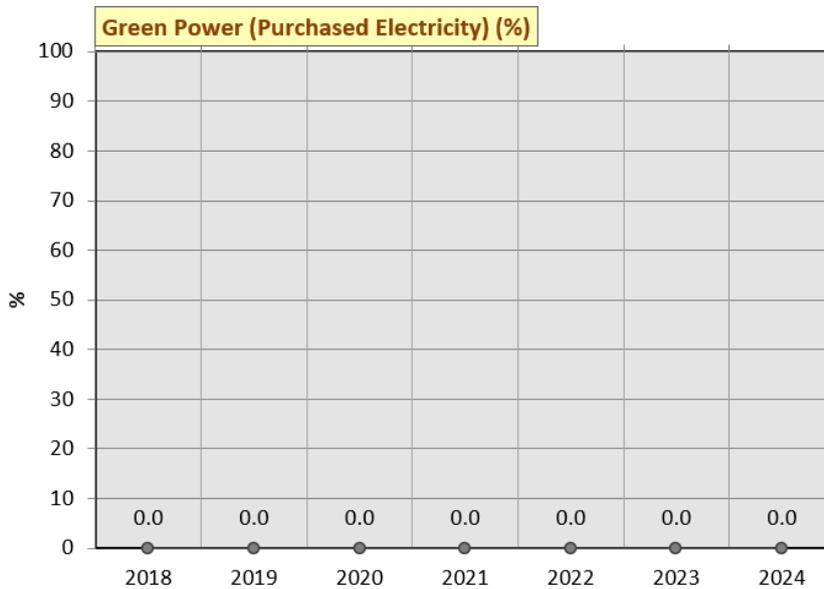
## 2. Energy

### Energy Consumption (GJ / Person Year) ★



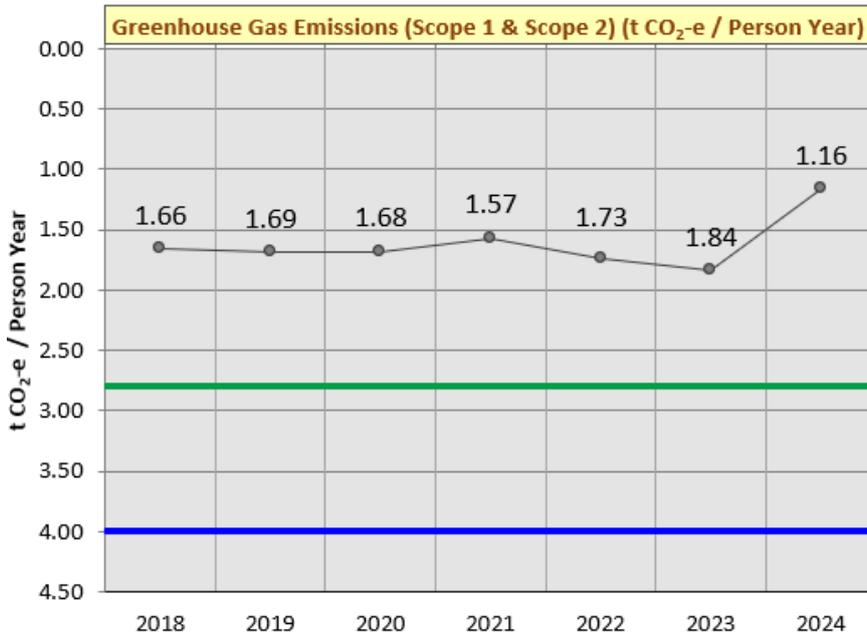
Energy Consumption (GJ / Person Year) for the year 2024 (1 January 2024 – 31 December 2024) was 16.07 GJ/ Person Year, which was 58.7% better than the Best Practice level.

### Green Power (Purchased Electricity) (%)



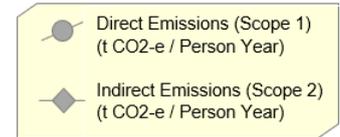
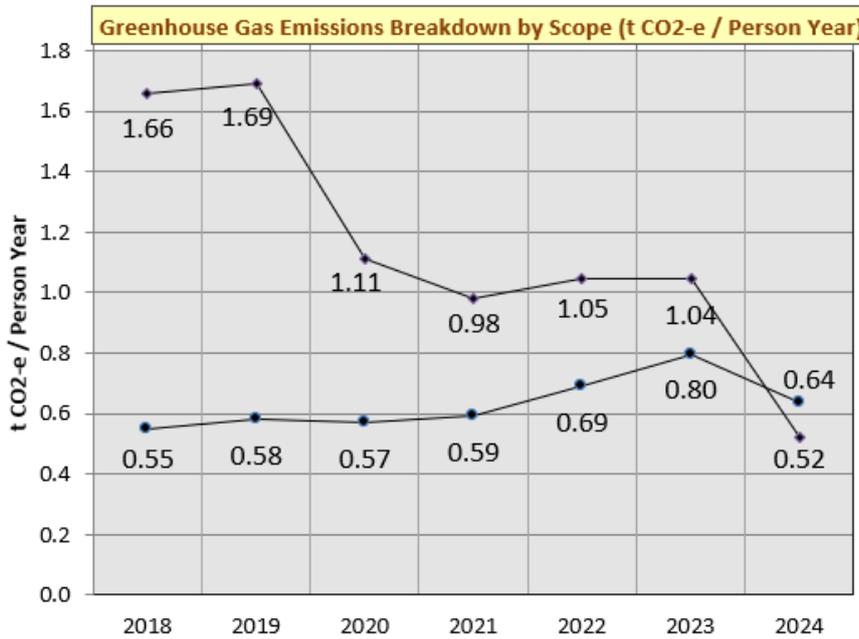
Green Power (Purchased Electricity) (%) for the year 2024 (1 January 2024 – 31 December 2024) was 0.0%.

### Greenhouse Gas Emissions (Scope 1 and Scope 2) (t CO<sub>2</sub>-e / Person Year) ★



Greenhouse Gas Emissions (Scope 1 and Scope 2) (t CO<sub>2</sub>-e / Person Year) for the year 2024 (1 January 2024 - 31 December 2024) was 1.16 t CO<sub>2</sub>-e / Person Year, which was 58.7% better than the Best Practice level.

### Greenhouse Gas Emissions Breakdown by Scope (t CO<sub>2</sub>-e / Person Year)

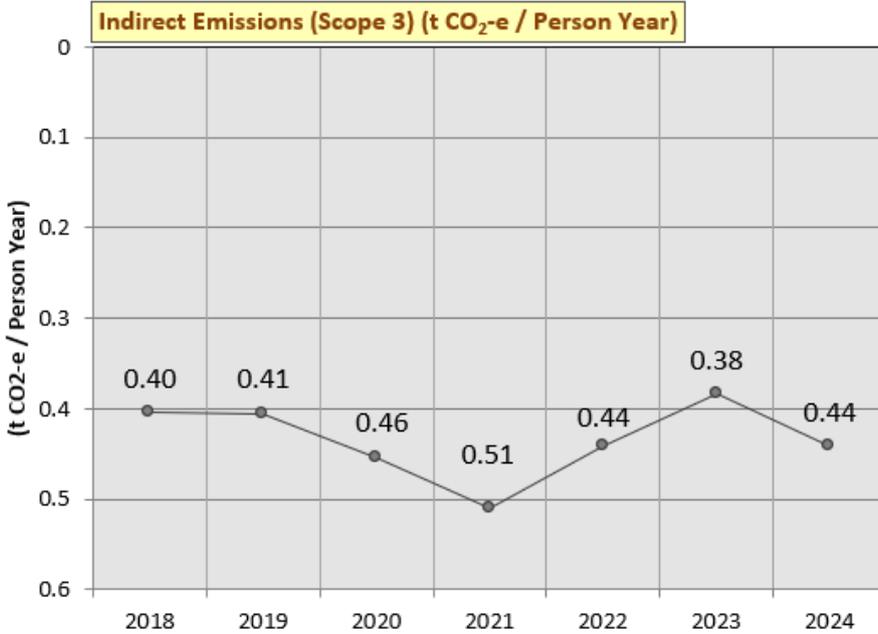


Direct Emissions (Scope 1) (t CO<sub>2</sub>-e / Person Year) for the year 2024 (1 January 2024 - 31 December 2024) was 0.64 t CO<sub>2</sub>-e / Person Year.

Indirect Emissions (Scope 2) (t CO<sub>2</sub>-e / Person Year) for the year 2024 (1 January 2024 - 31 December 2024) was 0.52 t CO<sub>2</sub>-e / Person Year.

### Indirect Emissions (Scope 3) (t CO<sub>2</sub>-e / Person Year)

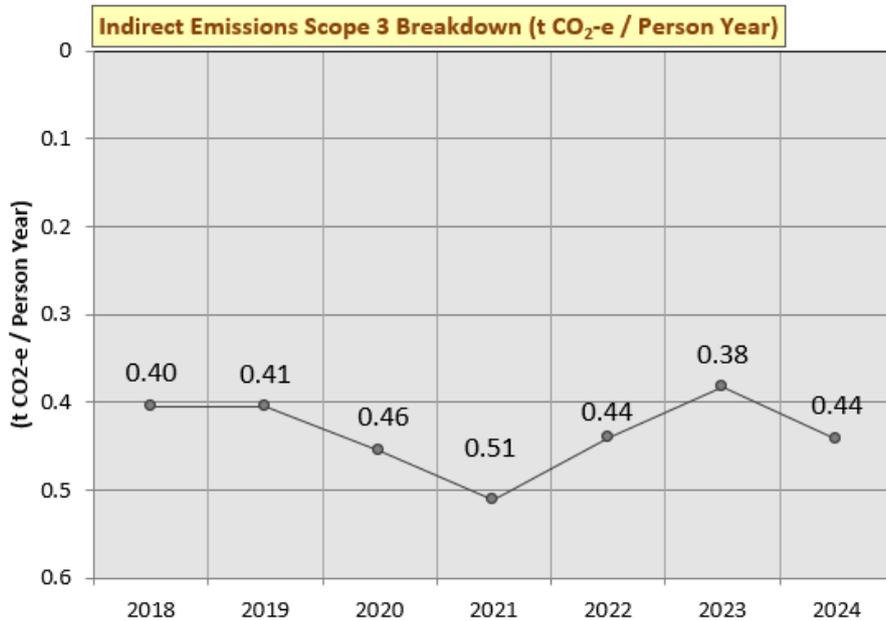
Município de Baião



Indirect Emissions (Scope 3) (t CO<sub>2</sub>-e / Person Year) for the year 2024 (1 January 2024 - 31 December 2024) was 0.44 t CO<sub>2</sub>-e / Person Year.

### Greenhouse Gas Emissions Scope 3 Breakdown (t CO<sub>2</sub>-e / Person Year)

Waste Indirect Emissions (Scope 3) (t CO<sub>2</sub>-e / Person Year)

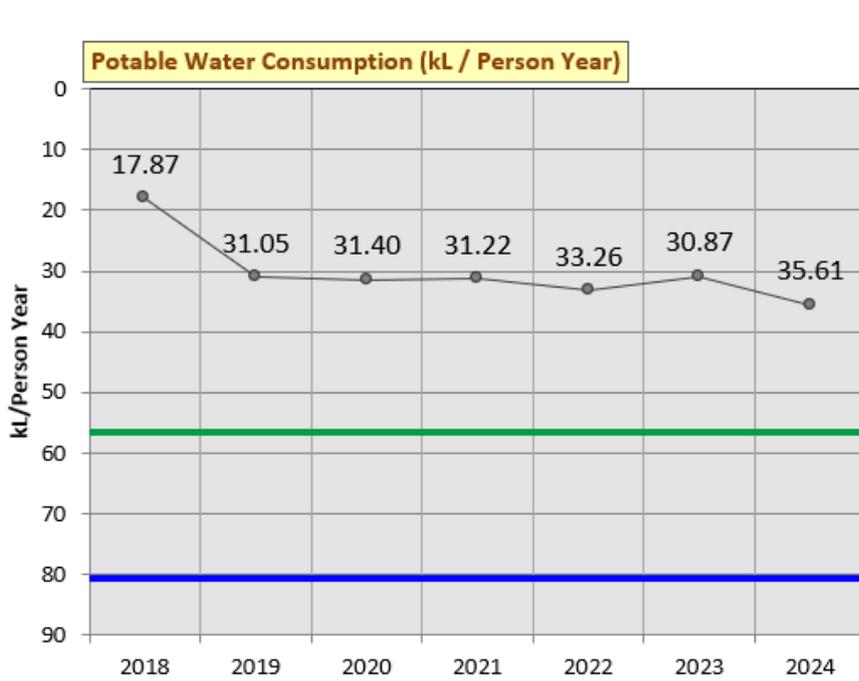


Waste Indirect Emissions (Scope 3) (t CO<sub>2</sub>-e / Person Year) for the year 2024 (1 January 2024 - 31 December 2024) was 0.44 t CO<sub>2</sub>-e / Person Year.

| Direct Emissions (Scope 1)                     |                      |   |                             |  |  |   |   |  |
|--|----------------------|---|-----------------------------|--|--|---|---|--|
| Stationary Fuel Combustion                     |                      |   |                             |  |  |   |   |  |
| 2024   |                      |   |                             |  |  |   |   |  |
| Type   | Quantity             | Unit  | Energy Consumption (MJ)     | CO <sub>2</sub> Emission Estimate (t CO <sub>2</sub> -e) | CH <sub>4</sub> Emission Estimate (t CO <sub>2</sub> -e) | N <sub>2</sub> O Emission Estimate (t CO <sub>2</sub> -e) | Total Emission Estimate (t CO <sub>2</sub> -e)            |  |
| Diesel   | 6,141.82             | litres (L)                                      | 233,502.2                   | 16.4   | 0.06   | 0.04  | 16.5  |  |
| Mobile Fuel Combustion (road)                  |                      |   |                             |  |  |   |   |  |
| 2024   |                      |   |                             |  |  |   |   |  |
| Type   | Quantity             | Unit  | Energy Consumption (MJ)     | CO <sub>2</sub> Emission Estimate (t CO <sub>2</sub> -e) | CH <sub>4</sub> Emission Estimate (t CO <sub>2</sub> -e) | N <sub>2</sub> O Emission Estimate (t CO <sub>2</sub> -e) | Total Emission Estimate (t CO <sub>2</sub> -e)            |  |
| Motor gasoline                                 | 726,000              | litres (L)                                      | 24,831,000.1                | 1,634.7  | 16.5   | 50.0  | 1,701.2   |  |
| Diesel   | 3,299,278.85         | litres (L)                                      | 125,128,449.7               | 8,808.4  | 13.0   | 122.9   | 8,944.2   |  |
| subtotal                                       |                      |   | 149,959,449.8               | 10,443.2   | 29.5   | 172.9   | 10,645.4  |  |
| Onsite Wastewater Treatment                    |                      |   |                             |  |  |   |   |  |
| 2024   |                      |   |                             |  |  |   |   |  |
| Type   | Average BOD (mg/L)   | Wastewater Volume (kL/day)                      | Number of days in use       | CO <sub>2</sub> Emission Estimate (t CO <sub>2</sub> -e) | CH <sub>4</sub> Emission Estimate (t CO <sub>2</sub> -e) | N <sub>2</sub> O Emission Estimate (t CO <sub>2</sub> -e) | Total Emission Estimate (t CO <sub>2</sub> -e)            |  |
| Aerobic (BOD Known)                            | 649.7                | 1,504   | 365                         | 0.0  | 674.1  | 0.0   | 674.1   |  |
| TOTAL  |                      |   | 150,192,952.0               | 10,459.6   | 703.7  | 172.9   | 11,336.0  |  |
| Indirect Emissions (Scope 2)                   |                      |   |                             |  |  |   |   |  |
| Purchased Electricity                          |                      |   |                             |  |  |   |   |  |
| 2024   |                      |   |                             |  |  |   |   |  |
| Quantity                                       | Unit                 | % Green Power                                   | Provider                    | Energy Consumption (MJ)                                  | CO <sub>2</sub> Emission Estimate (t CO <sub>2</sub> -e) | CH <sub>4</sub> Emission Estimate (t CO <sub>2</sub> -e)  | N <sub>2</sub> O Emission Estimate (t CO <sub>2</sub> -e) | Total Emission Estimate (t CO <sub>2</sub> -e) |
| 37,818,627                                     | Kilowatt hour (kWh)  | 0   | Portugal, EDP               | 136,147,057.2  | 9,227.7  | 15.1  | 41.6  | 9,284.5  |
| TOTAL  |                      |   | 136,147,057.2               | 9,227.7  | 15.1   | 41.6  | 9,284.5   |  |
| Greenhouse Gas Emissions (Scope 1 and Scope 2) |                      |   |                             |  |  |   |   |  |
| GRAND TOTAL                                    |                      |   | 286,340,009.2               | 19,687.3   | 718.8  | 214.5   | 20,620.4  |  |
| Indirect Emissions (Scope 3)                   |                      |   |                             |  |  |   |   |  |
| Waste Sent to Landfill                         |                      |   |                             |  |  |   |   |  |
| 2024   |                      |   |                             |  |  |   |   |  |
| Quantity                                       | Unit                 | Type of Landfill                                | Type of Waste               | Type of Operation  | CO <sub>2</sub> Emission Estimate (t CO <sub>2</sub> -e) | CH <sub>4</sub> Emission Estimate (t CO <sub>2</sub> -e)  | N <sub>2</sub> O Emission Estimate (t CO <sub>2</sub> -e) | Total Emission Estimate (t CO <sub>2</sub> -e) |
| 6,554.64                                       | tonnes (uncompacted) | Covered and/or managed waste treatment facility | Unknown (mixed waste types) | Other Operation  | 0.0  | 7,865.6   | 0.0   | 7,865.6  |
| TOTAL  |                      |   | 0.0                         | 7,865.6  | 0.0  | 7,865.6   |   |  |

### 3. Water

#### Potable Water Consumption (kL / Person Year) ★



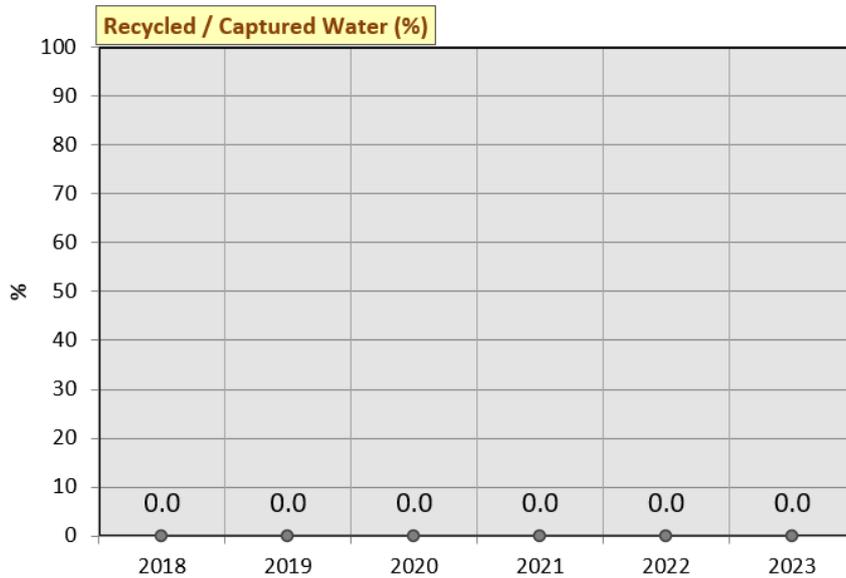
Município de Baião  
 80.75 Baseline  
 56.53 Best Practice

Potable Water Consumption (kL / Person Year) for the year 2024 (1 January 2024 - 31 December 2024) was 35.61 kL / Person Year, which was 37.0% better than the Best Practice level.

#### 2024

| Quantity | Unit         | Potable Water Consumption (kL) |
|----------|--------------|--------------------------------|
| 634,445  | cubic metres | 634,445.0 kL                   |
|          | <b>TOTAL</b> | <b>634,445.0 kL</b>            |

#### Recycled / Captured Water (%)

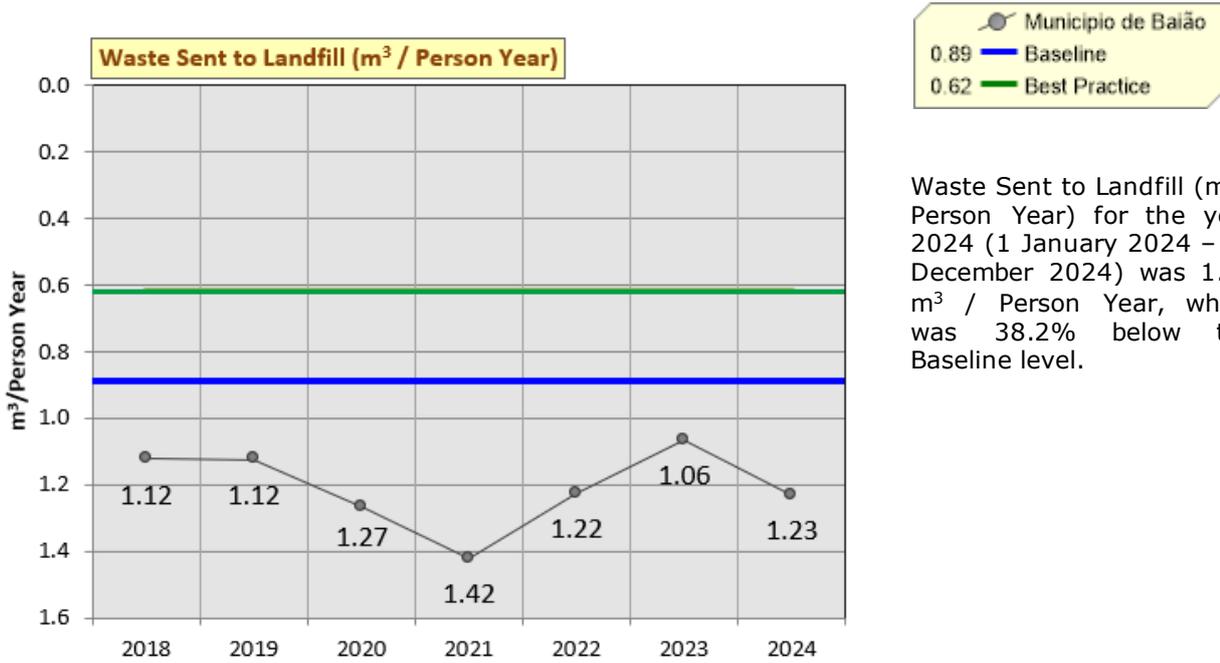


Município de Baião

Recycled / Captured Water (%) for the year 2024 (1 January 2024 - 31 December 2024) was 0.0%.

## 4. Waste

### Waste Sent to Landfill (m<sup>3</sup> / Person Year) ✕



Waste Sent to Landfill (m<sup>3</sup> / Person Year) for the year 2024 (1 January 2024 – 31 December 2024) was 1.23 m<sup>3</sup> / Person Year, which was 38.2% below the Baseline level.

#### 2024

| Quantity     | Unit                 | Type of Landfill                                | Type of Waste               | Type of Operation | Waste Sent to Landfill (m <sup>3</sup> ) |
|--------------|----------------------|---|-----------------------------|-------------------|--|
| 6,554.64     | tonnes (uncompacted) | Covered and/or managed waste treatment facility | Unknown (mixed waste types) | Other Operation   | 21,848.8                                 |
| <b>TOTAL</b> |                      |   |                             |                   | <b>21,848.8 m<sup>3</sup></b>            |

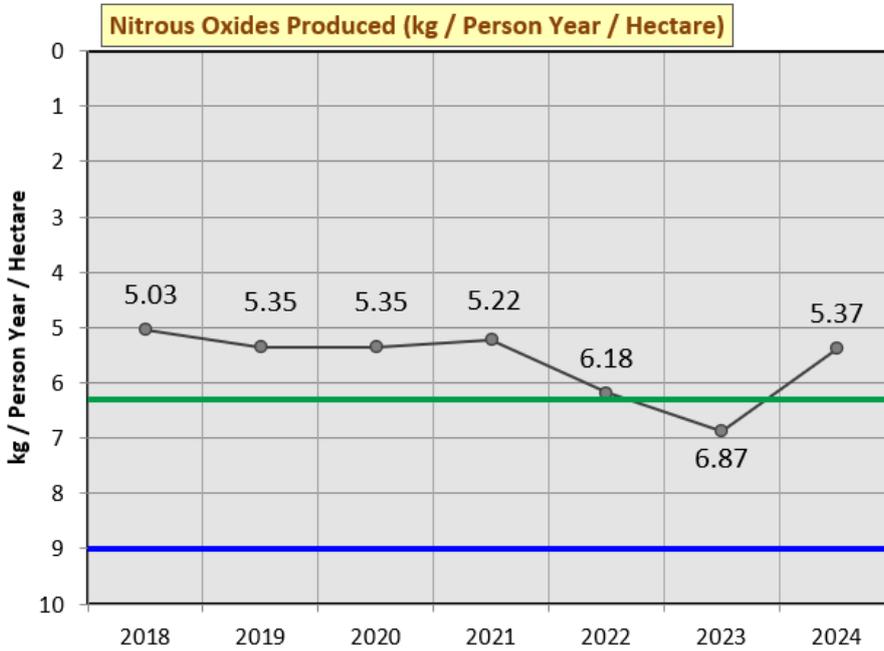
### Recycled / Reused / Composted Waste (%)



Recycled / Reused / Composted Waste (%) for the year 2024 (1 January 2024 – 31 December 2024) was 14.4%.

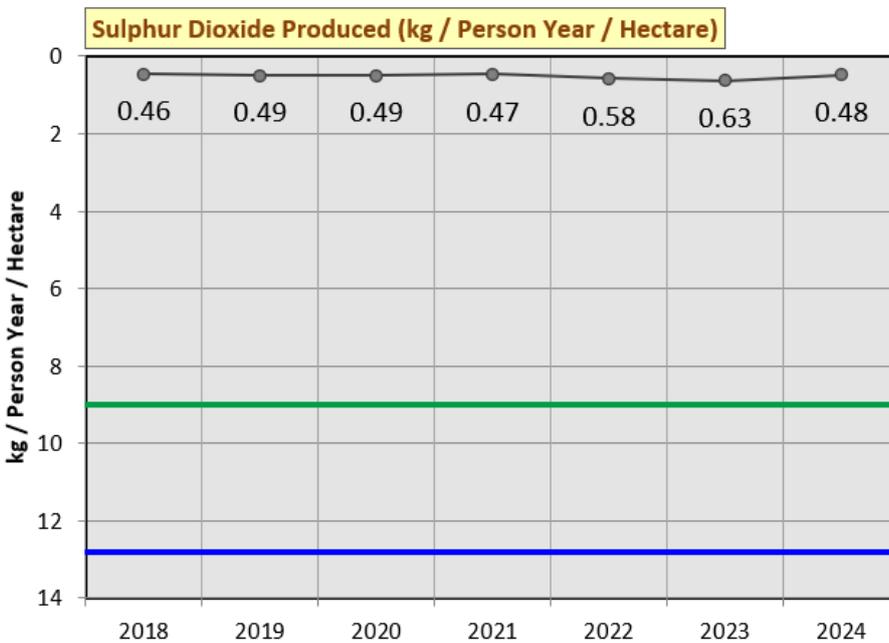
## 5. Sector Specific

### Nitrous Oxides Produced (kg / Person Year / Hectare) ★



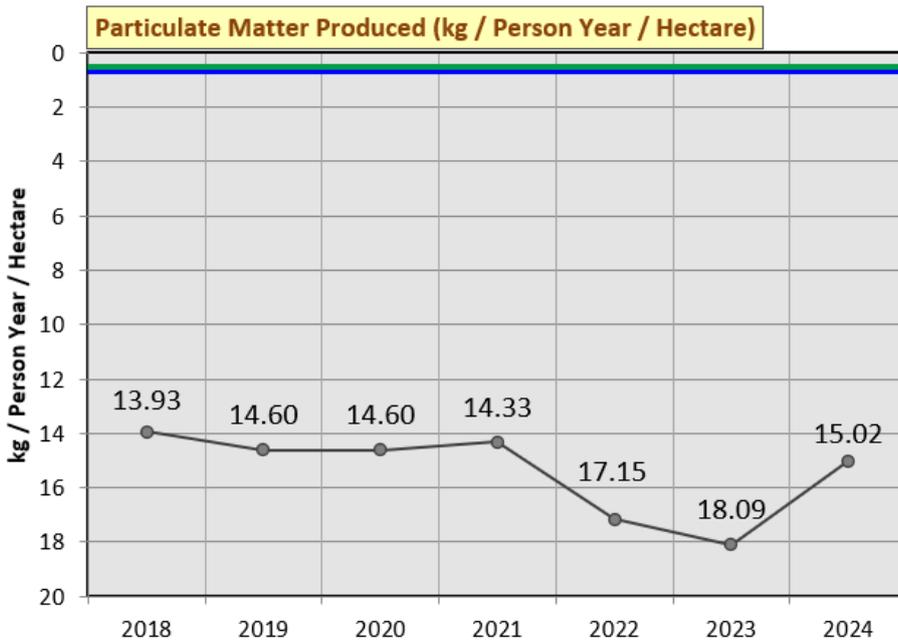
Nitrous Oxides Produced (kg / Person Year / Hectare) for the year 2024 (1 January 2024 – 31 December 2024) not measured was 5.37 kg / Person Year / Hectare, which was 14.7% better than the Best Practice level.

### Sulphur Dioxide Produced (kg / Person Year / Hectare) ★



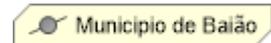
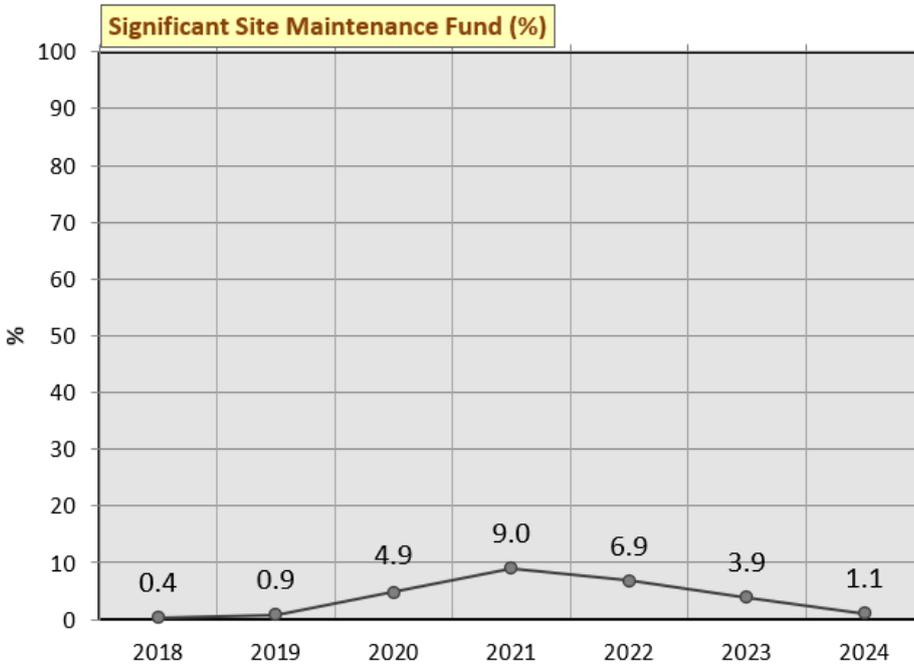
Sulphur Dioxide Produced (kg / Person Year / Hectare) for the year 2024 (1 January 2024 – 31 December 2024) was 0.48 kg / Person Year / Hectare, which was 94.6% better than the Best Practice level.

### Particulate Matter Produced (kg / Person Year / Hectare) ✕



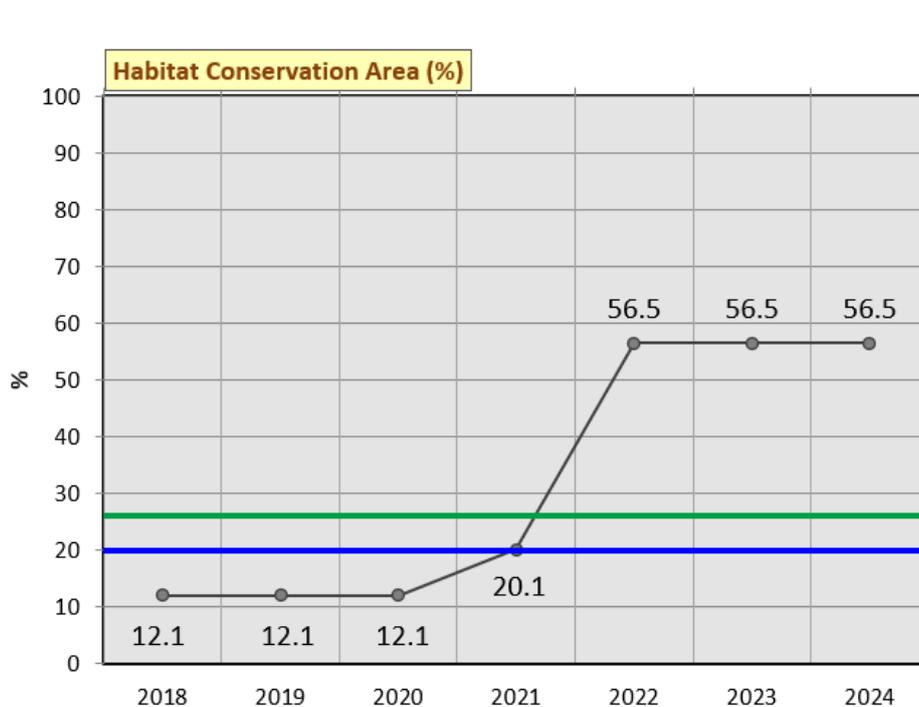
Particulate Matter Produced (kg / Person Year / Hectare) for the year 2024 (1 January 2024 - 31 December 2024) was 15.02 kg / Person Year / Hectare, which was 2,045.4% below the Baseline level.

### Significant Site Maintenance Fund (%)



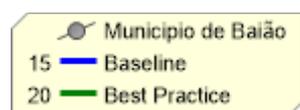
Significant Site Maintenance Fund (%) for the year 2024 (1 January 2024 - 31 December 2024) was 1.1%.

## Habitat Conservation Area (%) ★



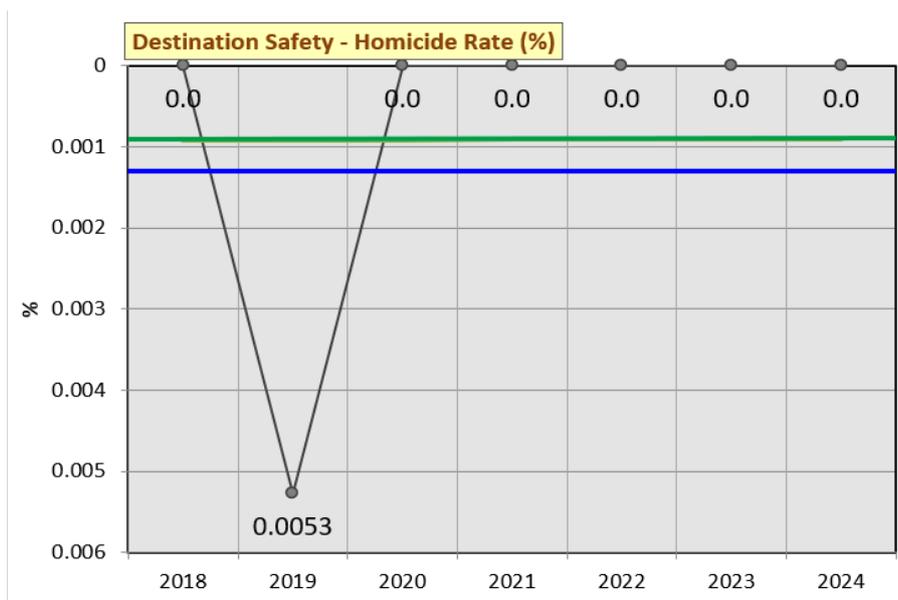
Habitat Conservation Area (%) for the year 2024 (1 January 2024 - 31 December 2024) was 56.5%, which was 30.5% better than the Best Practice level.

## Green Space (%) ★



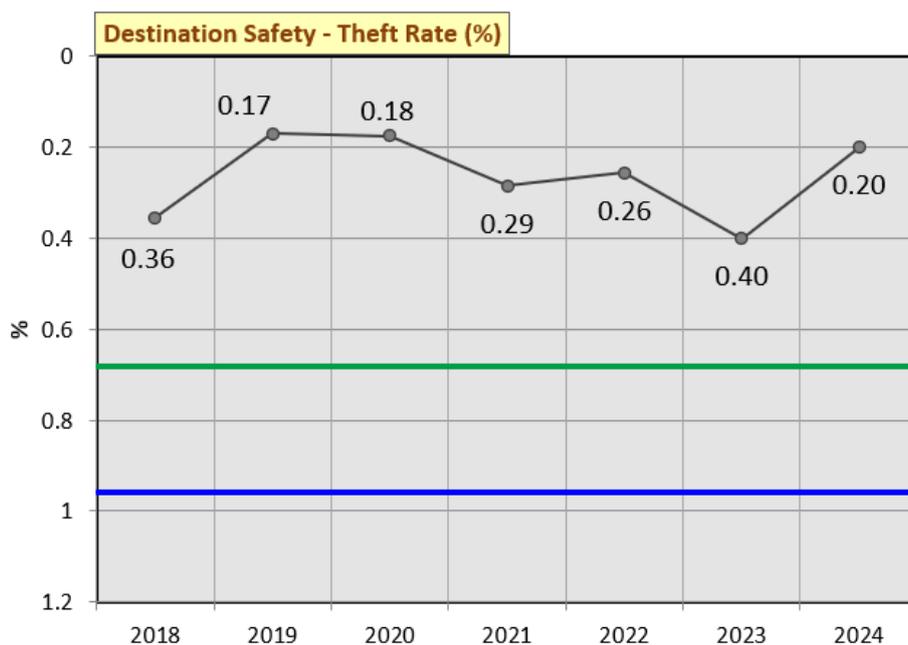
Green Space (%) for the year 2024 (1 January 2024 - 31 December 2024) was 67.9%, which was 47.9% better than the Best Practice level.

## Destination Safety – Homicide Rate (%) ★



Destination Safety – Homicide Rate (%) for the year 2024 (1 January 2024 – 31 December 2024) was 0.0%, which was 0.0009% better than the Best Practice level.

## Destination Safety – Theft Rate (%) ★



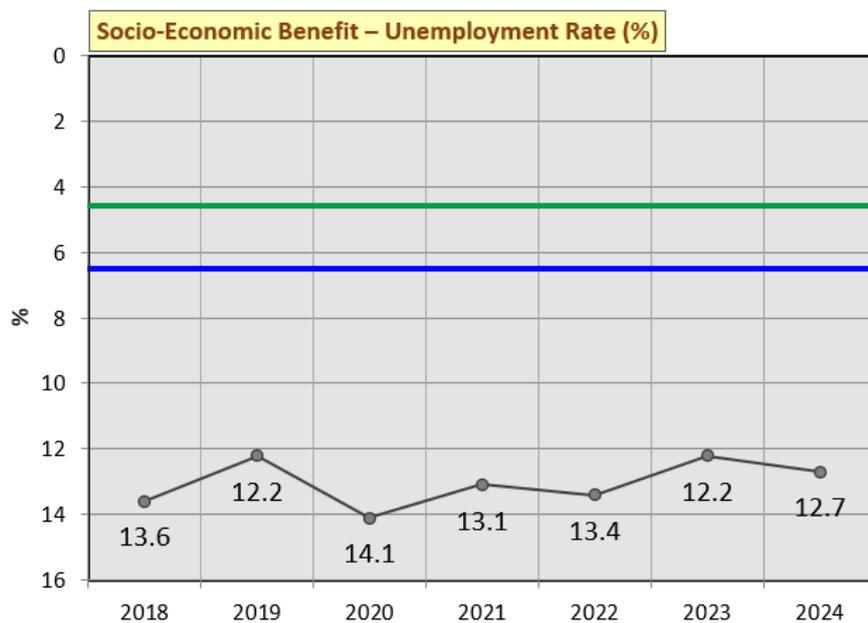
Destination Safety – Theft Rate (%) for the year 2024 (1 January 2024 – 31 December 2024) was 0.20%, which was 0.48% better than the Best Practice level.

## Destination Safety – Assault Rate (%) ✓



Destination Safety – Assault Rate (%) for the year 2024 (1 January 2024 – 31 December 2024) was 0.19%, which was 0.07% better than the Baseline level.

## Socio-Economic Benefit – Unemployment Rate (%) ✗



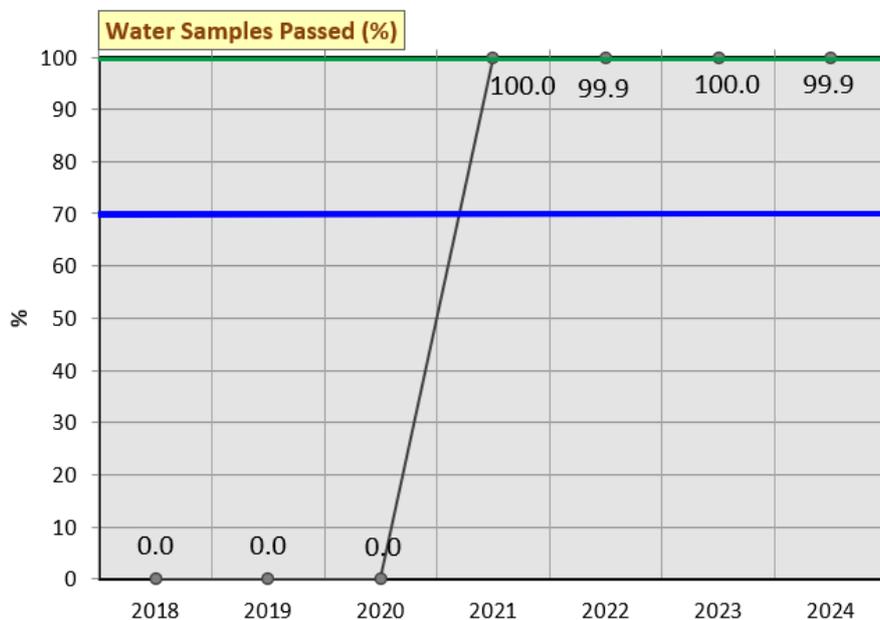
Socio-Economic Benefit – Unemployment Rate (%) for the year 2024 (1 January 2024 – 31 December 2024) was 12.7%, which was 6.2% worse than the Baseline level.

### Accredited Operations (%) ✘



Accredited Operations (%) for the year 2024 (1 January 2024 - 31 December 2024) was 3.9%, which was 1.1% below the Baseline level.

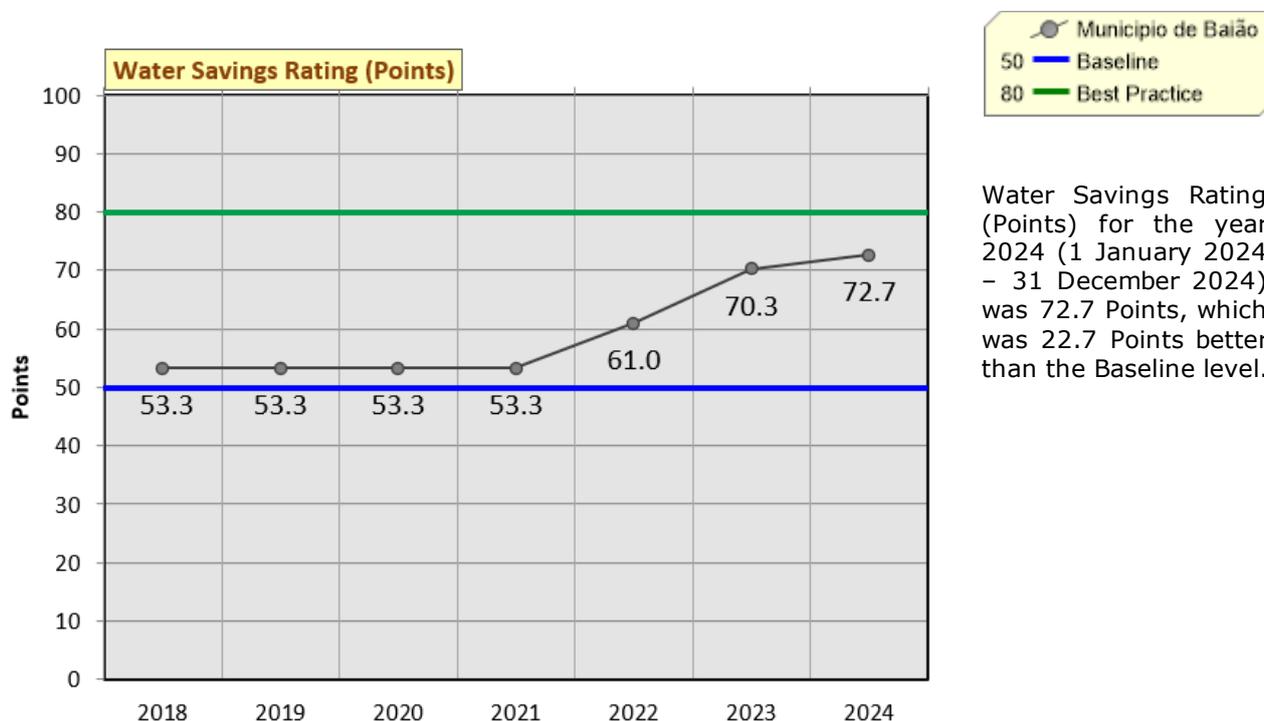
### Water Samples Passed (%) ✔



Water Samples Passed (%) for the year 2024 (1 January 2024 - 31 December 2024) was 99.9%, which was 29.9% better than the Baseline level.

## 6. Water Savings

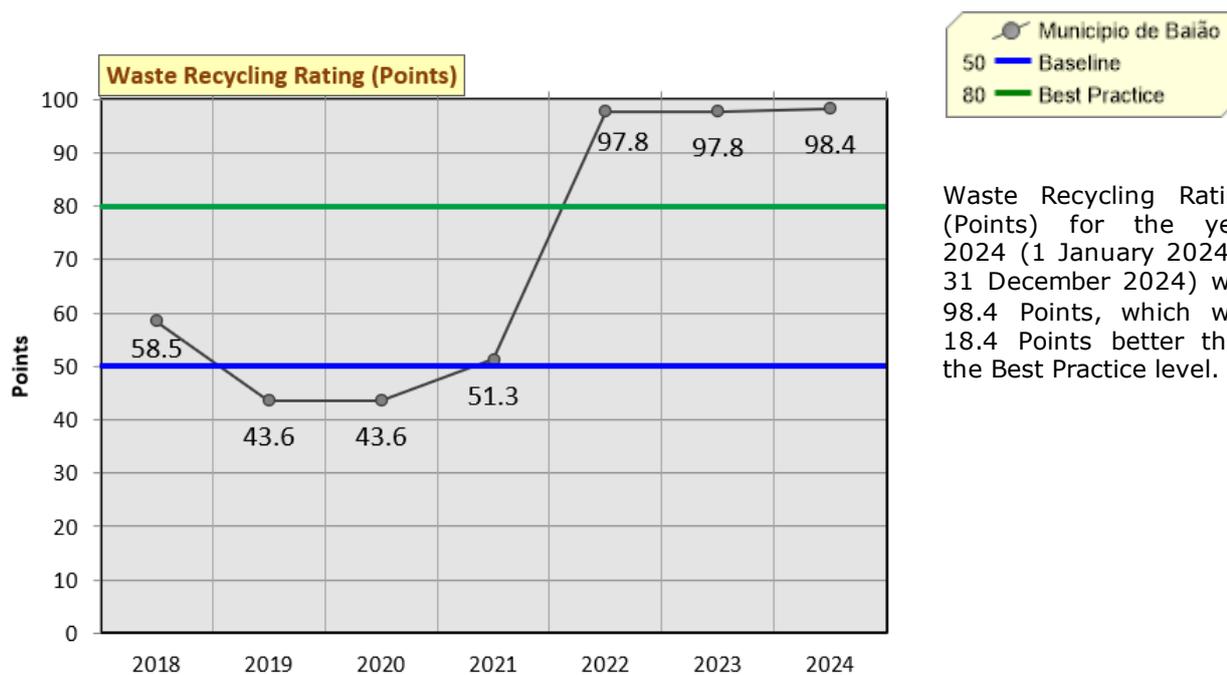
### Water Savings Rating (Points) ✓



| Water Savings Measures           | Frequency / Percentage Rating | Water Savings Rating (Points) |
|----------------------------------|-------------------------------|-------------------------------|
| Check for leaks                  | Every week                    | 100.0 Points                  |
| Low/dual flush toilets           | 40-59%                        | 65.1 Points                   |
| Low flow tap fittings            | 60-79%                        | 73.9 Points                   |
| Low flow shower fittings         | 1-19%                         | 54.0 Points                   |
| Water sprinklers used after dark | 80-99%                        | 88.9 Points                   |
| Minimal irrigation landscaping   | Not Relevant / Not Available  |                               |
| Use of recycle/grey/rain water   | 1-19%                         | 54.0 Points                   |
|                                  | <b>Overall Rating:</b>        | <b>72.7 Points</b>            |

## 7. Waste Recycling

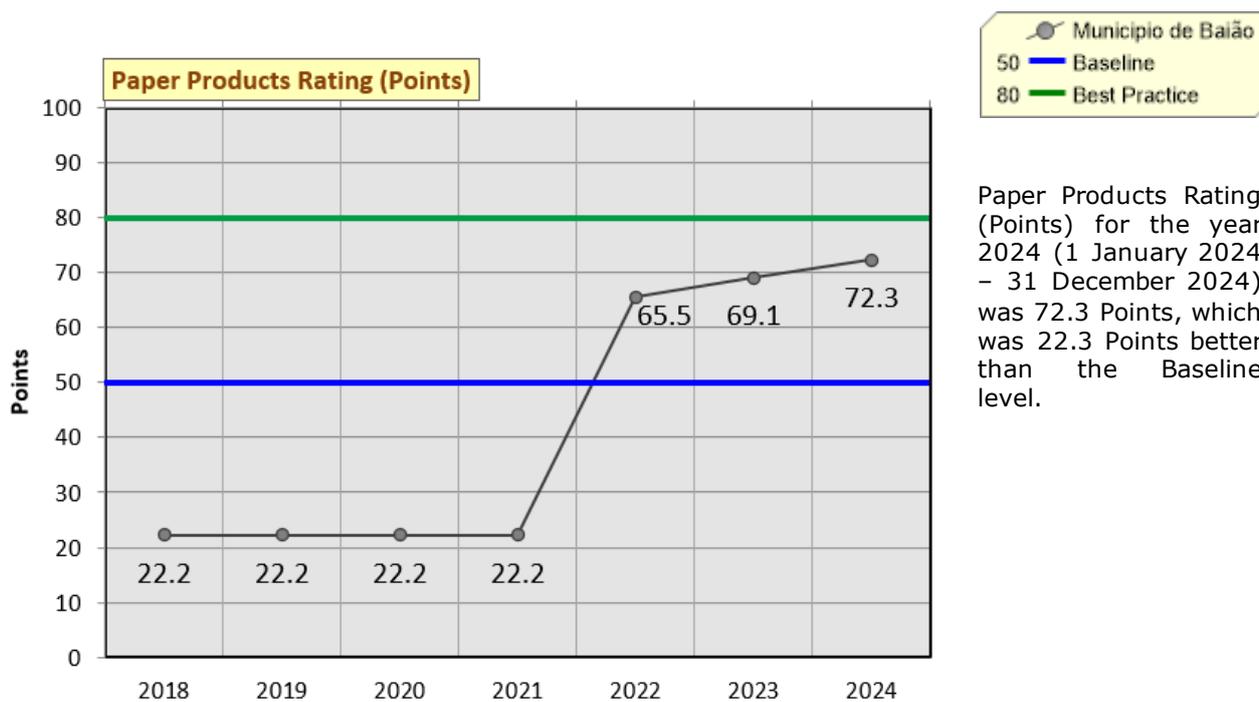
### Waste Recycling Rating (Points) ★



| Waste Recycling Measures      | Frequency / Percentage Rating | Waste Recycling Rating (Points) |
|-------------------------------|-------------------------------|---------------------------------|
| Glass                         | 100%                          | 100.0 Points                    |
| Paper/card                    | 100%                          | 100.0 Points                    |
| Iron & steel (ferrous metals) | 100%                          | 100.0 Points                    |
| Other metals (non-ferrous)    | 100%                          | 100.0 Points                    |
| Plastics                      | 100%                          | 100.0 Points                    |
| Rubber                        | 100%                          | 100.0 Points                    |
| Green waste                   | 80-99%                        | 88.9 Points                     |
|                               | <b>Overall Rating:</b>        | <b>98.4 Points</b>              |

## 8. Paper

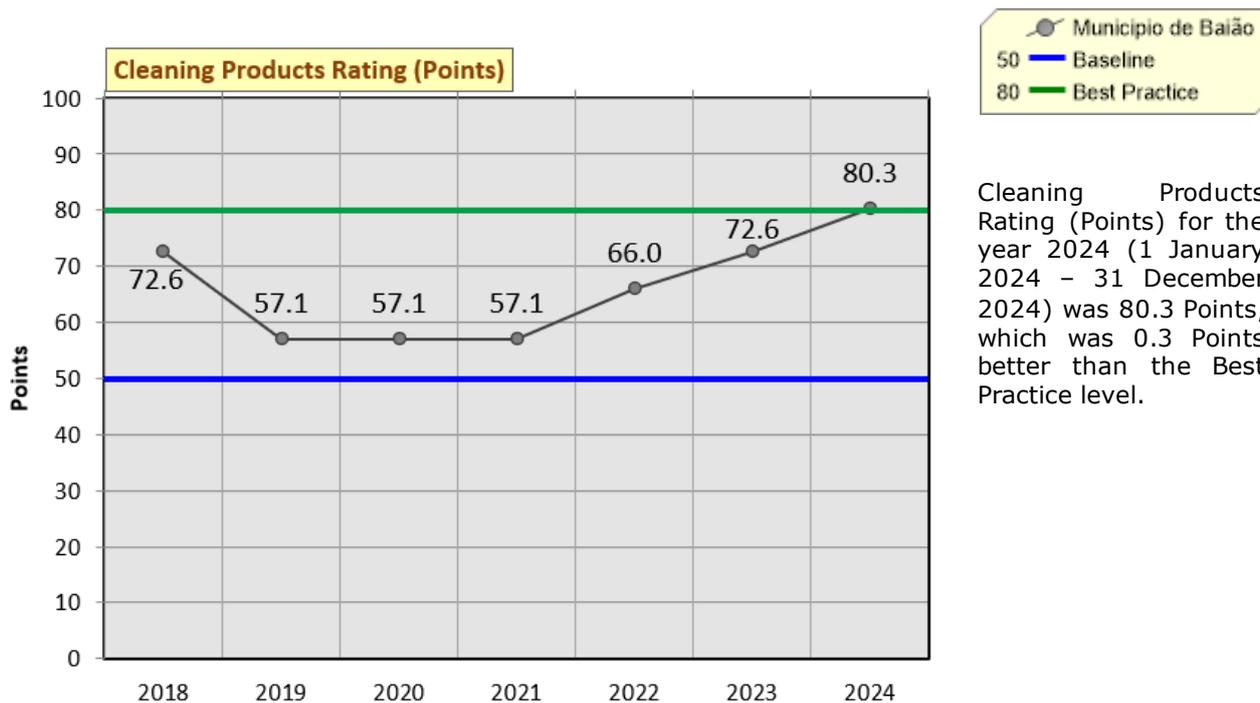
### Paper Products Rating (Points) ✓



| Paper Products Measures | Frequency / Percentage Rating | Paper Products Rating (Points) |
|-------------------------|-------------------------------|--------------------------------|
| Office paper            | 100%                          | 100.0 Points                   |
| Serviettes              | 40-59%                        | 65.1 Points                    |
| Tissues                 | 40-59%                        | 65.1 Points                    |
| Toilet tissue           | 20-39%                        | 58.8 Points                    |
| Paper towels            | Not Relevant / Not Available  |                                |
|                         | <b>Overall Rating:</b>        | <b>72.3 Points</b>             |

## 9. Cleaning

### Cleaning Products Rating (Points) ★



| Cleaning Products Measures | Frequency / Percentage Rating | Cleaning Products Rating (Points) |
|----------------------------|-------------------------------|-----------------------------------|
| Hard floor cleaners        | Not Relevant / Not Available  | 100.0 Points                      |
| Carpet cleaners            | Not Relevant / Not Available  | 100.0 Points                      |
| Interior surface cleaners  | 1-19%                         | 54.0 Points                       |
| External surface cleaners  | Not Relevant / Not Available  | 100.0 Points                      |
| Glass cleaners             | 1-19%                         | 54.0 Points                       |
| Detergents                 | 1-19%                         | 54.0 Points                       |
| Personal hygiene           | 100%                          | 100.0 Points                      |
|                            | <b>Overall Rating:</b>        | <b>80.3 Points</b>                |

## 10. Pesticides

### Pesticide Products Rating (Points) ✓



| Pesticide Products Measures | Frequency / Percentage Rating | Pesticide Products Rating (Points) |
|-----------------------------|-------------------------------|------------------------------------|
| Weed killers                | Not Relevant / Not Available  | 100.0 Points                       |
| Fungal killers              | Not Relevant / Not Available  | 100.0 Points                       |
| Rodent killers              | Not Relevant / Not Available  | 100.0 Points                       |
| Insect killers              | 0%                            | 0.0 Points                         |
|                             | <b>Overall Rating:</b>        | <b>75.0 Points</b>                 |

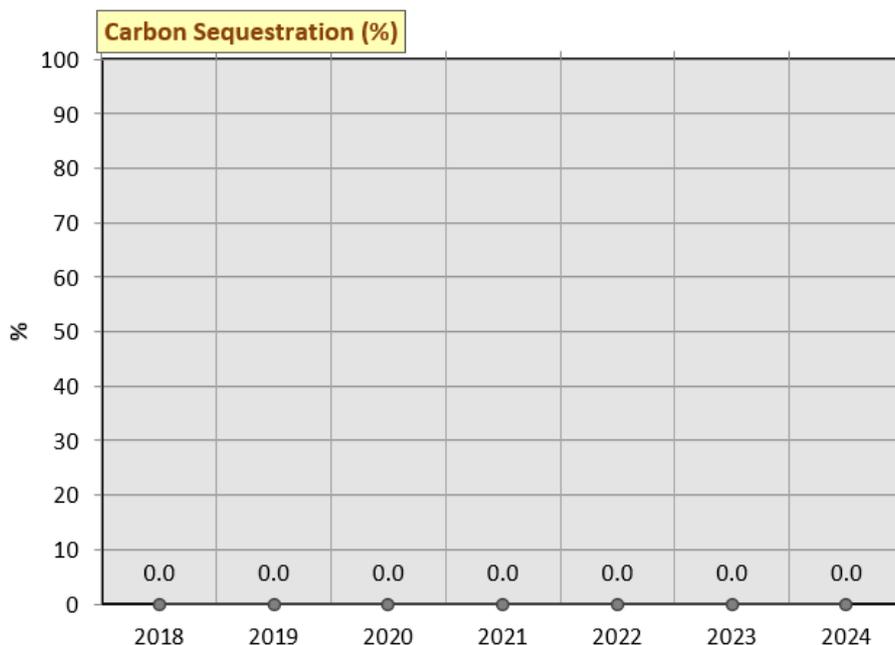
## OPTIONAL BENCHMARKING INDICATORS

**Município de Baião** has also nominated optional Operation Selected and Specified Indicator/s that they consider relevant to their specific operation and locality. The Operation Selected and Specified Indicator/s do not form part of the formal annual benchmarking exercise.

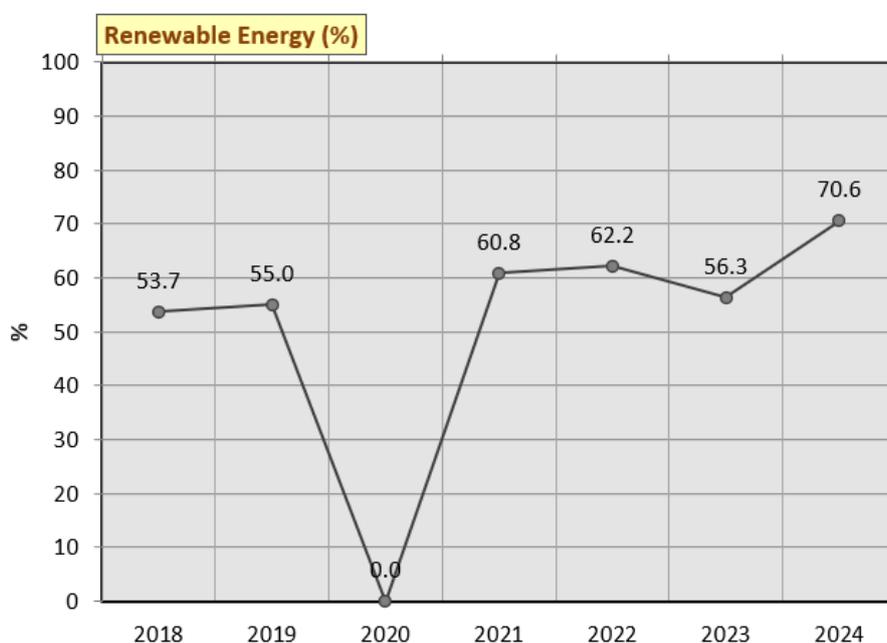
### 11. Selected Indicators

Selected Indicators are from a supplied list of EarthCheck indicators.

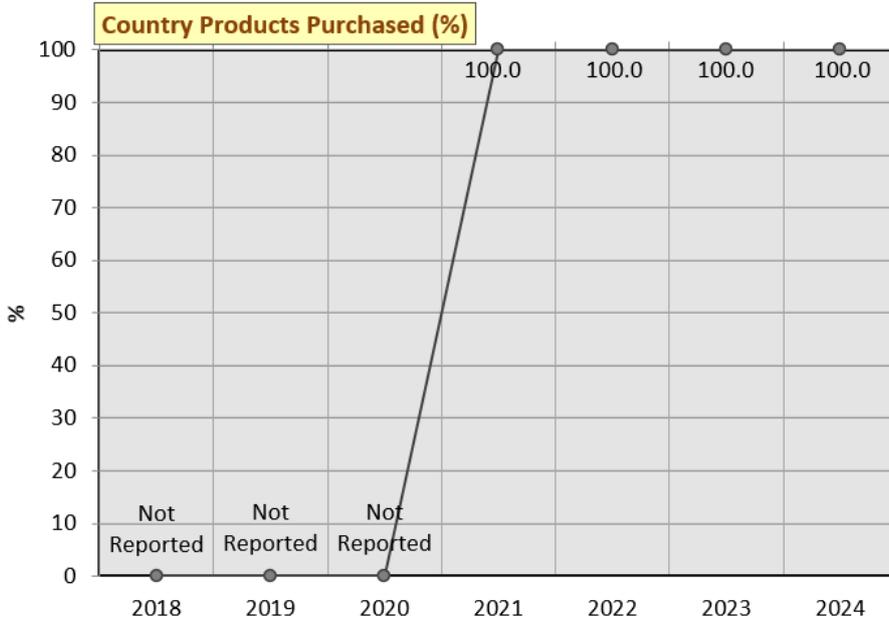
#### Carbon Sequestration



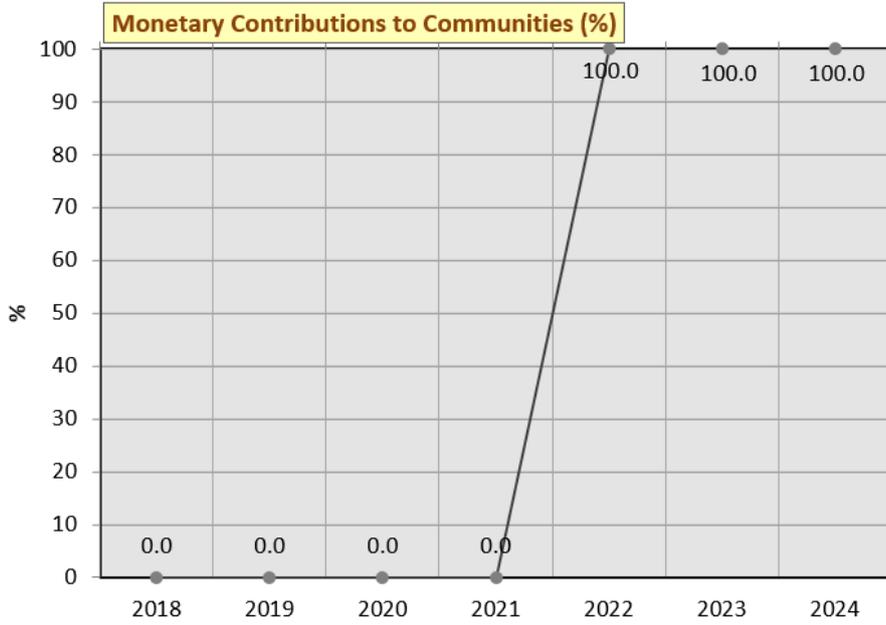
#### Renewable Energy



### Country Products Purchased



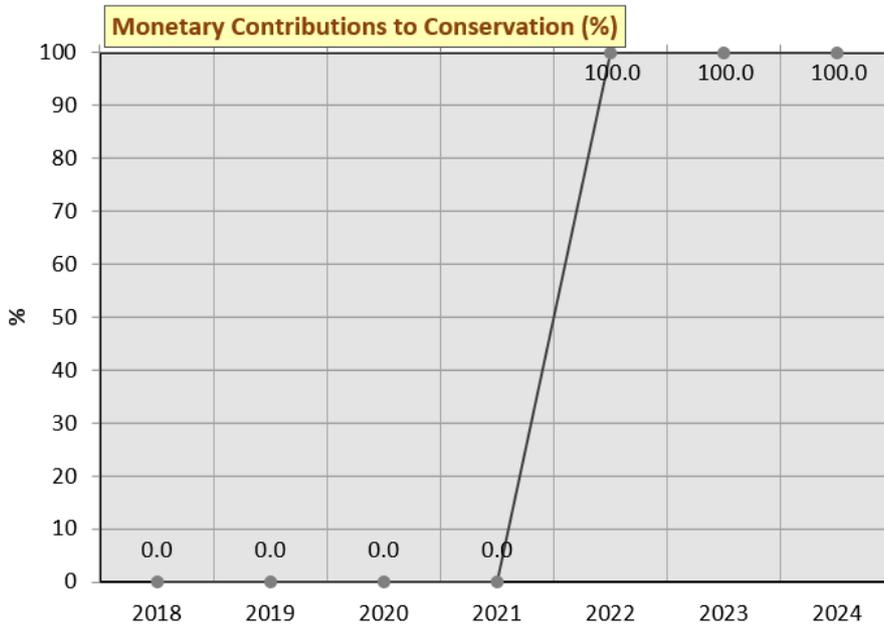
### Monetary Contributions to Communities



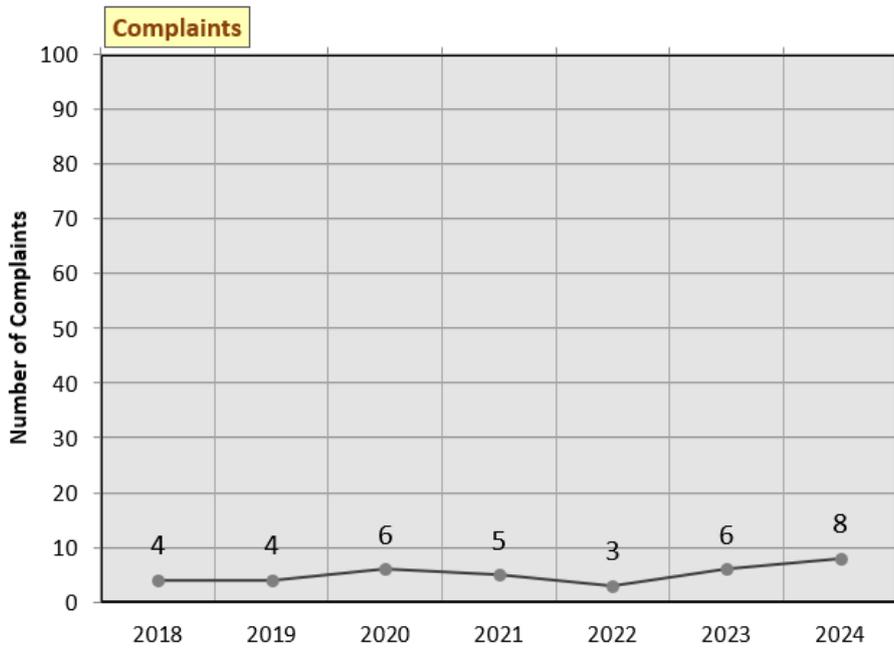
### Staff Training



### Monetary Contributions to Conservation



## Complaints



The supplied data has been compiled by **Município de Baião** in the prescribed manner, authorised by a senior executive of the company and submitted for an annual assessment.

## CONCLUSION AND RECOMMENDATIONS

Congratulations, **Município de Baião** has met the requirements to be recognised as an EarthCheck Benchmarked Destination.

In addition to having a Sustainability Policy in place, sixteen of the assessed EarthCheck indicators are at or above the Baseline level.

From the benchmarking data provided, eleven indicators, *Energy Consumption, Greenhouse Gas Emissions (Scope 1 and Scope 2), Potable Water Consumption, Nitrous Oxide Produced, Sulphur Oxide Produced, Habitat Conservation Area, Green Space, Destination Safety – Homicide Rate, Destination Safety – Theft Rate, Waste Recycling Rating, and Cleaning Products Rating*, are at or above the Best Practice level, which is an achievement to be highly commended.

The four indicators that fell below the Baseline level were *Waste Sent to Landfill, Particulate Matter Produced, Socio-Economic Benefit – Unemployment Rate, and Accredited Operations*.

The value for Waste Sent to Landfill was 38.2% below the Baseline. A high level for this indicator may be a reflection of assessing the volume of disposal bins and/or garbage trucks as full when they are not. In addition, disposal of large quantities of low-density, uncompacted waste (e.g. paper and packaging, or green waste such as branches and/or large leaves) can also have an adverse impact on the overall volume. Furthermore, if the situation is that **Município de Baião** does not have ready access to appropriate external recycling facilities (for paper, cardboard, metals, plastics etc.), then the difficulties operations may face in disposing of waste off-site in an environmentally friendly manner is recognised. However, if this is the case, **Município de Baião** should indicate this in their submission and is encouraged to review existing practices and procedures in order to not only more accurately assess, but also reduce, the amount of material that has to be sent to landfill. The latter can include increasing on-site recycling and reuse (e.g. green wastes), donating recyclable materials to local crafts and trades people, and avoiding purchases with excessive disposable packaging.

The value for Accredited Operations was 1.1% below the Baseline. **Município de Baião** is encouraged to promote environmental accreditation to hotels, restaurants and other business within the destination

**Município de Baião** is encouraged to continue to make improvements in the above indicator/s and to ensure that any indicator/s below baseline is addressed in the organisation's risk assessment and long term sustainability approach.

Improvements in all the EarthCheck indicators will not only help the environment, but can also help reduce operational costs. Due to the positive commitment that **Município de Baião** has demonstrated to the environment, the assessors are confident that they can maintain or improve performance, where appropriate and practical, in all indicators. In particular over the next 12 months, the **Município de Baião** is encouraged to ensure that Accredited Operations are at Baseline performance or better. In line with EarthCheck Policy this would enable the **Município de Baião** to continue to meet the benchmarking requirements of the EarthCheck program.

## APPENDIX

### ONSITE RENEWABLE ENERGY GENERATION

The Benchmarking Assessors sought clarification regarding onsite renewable energy being no longer reported.

**Município de Baião** provided the following response for clarification:

*"Please find attached an email from Romina, in response to our doubts about this indicator:*

*'As per our Benchmarking Assessor's recommendation please note you should only report the renewable energy that is used within the destination. Renewable energy that is produced but exported out of the destination should not be included in the total energy consumption'*

*Therefore, in 2023 we improperly included the value of renewable energy, since it is injected into the public grid."*

Therefore, the Benchmarking Assessors maintained the original data for 2024, and removed data reported under this indicator in previous periods.

### PERSON YEARS

The Benchmarking Assessors sought clarification regarding person years having a highly similar figure compared to the last period.

**Município de Baião** provided the following response for clarification:

*"2023: Person Years = Total Destination Residents + (Total Guest Nights / 365) + (Total Day Guests / (3 x 365)) = 17 534 + 209,39 + 74,82 = 17.815,21*

*2024: : Person Years = Total Destination Residents + (Total Guest Nights / 365) + (Total Day Guests / (3 x 365)) = 17 534 + 198 + 82,48 = 17 814,48*

*Comparing the values:*

*The resident population remained unchanged (data from the 2021 Censos);*

*The number of overnight stays has decreased (guest nights);*

*After the pandemic, more events began to be held and more cultural spaces were opened in the municipality, so the number of day guests increased."*

Therefore, the Benchmarking Assessors maintained the original data.



EARTHCHECK

**Benchmarks Assessed by EarthCheck**

# SUMMARY OF SUPPLIED BENCHMARKING DATA

## Activity Measures

|                        |           |
|------------------------|-----------|
| Person Years           | 17,814.48 |
| Total Destination Area | 17,450    |

## Supplied Benchmarking Data

### Energy

#### Energy Consumption (GJ / Person Year)

|               |   |
|---------------|---|
| Supplied      | 286,340 GJ                                |
| Calculated    | 16.07 GJ / Person Year                    |
| Baseline      | 55.6 GJ / Person Year                     |
| Best Practice | 38.9 GJ / Person Year                     |
| Difference    | 58.7% better than the Best Practice level |

#### Green Power (Purchased Electricity) (%)

|            |      |
|------------|------|
| Supplied   | 0.0% |
| Calculated | 0.0% |

#### Greenhouse Gas Emissions (Scope 1 and Scope 2) (t CO<sub>2</sub>-e / Person Year)

|               |   |
|---------------|---|
| Supplied      | 20,620.5 t CO <sub>2</sub> -e             |
| Calculated    | 1.16 t CO <sub>2</sub> -e / Person Year   |
| Baseline      | 4 t CO <sub>2</sub> -e / Person Year      |
| Best Practice | 2.8 t CO <sub>2</sub> -e / Person Year    |
| Difference    | 58.7% better than the Best Practice level |

#### Direct Emissions (Scope 1) (t CO<sub>2</sub>-e / Person Year)

|            |   |
|------------|---|
| Supplied   | 11,336 t CO <sub>2</sub> -e             |
| Calculated | 0.64 t CO <sub>2</sub> -e / Person Year |

#### Indirect Emissions (Scope 2) (t CO<sub>2</sub>-e / Person Year)

|            |   |
|------------|---|
| Supplied   | 9,284.5 t CO <sub>2</sub> -e            |
| Calculated | 0.52 t CO <sub>2</sub> -e / Person Year |

#### Indirect Emissions (Scope 3) (t CO<sub>2</sub>-e / Person Year)

|            |   |
|------------|---|
| Supplied   | 7,865.6 t CO <sub>2</sub> -e            |
| Calculated | 0.44 t CO <sub>2</sub> -e / Person Year |

#### Waste Indirect Emissions (Scope 3) (t CO<sub>2</sub>-e / Person Year)

|            |   |
|------------|---|
| Supplied   | 7,865.6 t CO <sub>2</sub> -e            |
| Calculated | 0.44 t CO <sub>2</sub> -e / Person Year |

### Water

#### Potable Water Consumption (kL / Person Year)

|               |   |
|---------------|---|
| Supplied      | 634,445.0 kL                              |
| Calculated    | 35.6 kL / Person Year                     |
| Baseline      | 80.75 kL / Person Year                    |
| Best Practice | 56.53 kL / Person Year                    |
| Difference    | 37.0% better than the Best Practice level |

#### Recycled / Captured Water (%)

|            |      |
|------------|------|
| Supplied   | 0.0% |
| Calculated | 0.0% |

### Waste

#### Waste Sent to Landfill (m<sup>3</sup> / Person Year)

|               |                                   |
|---------------|-----------------------------------|
| Supplied      | 21,848.8 m <sup>3</sup>           |
| Calculated    | 1.23 m <sup>3</sup> / Person Year |
| Baseline      | 0.89 m <sup>3</sup> / Person Year |
| Best Practice | 0.62 m <sup>3</sup> / Person Year |
| Difference    | 38.2% below the Baseline level    |

#### Recycled / Reused / Composted Waste (%)

|            |       |
|------------|-------|
| Supplied   | 14.4% |
| Calculated | 14.4% |

### Sector Specific

#### Nitrous Oxides Produced (kg / Person Year / Hectare)

|               |   |
|---------------|---|
| Supplied      | 5.37 kg / Person Year / Hectare           |
| Calculated    | 5.37 kg / Person Year / Hectare           |
| Baseline      | 9 kg / Person Year / Hectare              |
| Best Practice | 6.3 kg / Person Year / Hectare            |
| Difference    | 14.7% better than the Best Practice level |

#### Sulphur Dioxide Produced (kg / Person Year / Hectare)

|            |                                 |
|------------|---------------------------------|
| Supplied   | 0.48 kg / Person Year / Hectare |
| Calculated | 0.48 kg / Person Year / Hectare |
| Baseline   | 12.8 kg / Person Year / Hectare |

|               |   |
|---------------|---|
| Best Practice | 9.0 kg / Person Year / Hectare            |
| Difference    | 94.6% better than the Best Practice level |

### Particulate Matter Produced (kg / Person Year / Hectare)

|               |                                  |
|---------------|----------------------------------|
| Supplied      | 15.02 kg / Person Year / Hectare |
| Calculated    | 15.02 kg / Person Year           |
| Baseline      | 0.7 kg / Person Year / Hectare   |
| Best Practice | 0.5 kg / Person Year / Hectare   |
| Difference    | 2,045% below the Baseline level  |

### Significant Site Maintenance Fund (%)

|            |      |
|------------|------|
| Supplied   | 1.1% |
| Calculated | 1.1% |

### Habitat Conservation Area (%)

|               |   |
|---------------|---|
| Supplied      | 56.5%                                     |
| Calculated    | 56.5%                                     |
| Baseline      | 20 %                                      |
| Best Practice | 26 %                                      |
| Difference    | 30.5% better than the Best Practice level |

### Green Space (%)

|               |   |
|---------------|---|
| Supplied      | 67.9%                                     |
| Calculated    | 67.9%                                     |
| Baseline      | 15 %                                      |
| Best Practice | 20 %                                      |
| Difference    | 47.9% better than the Best Practice level |

### Destination Safety – Homicide Rate (%)

|               |   |
|---------------|---|
| Supplied      | 0.0%  |
| Calculated    | 0.0%  |
| Baseline      | 0.0013%                                     |
| Best Practice | 0.0009%                                     |
| Difference    | 0.0009% better than the Best Practice level |

### Destination Safety – Theft Rate (%)

|               |   |
|---------------|---|
| Supplied      | 0.20%                                     |
| Calculated    | 0.20%                                     |
| Baseline      | 0.96%                                     |
| Best Practice | 0.68%                                     |
| Difference    | 0.48% better than the Best Practice level |

### Destination Safety – Assault Rate (%)

|               |                                      |
|---------------|--------------------------------------|
| Supplied      | 0.19%                                |
| Calculated    | 0.20%                                |
| Baseline      | 0.26%                                |
| Best Practice | 0.18%                                |
| Difference    | 0.07% better than the Baseline level |

### Socio-Economic Benefit – Unemployment Rate (%)

|            |       |
|------------|-------|
| Supplied   | 12.7% |
| Calculated | 12.7% |

|               |                                    |
|---------------|------------------------------------|
| Baseline      | 6.5%                               |
| Best Practice | 4.6%                               |
| Difference    | 6.2% worse than the Baseline level |

### Water Samples Passed (%)

|               |                                      |
|---------------|--------------------------------------|
| Supplied      | 99.9%                                |
| Calculated    | 99.9%                                |
| Baseline      | 70 %                                 |
| Best Practice | 100 %                                |
| Difference    | 29.9% better than the Baseline level |

### Accredited Operations (%)

|               |                               |
|---------------|-------------------------------|
| Supplied      | 3.9%                          |
| Calculated    | 3.9%                          |
| Baseline      | 5 %                           |
| Best Practice | 6.5 %                         |
| Difference    | 1.1% below the Baseline level |

### Water Savings

#### Water Savings Rating (Points)

|               |  |
|---------------|--|
| Supplied      | 72.7 Points                                |
| Calculated    | 72.7 Points                                |
| Baseline      | 50 Points                                  |
| Best Practice | 80 Points                                  |
| Difference    | 22.7 Points better than the Baseline level |

### Waste Recycling

#### Waste Recycling Rating (Points)

|               |   |
|---------------|---|
| Supplied      | 98.4 Points                                     |
| Calculated    | 98.4 Points                                     |
| Baseline      | 50 Points                                       |
| Best Practice | 80 Points                                       |
| Difference    | 18.4 Points better than the Best Practice level |

### Paper

#### Paper Products Rating (Points)

|               |  |
|---------------|--|
| Supplied      | 72.3 Points                                |
| Calculated    | 72.3 Points                                |
| Baseline      | 50 Points                                  |
| Best Practice | 80 Points                                  |
| Difference    | 22.3 Points better than the Baseline level |

### Cleaning

#### Cleaning Products Rating (Points)

|               |  |
|---------------|--|
| Supplied      | 80.3 Points                                    |
| Calculated    | 80.3 Points                                    |
| Baseline      | 50 Points                                      |
| Best Practice | 80 Points                                      |
| Difference    | 0.3 Points better than the Best Practice level |

---

Practice level

## Pesticides

### Pesticide Products Rating (Points)

|               |   |
|---------------|---|
| Supplied      | 75.0 Points                                   |
| Calculated    | 75.0 Points                                   |
| Baseline      | 50 Points                                     |
| Best Practice | 80 Points                                     |
| Difference    | 25.0 Points better than the<br>Baseline level |

## Optional Indicators

### Carbon Sequestration (%)

|            |      |
|------------|------|
| Supplied   | 0.0% |
| Calculated | 0.0% |

### Renewable Energy (%)

|            |       |
|------------|-------|
| Supplied   | 70.6% |
| Calculated | 70.6% |

### Country Products Purchased (%)

|            |        |
|------------|--------|
| Supplied   | 100.0% |
| Calculated | 100.0% |

### Monetary Contributions to Communities (%)

|            |        |
|------------|--------|
| Supplied   | 100.0% |
| Calculated | 100.0% |

### Monetary Contributions to Conservation (%)

|            |        |
|------------|--------|
| Supplied   | 100.0% |
| Calculated | 100.0% |

### Staff Training (%)

|            |       |
|------------|-------|
| Supplied   | 70.0% |
| Calculated | 70.0% |

### Complaints

|            |   |
|------------|---|
| Supplied   | 8 |
| Calculated | 8 |

## DETERMINATION OF BASELINE AND BEST PRACTICE LEVELS

### General

The values for the Baseline and Best Practice levels for each indicator are derived from extensive worldwide research into available and appropriate case studies, industry surveys, engineering design handbooks, energy, water and waste audits, and climatic and geographic conditions.

National and regional data for per capita energy use, greenhouse gas and other emissions, wastes to landfill and water consumption, where available provide background data for normalisation of the expected performance values for per customer or employee, and/or overall performance of an enterprise being benchmarked. They are used to gauge the regional or national situation and environmental performances that an enterprise is based in, and hence what are reasonable levels to expect the enterprise to achieve.

A benchmarking result at, or above, the Baseline level demonstrates to all stakeholders that the enterprise is achieving above average performance. A result below the Baseline level indicates that an enterprise can and should carry out actions that will make beneficial improvements in performance.

### Consideration of Climate

A major determinant of energy consumption in some sectors, primarily those centred on buildings such as accommodation, visitor centres and administration offices will be the dominant climatic conditions in which the enterprise is located. In general, to maintain the same level of indoor comfort, enterprises operating in hot or cold climates will consume more energy than those in temperate climates.

Similarly, it is recognised that in certain sectors a major determinant of potable water consumption will be the climate in which an enterprise is located, in particular those with large grounds and/or significant water-based facilities or activities. That is, enterprises located in hot climates are more likely to consume more potable water than equivalent ones located in cooler climates. Factors that are likely to lead to a higher level of potable water consumption, for example in the accommodation sector, include increased evaporation rates of swimming pools, personal bathing and irrigation demands of grounds. In consideration of this factor, Baseline and Best Practice levels can vary in relation to country location.

### Waste Sent to Landfill

The benchmark indicator used for Waste Sent to Landfill is given in litres as waste bins are usually calibrated by volume, and it has been found that the majority of operations do not have access to the weight of material disposed of. However, if a weight is supplied, standard factors are used to convert from weight (e.g., kilograms (kg)) to volume (e.g., cubic metres (m<sup>3</sup>) or litres (L)). These are: 1 kg (uncompacted waste) = 0.00333333 m<sup>3</sup> or 3.33333 L and 1 kg (compacted waste) = 0.00153846 m<sup>3</sup> or 1.53846 L.

Operations should make note of the level of compaction when submitting data for assessment by EarthCheck.

### Review of Performance Levels

The Baseline and Best Practice performance levels for EarthCheck indicators are continuously reviewed and are likely to change over time. This review by a team of international experts, takes into account "business-as-usual" changes in practices, equipment and facilities, as well as regulations and general improvement trends in performance and procedures. This review is used to update the levels of Baseline and Best Practice, and provides useful feedback to the user of the indicators.

The list below summarises the basic generic rules used to determine Baseline and Best Practice levels for EarthCheck indicators.

- If relevant enterprise sector specific case studies are not available for a type of activity in a designated region, then national averages will be used to ascertain the Baseline level. In this case, the Best Practice level will be set at a minimum of 30% better performance than the Baseline.
- If case study or national data are not available for a specific indicator, then the first enterprise that benchmarks will have its results set as 15% better than Baseline (i.e., half way between Baseline and Best Practice).