EARTHCHECK

# BENCHMARKING ASSESSMENT REPORT

## DESTINATION BENCHMARKING

**MUNICIPIO DE MELGACO**
MELGACO, PORTUGAL

REPORT DATE: 1 December 2021

Benchmarking Data Collection Period: 1 January 2020 – 31 December 2020

*The planet deserves more than half measures*

# OVERVIEW

This annual assessment of **Municipio de Melgaco** was undertaken against EarthCheck benchmarking indicators and checklists developed for EarthCheck and listed below. [1] 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.[2]

| | | **Indicator Measure (Benchmark)** |
|---|---|---|
| **1** | Policy | Policy is produced and in place[2] |
| **2** | Energy | Energy Consumption (GJ / Person Year)[2]<br>Green Power (%)[4]<br>Greenhouse Gas Emissions (Scope 1 and Scope 2) (t $CO_2$-e / Person Year)[3]<br>Indirect Emissions (Scope 3) (t $CO_2$-e / Person Year)[3] |
| **3** | Water | Potable Water Consumption (kL / Person Year)[3]<br>Recycled / Captured Water (%)[4] |
| **4** | Waste | Waste Sent to Landfill ($m^3$ / Person Year)[3]<br>Recycled / Reused / Composted Waste (%)[4] |
| **5** | Sector Specific | Nitrous Oxides Produced (kg / Person Year / Hectare)[3 5]<br>Sulphur Dioxide Produced (kg / Person Year / Hectare)[3 5]<br>Particulate Matter Produced (kg / Person Year / Hectare)[3 5]<br>Habitat Conservation Area (%)[2]<br>Green Space (%)[2]<br>Significant Site Maintenance Fund (%)<br>Accredited Operations (%)[2]<br>Water Samples Passed (%)<br>Destination Safety – Homicide Rate (%)<br>Destination Safety – Theft Rate (%)<br>Destination Safety – Assault (%)<br>Socio-Economic Benefit – Unemployment Rate (%) |
| **Lead Agency Performance** | | |
| **6** | Water Savings | Water Savings Rating (Points)[6] |
| | Waste Recycling | Waste Recycling Rating (Points)[6] |
| | Paper | Paper Products Rating (Points)[6] |
| | Cleaning | Cleaning Products Rating (Points)[6] |
| | Pesticides | Pesticide Products Rating (Points)[6] |

[1] Please refer to the relevant EarthCheck Sector Benchmarking Indicator (SBI) document for more details. For frequently asked questions (FAQs) about benchmarking or specific help, please log on to 'My EarthCheck'.

[2] Produced by the lead agency after consultation with the destination and consensus.

[3] Person Year is equivalent to 365 person days. EarthCheck Destinations must also allow for both resident and transient (tourist) populations in indicators assessed on a per person year basis. Tourist activity is classified into an "overnight stay" or "day tripper". An overnight stay is counted the same as a permanent resident, that is, 1 person day. A day tripper is counted as 0.333 person day.

[4] These indicators are for guidance only and do not affect the overall benchmarking evaluation.

[5] Primary assessed impacts on air quality are emissions due to electricity consumption, vehicular transport, industrial processes and mining. The levels are calculated on a per unit area basis using total emissions and total bounded area of the Destinatin, including waterways. The data is then normalized against the average number of person years per area of the country.

[6] Assessed for the lead agency only.

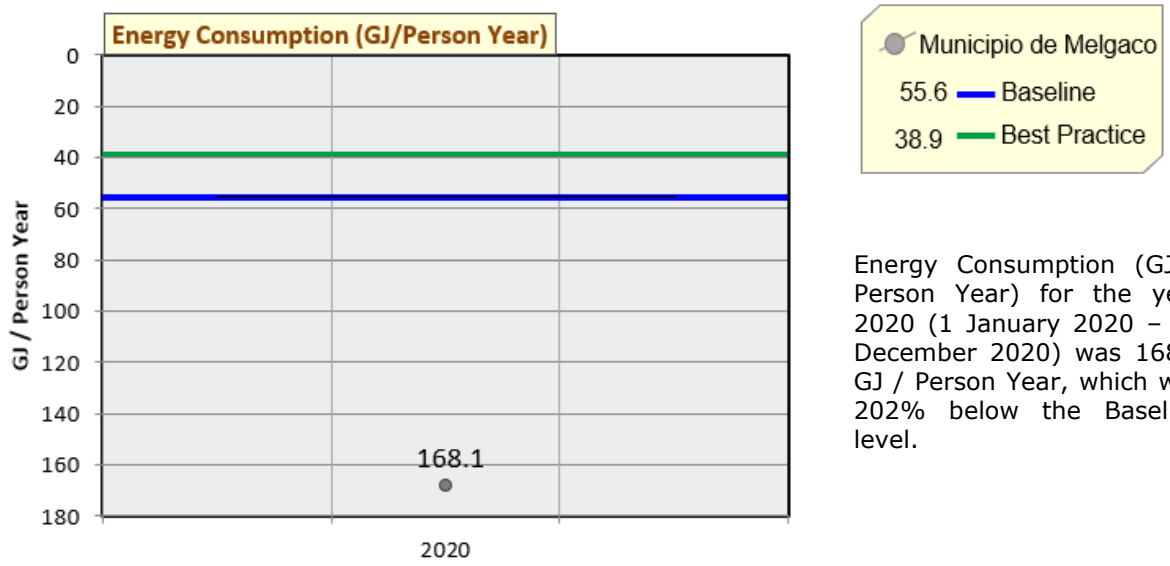
# DESTINATION PERFORMANCE BENCHMARKS

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

## 1. Policy ★

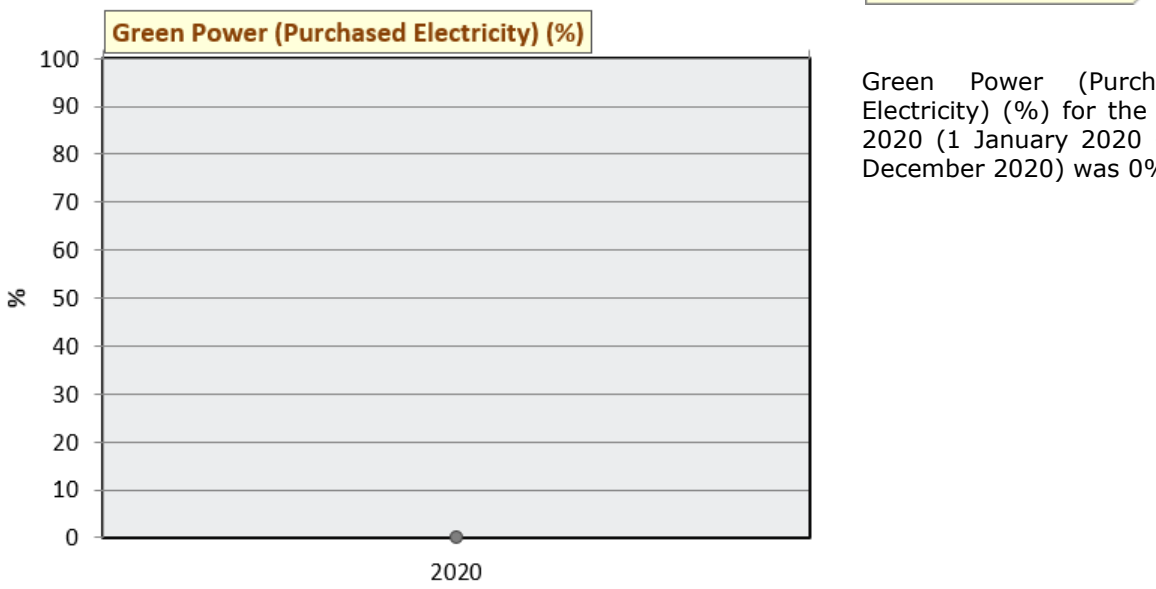
## 2. Energy

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



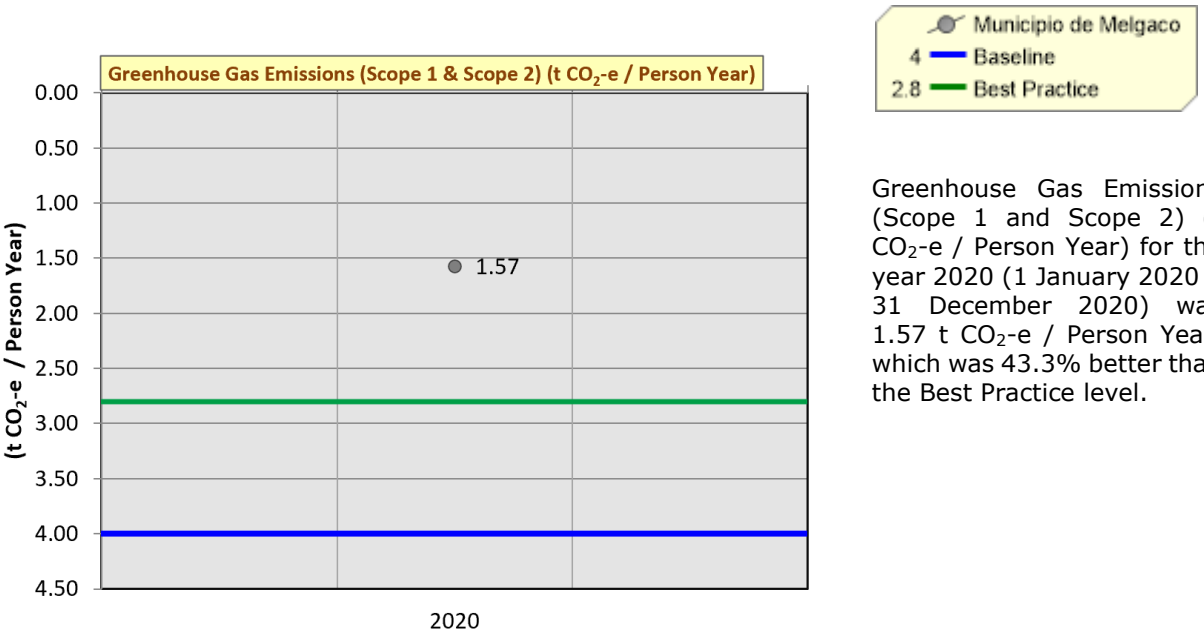

Energy Consumption (GJ / Person Year) for the year 2020 (1 January 2020 – 31 December 2020) was 168.1 GJ / Person Year, which was 202% below the Baseline level.

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



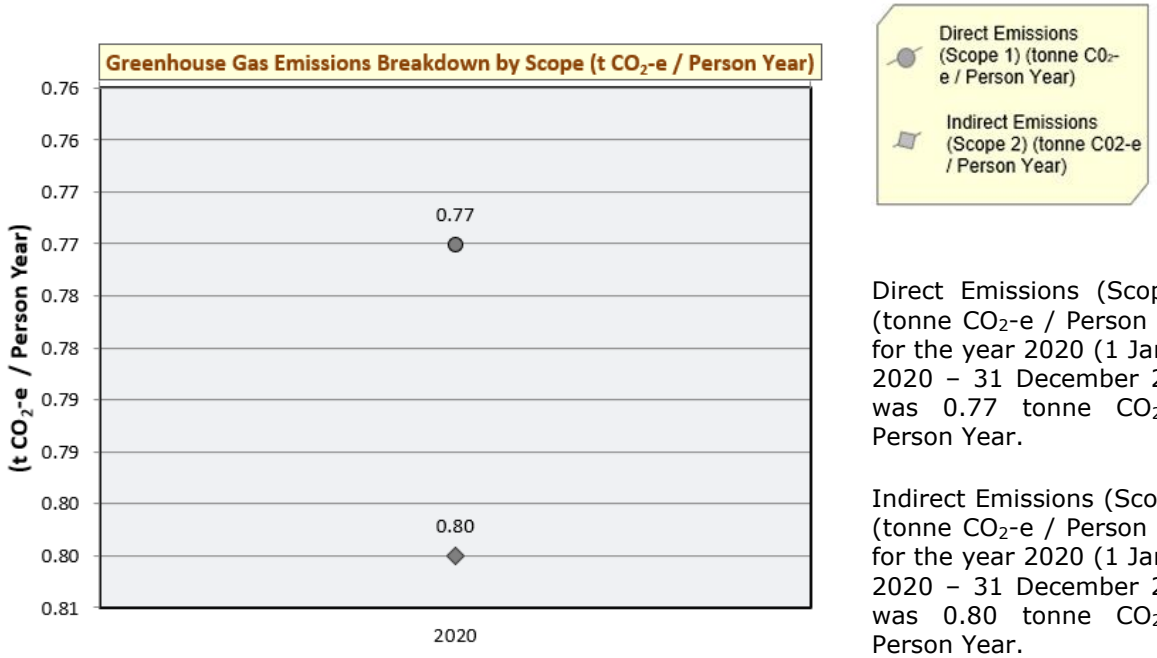

Green Power (Purchased Electricity) (%) for the year 2020 (1 January 2020 – 31 December 2020) was 0%.

## Greenhouse Gas Emissions (Scope 1 and Scope 2) (t $CO_2$-e / Person Year) ★




Greenhouse Gas Emissions (Scope 1 and Scope 2) (t $CO_2$-e / Person Year) for the year 2020 (1 January 2020 – 31 December 2020) was 1.57 t $CO_2$-e / Person Year, which was 43.3% better than the Best Practice level.

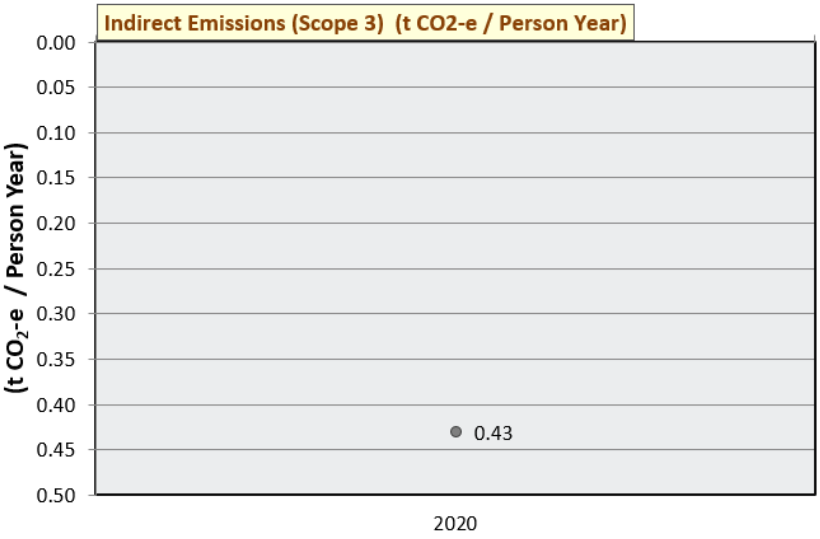
## Greenhouse Gas Emissions Breakdown by Scope (tonnes $CO_2$-e / Person Year)




Direct Emissions (Scope 1) (tonne $CO_2$-e / Person Year) for the year 2020 (1 January 2020 – 31 December 2020) was 0.77 tonne $CO_2$-e / Person Year.

Indirect Emissions (Scope 2) (tonne $CO_2$-e / Person Year) for the year 2020 (1 January 2020 – 31 December 2020) was 0.80 tonne $CO_2$-e / Person Year.

## Indirect Emissions (Scope 3) (t $CO_2$-e / Person Year)



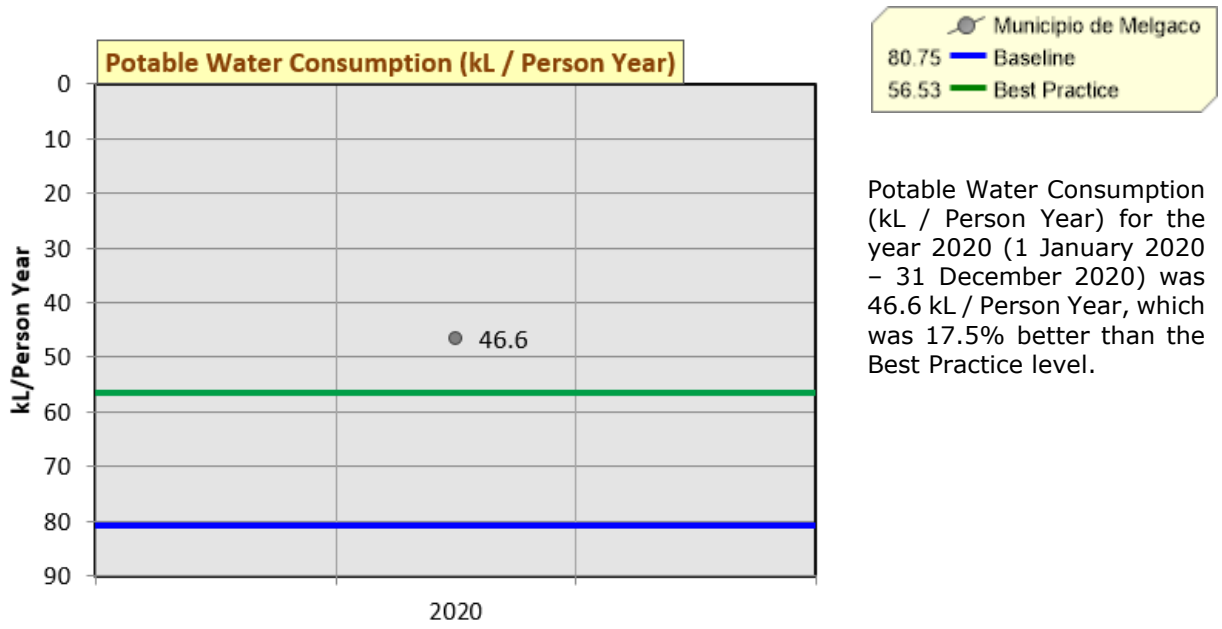

Municipio de Melgaco

Indirect Emissions (Scope 3) (t $CO_2$-e / Person Year) for the year 2020 (1 January 2020 – 31 December 2020) was 0.43 tonne $CO_2$-e / Person Year.

| Direct Emissions (Scope 1) | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Stationary Fuel Combustion** | | | | | | | |
| **2020** | | | | | | | |
| **Type** | **Quantity** | **Unit** | **Energy Consumption (MJ)** | **$CO_2$ Emission Estimate (t $CO_2$-e)** | **$CH_4$ Emission Estimate (t $CO_2$-e)** | **$N_2O$ Emission Estimate (t $CO_2$-e)** | **Total Emission Estimate (t $CO_2$-e)** |
| Natural Gas Liquid - Propane | 435 | tonne | 21149700.0 | 1222.0 | 5.3 | 3.0 | 1230.4 |
| Natural Gas Liquid - Butane | 113 | tonne | 5494060.0 | 317.4 | 1.4 | 0.8 | 319.6 |
| Diesel | 173 | tonne | 7810950.0 | 549.9 | 2.1 | 1.2 | 553.1 |
| | | subtotal | 34454710.0 | 2089.3 | 8.8 | 5.0 | 2103.1 |
| **Mobile Fuel Combustion (road)** | | | | | | | |
| **2020** | | | | | | | |
| **Type** | **Quantity** | **Unit** | **Energy Consumption (MJ)** | **$CO_2$ Emission Estimate (t $CO_2$-e)** | **$CH_4$ Emission Estimate (t $CO_2$-e)** | **$N_2O$ Emission Estimate (t $CO_2$-e)** | **Total Emission Estimate (t $CO_2$-e)** |
| Diesel | 1011 | tonne | 45646650.0 | 3213.3 | 4.7 | 44.8 | 3262.8 |
| Motor gasoline | 177 | tonne | 8233155.0 | 542.0 | 5.5 | 16.6 | 564.1 |
| | | subtotal | 53879805.0 | 3755.3 | 10.2 | 61.4 | 3826.9 |
| **Onsite Wastewater Treatment** | | | | | | | |
| **2020** | | | | | | | |
| **Type** | **Number of people serviced by system per day** | | **Number of days in use** | **$CO_2$ Emission Estimate (t $CO_2$-e)** | **$CH_4$ Emission Estimate (t $CO_2$-e)** | **$N_2O$ Emission Estimate (t $CO_2$-e)** | **Total Emission Estimate (t $CO_2$-e)** |
| Septic (BOD Unknown) | 485 | | 365 | 0 | 33.5 | 0 | 33.5 |
| | | | subtotal | 0 | 33.5 | 0 | 33.5 |
| **Type** | **Number of people serviced by system per day** | | **Number of days in use** | **$CO_2$ Emission Estimate (t $CO_2$-e)** | **$CH_4$ Emission Estimate (t $CO_2$-e)** | **$N_2O$ Emission Estimate (t $CO_2$-e)** | **Total Emission Estimate (t $CO_2$-e)** |
| Aerobic (BOD Unknown) | 7592 | | 365 | 0 | 314.2 | 0 | 314.2 |
| | | | subtotal | 0 | 314.2 | 0 | 314.2 |
| | | | **TOTAL** | **88334515.0** | **5844.7** | **366.7** | **66.4** | **6277.7** |
| **Indirect Emissions (Scope 2)** | | | | | | | |
| **Purchased Electricity** | | | | | | | |
| **2020** | | | | | | | |
| **Quantity** | **Unit** | **% Green Power** | **Provider** | **Energy Consumption (MJ)** | **$CO_2$ Emission Estimate (t $CO_2$-e)** | **$CH_4$ Emission Estimate (t $CO_2$-e)** | **$N_2O$ Emission Estimate (t $CO_2$-e)** | **Total Emission Estimate (t $CO_2$-e)** |
| 21423181 | Kilowatt hour (kWh) | 0 | Portugal | 77123451.6 | 6491.2 | 8.8 | 40.4 | 6540.3 |
| | | | subtotal | 77123451.6 | 6491.2 | 8.8 | 40.4 | 6540.3 |
| | | | **TOTAL** | **77123451.6** | **6491.2** | **8.8** | **40.4** | **6540.3** |
| **Greenhouse Gas Emissions (Scope 1 and Scope 2)** | | | | | | | |
| | | | **GRAND TOTAL** | **165457966.6** | **12335.9** | **375.5** | **106.8** | **12818.1** |
| **Indirect Emissions (Scope 3)** | | | | | | | |
| **Quantity** | **Unit** | **Type of Landfill** | **Type of Waste** | **CO2 Emissions (t CO2-e)** | **CH4 Emissions (t CO2-e)** | **N2O Emissions (t CO2-e)** | **Greenhouse Gas Emissions (t CO2-e)** |
| 2899.1 | tonnes (compacted) | Covered and/or managed waste treatment facility | Unknown (mixed waste types) | 0 | 3478.92 | 0 | 3478.92 |
| | | | **TOTAL** | **0.0** | **3478.92** | **0.0** | **3478.92** |

# 3. Water

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

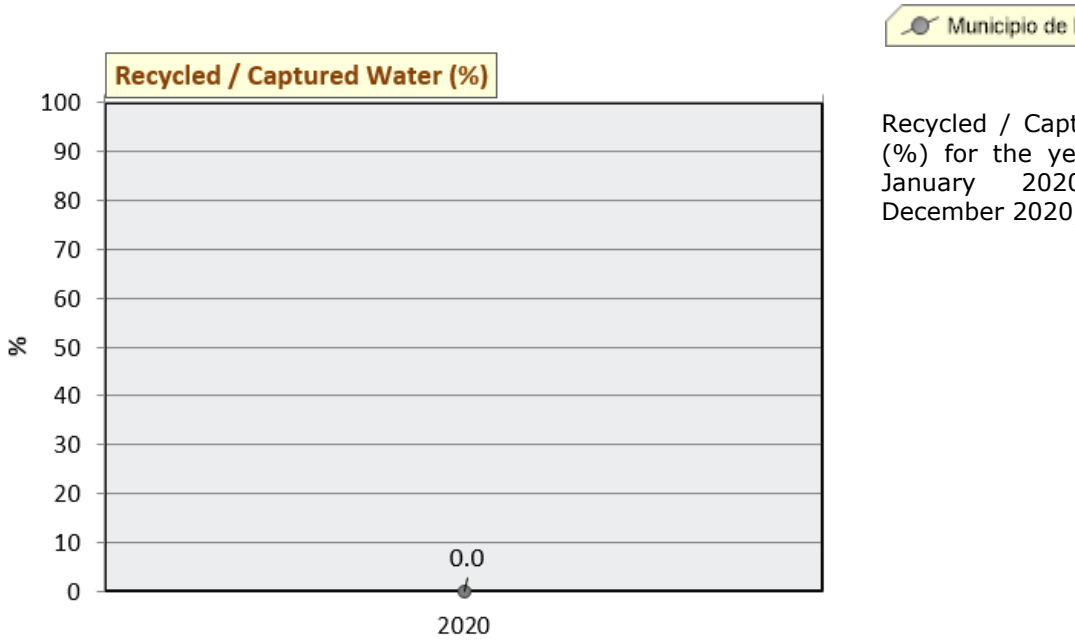



Potable Water Consumption (kL / Person Year) for the year 2020 (1 January 2020 – 31 December 2020) was 46.6 kL / Person Year, which was 17.5% better than the Best Practice level.

**2020**

| Quantity | Unit | Potable Water Consumption (kL) |
|---|---|---|
| 376644 | kilolitres (kL) | 376644.0 kL |
| | **TOTAL** | **376644.0 kL** |

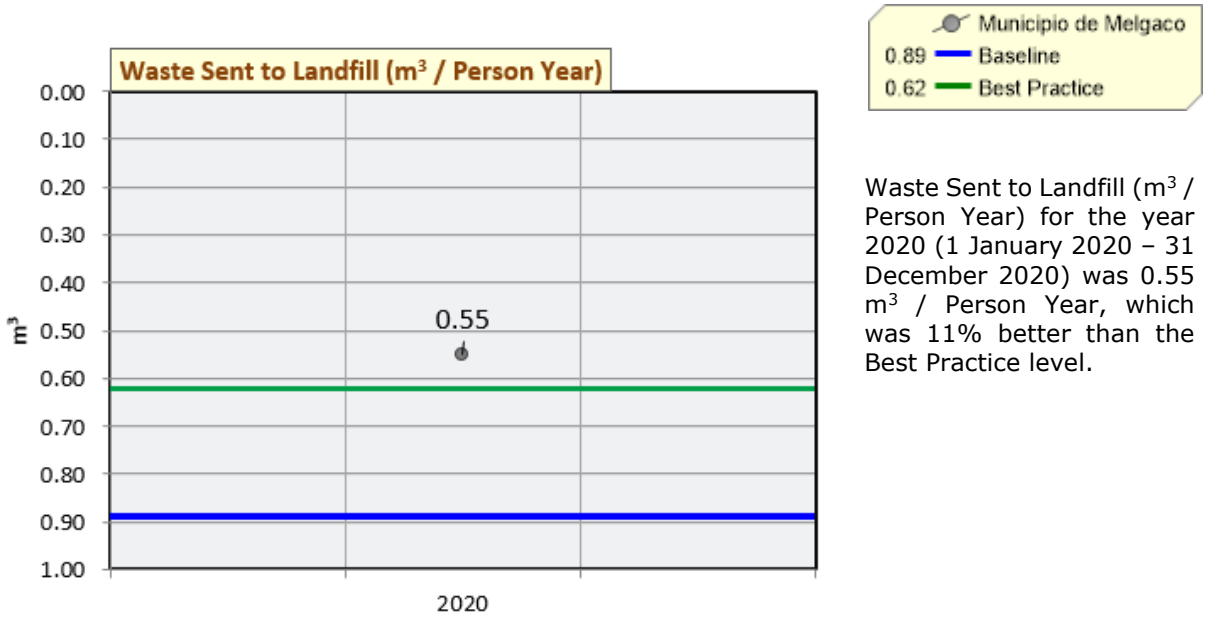
## Recycled / Captured Water (%)




Recycled / Captured Water (%) for the year 2020 (1 January 2020 – 31 December 2020) was 0%.

# 4. Waste

## Waste Sent to Landfill ($m^3$ / Person Year) ★

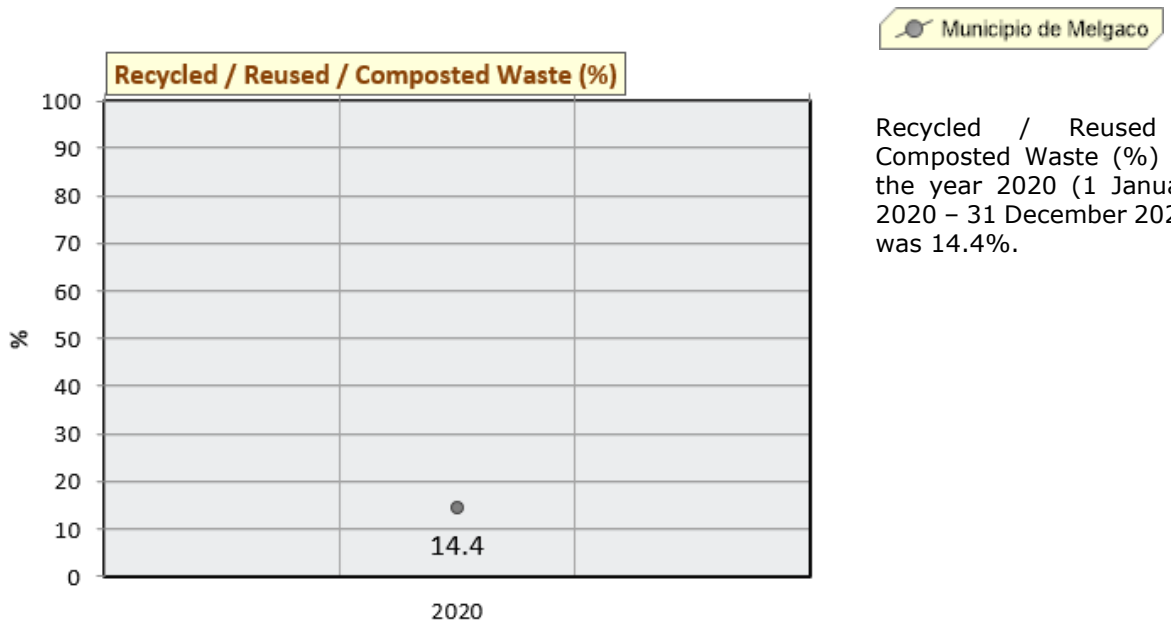



Waste Sent to Landfill ($m^3$ / Person Year) for the year 2020 (1 January 2020 – 31 December 2020) was 0.55 $m^3$ / Person Year, which was 11% better than the Best Practice level.

**2020**

| Quantity | Unit | Type of Landfill | Type of Waste | Type of Operation | Waste Sent to Landfill ($m^3$) |
|---|---|---|---|---|---|
| 2899.1 | tonnes (compacted) | Covered and/or managed waste treatment facility | Unknown (mixed waste types) | Other Operation | 4460.2 |
| | | | | **TOTAL** | **4460.2 $m^3$** |

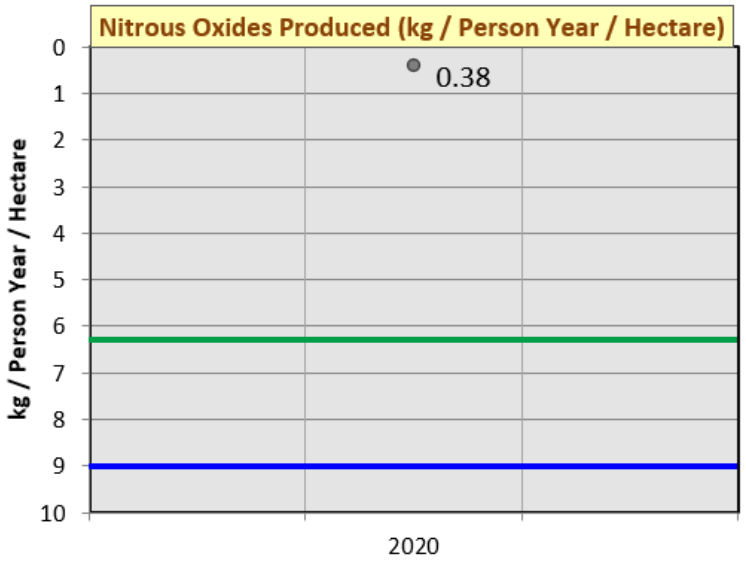
## Recycled / Reused / Composted Waste (%)




Recycled / Reused / Composted Waste (%) for the year 2020 (1 January 2020 – 31 December 2020) was 14.4%.

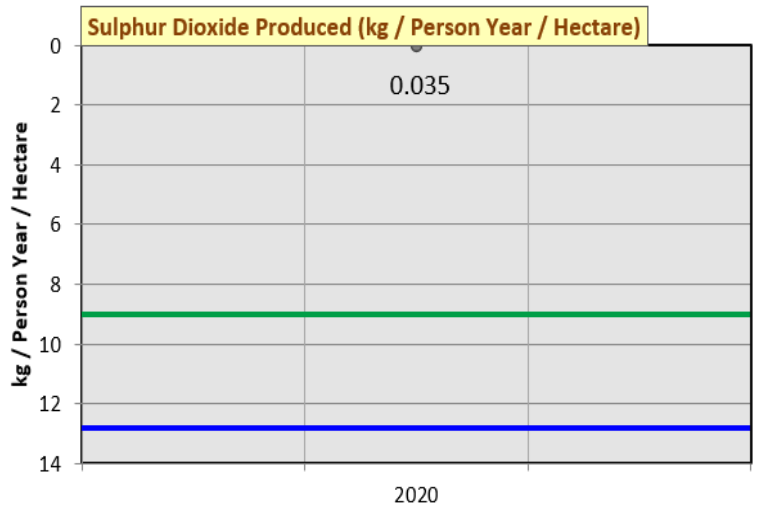
# 5. Sector Specific

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



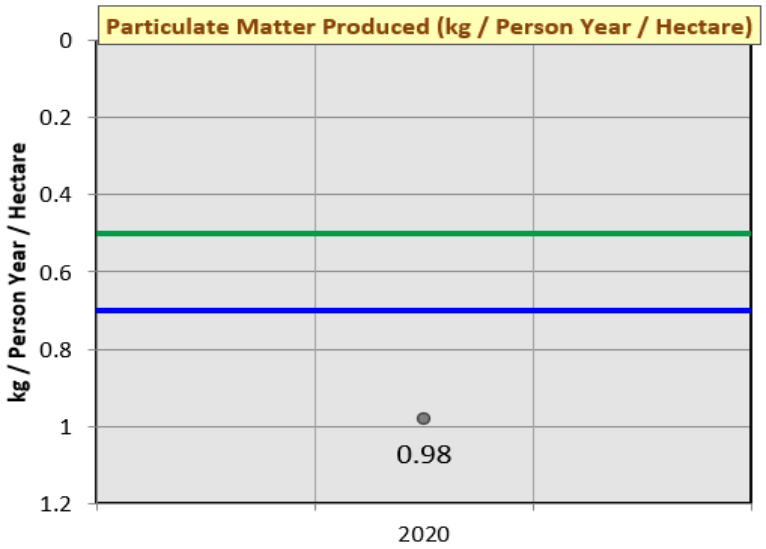

Nitrous Oxides Produced (kg / Person Year /Hectare) for the year 2020 (1 January 2020 – 31 December 2020) was 0.38 kg / Person Year / Hectare, which was 94% better than the Best Practice level.

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



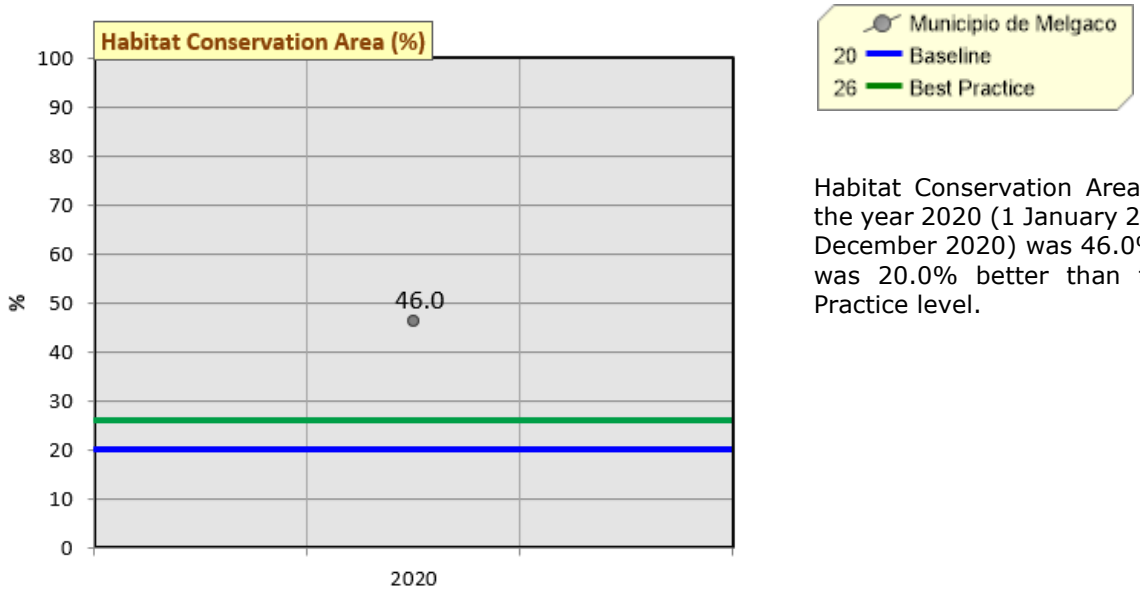

Sulphur Dioxide Produced (kg / Person Year / Hectare) for the year 2020 (1 January 2020 – 31 December 2020) was 0.035 kg / Person Year / Hectare, which was 99.6% better than the Best Practice level.

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



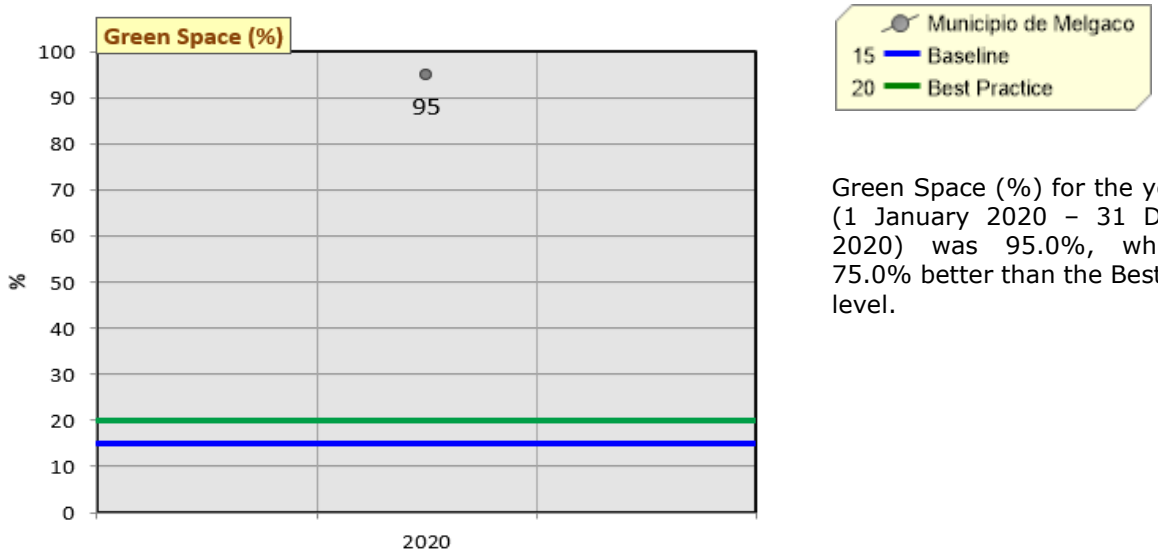

Particulate Matter Produced (kg / Person Year / Hectare) for the year 2020 (1 January 2020 – 31 December 2020) was 0.98 kg / Person Year / Hectare, which was 96% worse than the Baseline level.

## Habitat Conservation Area (%)



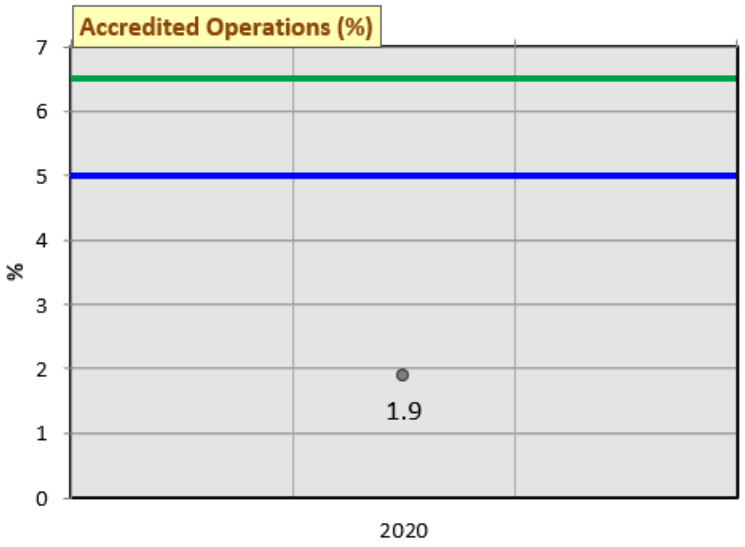

Habitat Conservation Area (%) for the year 2020 (1 January 2020 – 31 December 2020) was 46.0%, which was 20.0% better than the Best Practice level.

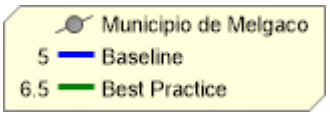
## Green Space (%)




Green Space (%) for the year 2020 (1 January 2020 – 31 December 2020) was 95.0%, which was 75.0% better than the Best Practice level.

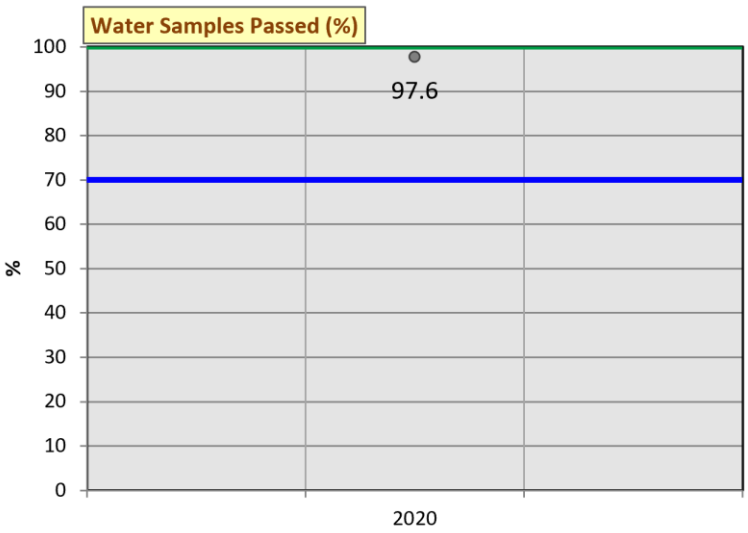
## Accredited Operations (%) ✘




Accredited Operations (%) for the year 2020 (1 January 2020 – 31 December 2020) was 1.9%, which was 3.2% below the Baseline level.

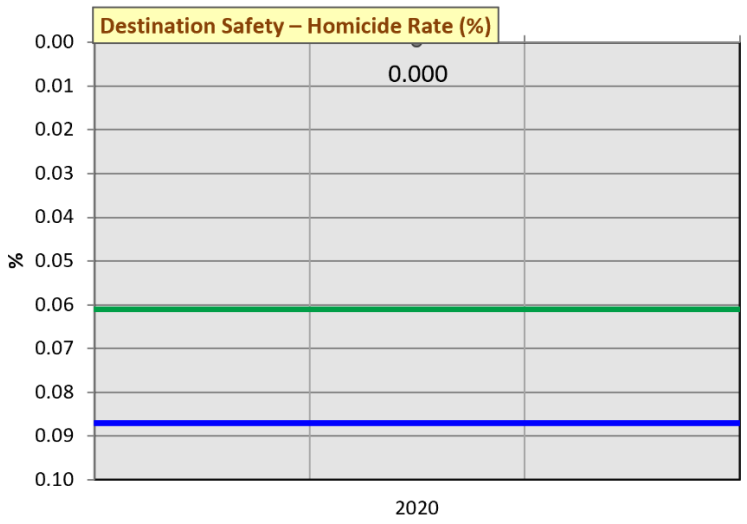
## Water Samples Passed (%) ✓





Water Samples Passed (%) for the year 2020 (1 January 2020 – 31 December 2020) was 97.6%, which was 27.6% better than the Baseline level.

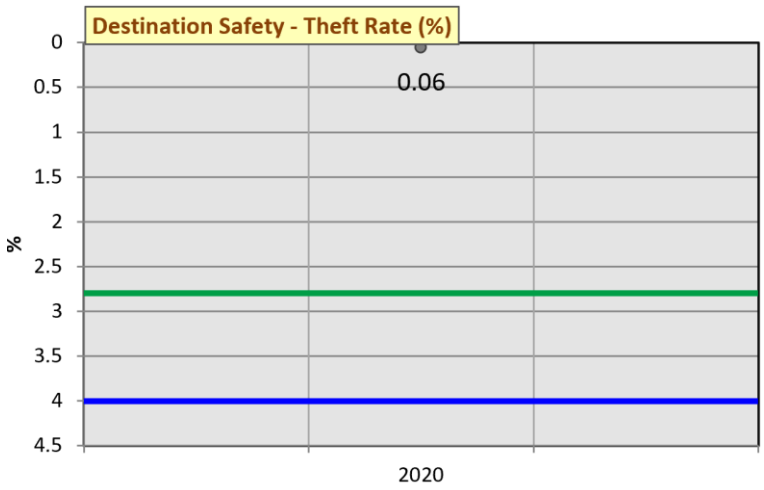
## Destination Safety – Homicide Rate (%)




Municipio de Melgaco
0.0013 Baseline
0.0009 Best Practice

Homicide Rate for the year 2020 (1 January 2020 – 31 December 2020 was 0.00%, which was 0.0009% better than the Best Practice level.

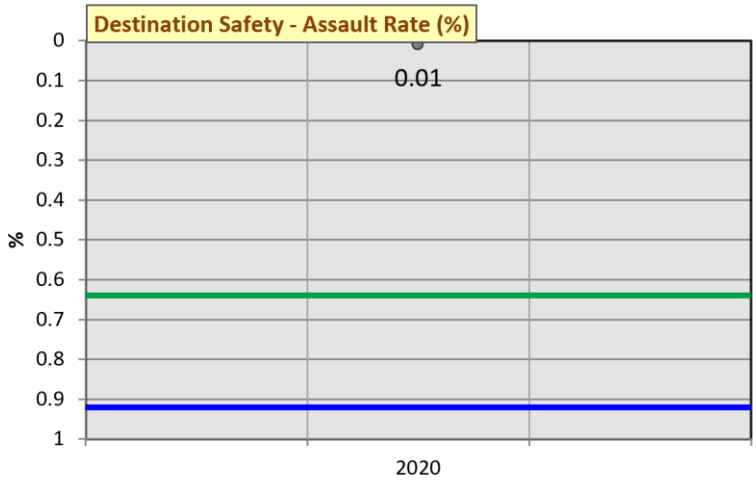
## Destination Safety – Theft Rate (%)




Municipio de Melgaco
0.96 Baseline
0.68 Best Practice

Theft Rate for the year 2020 (1 January 2020 – 31 December 2020) was 0.06%, which was 0.62% better than the Best Practice Level.

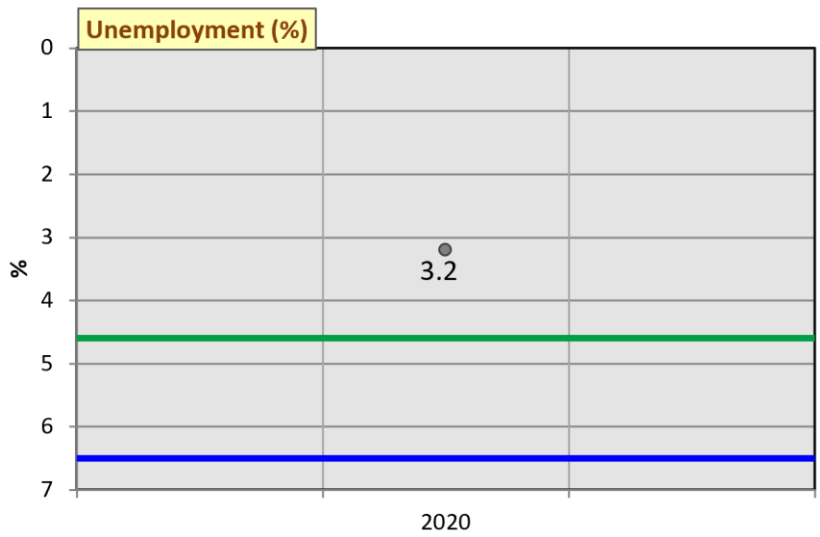
## Destination Safety – Assault Rate (%)

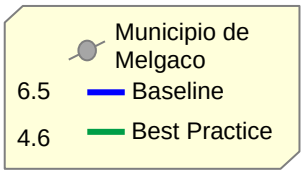



Municipio de Melgaco
0.26 Baseline
0.18 Best Practice

Assault Rate for the year 2020 (1 January 2020 – 31 December 2020) was 0.01%, which was 0.17% below the Baseline Level.

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

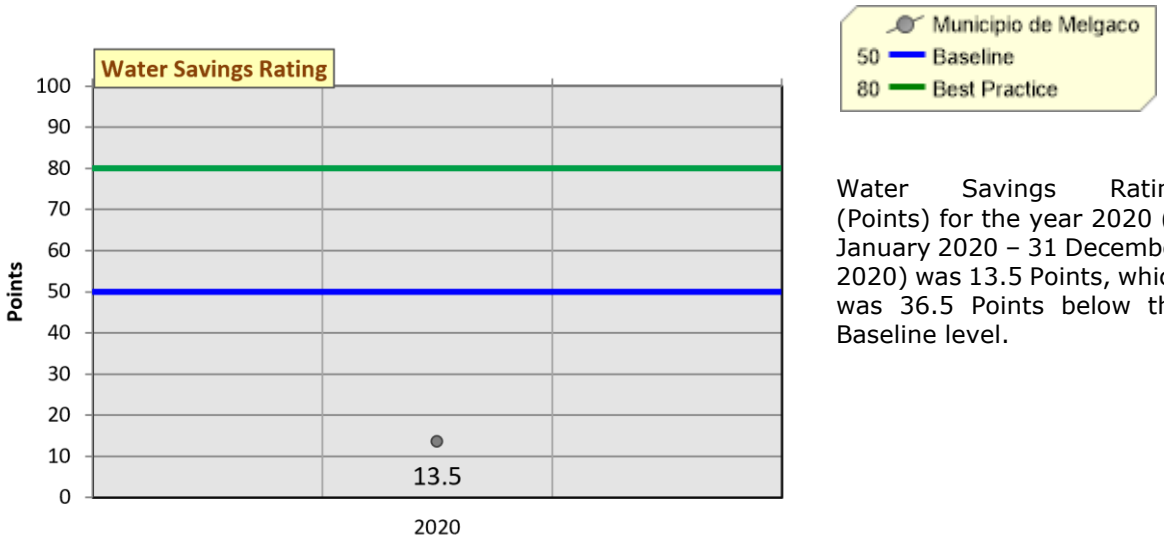



Unemployment Rate for the year 2020 (1 January 2020 – 31 December 2020) was 3.2% which was 1.4% below the Baseline level.

# 6. Lead Agency Performance

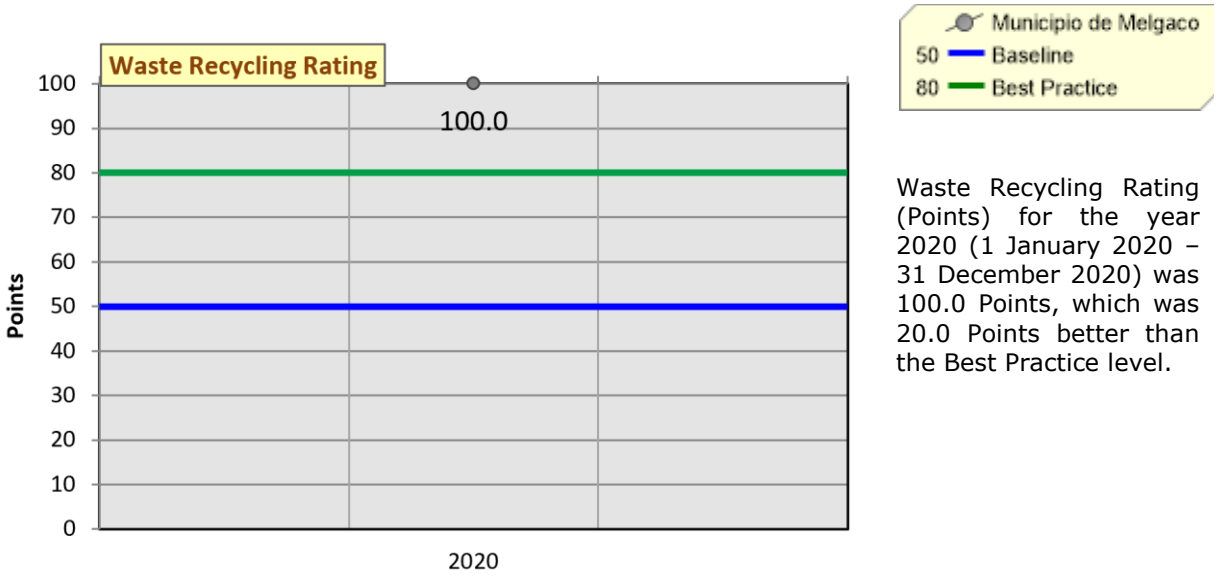
**Water Savings Rating (Points)** ✘




Water Savings Rating (Points) for the year 2020 (1 January 2020 – 31 December 2020) was 13.5 Points, which was 36.5 Points below the Baseline level.

| Water Savings Measures | Frequency / Percentage Rating | Water Savings Rating (Points) |
|---|---|---|
| Check for leaks | Once a year | 54.0 Points |
| Low/dual flush toilets | 0% | 0.0 Points |
| Low flow tap fittings | 0% | 0.0 Points |
| Low flow shower fittings | Not Relevant / Not Available | |
| Water sprinklers used after dark | Not Relevant / Not Available | |
| Minimal irrigation landscaping | Not Relevant / Not Available | |
| Use of recycle/grey/rain water | 0% | 0.0 Points |
| | **Overall Rating:** | **13.5 Points** |

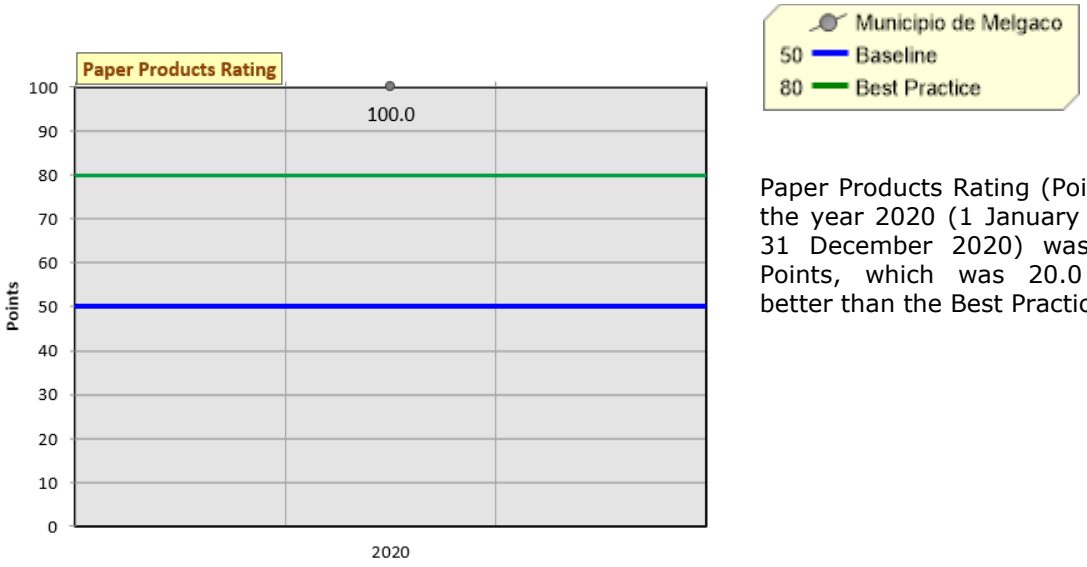
## Waste Recycling Rating (Points) ★




Waste Recycling Rating (Points) for the year 2020 (1 January 2020 – 31 December 2020) was 100.0 Points, which was 20.0 Points better than the Best Practice level.

| 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) | Not Relevant / Not Available | |
| Other metals (non-ferrous) | Not Relevant / Not Available | |
| Plastics | 100% | 100.0 Points |
| Rubber | Not Relevant / Not Available | |
| Green waste | 100% | 100.0 Points |
| | **Overall Rating:** | **100.0 Points** |

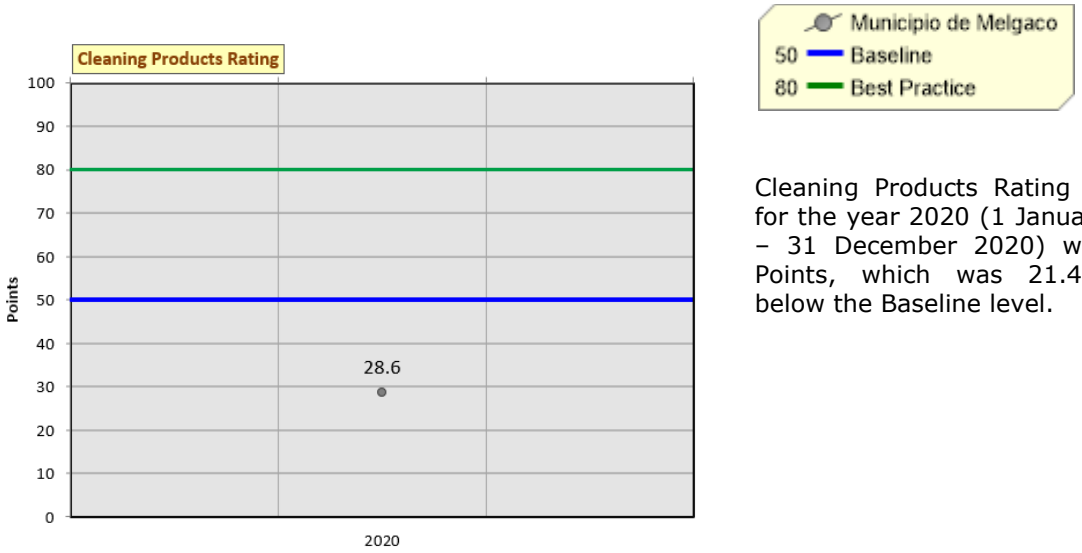
## Paper Products Rating (Points)




Paper Products Rating (Points) for the year 2020 (1 January 2020 – 31 December 2020) was 100.0 Points, which was 20.0 Points better than the Best Practice level.

| Paper Products Measures | Frequency / Percentage Rating | Paper Products Rating (Points) |
|---|---|---|
| Office paper | 100% | 100.0 Points |
| Serviettes | Not Relevant / Not Available | |
| Tissues | Not Relevant / Not Available | |
| Toilet tissue | 100% | 100.0 Points |
| Paper towels | 100% | 100.0 Points |
| | **Overall Rating:** | **100.0 Points** |

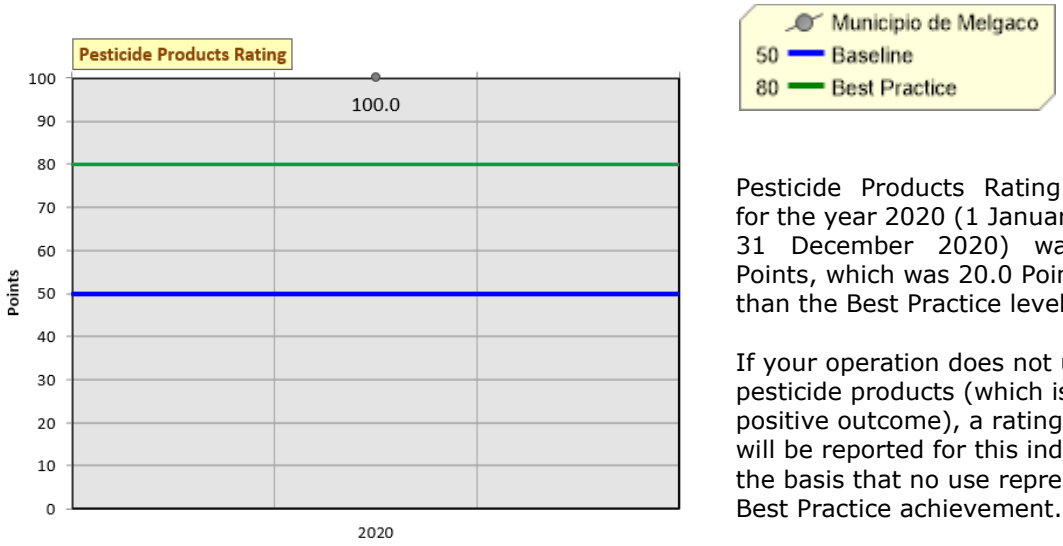
## Cleaning Products Rating (Points) ✘




Cleaning Products Rating (Points) for the year 2020 (1 January 2020 – 31 December 2020) was 28.6 Points, which was 21.4 Points below the Baseline level.

| Cleaning Products Measures | Frequency / Percentage Rating | Cleaning Products Rating (Points) |
|---|---|---|
| Hard floor cleaners | 0% | 0.0 Points |
| Carpet cleaners | Not Relevant / Not Available | 100.0 Points |
| Interior surface cleaners | 0% | 0.0 Points |
| External surface cleaners | Not Relevant / Not Available | 100.0 Points |
| Glass cleaners | 0% | 0.0 Points |
| Detergents | 0% | 0.0 Points |
| Personal hygiene | 0% | 0.0 Points |
| | **Overall Rating:** | **28.6 Points** |

## Pesticide Products Rating (Points) ★




Pesticide Products Rating (Points) for the year 2020 (1 January 2020 – 31 December 2020) was 100.0 Points, which was 20.0 Points better than the Best Practice level.

If your operation does not use any pesticide products (which is a positive outcome), a rating of 100 will be reported for this indicator on the basis that no use represents a Best Practice achievement.

| 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 | Not Relevant / Not Available | 100.0 Points |
| | **Overall Rating:** | **100.0 Points** |

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

# CONCLUSION AND RECOMMENDATIONS

Congratulations, **Municipio de Melgaco** has met the requirements to be recognised as an EarthCheck Benchmarked Community.

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

From the benchmarking data provided, fourteen indicators, *Greenhouse Gas Emissions (Scope 1 and Scope 2), Potable Water Consumption, Waste Sent to Landfill, Nitrous Oxides Produced, Sulphur Dioxide Produced, Habitat Conservation Area, Green Spaces, Homicide Rate, Theft Rate, Assault Rate, Unemployment Rate, Waste Recycling Rating, Paper Products Rating* and *Pesticide Products Rating,* are at or above the Best Practice level.

The five indicators that fell below the Baseline level were *Energy Consumption, Particulate Matter Produced, Water Savings Rating, Cleaning Products Rating, and Accredited Operations*.

The value for Energy Consumption was was 168.1 GJ / Person Year, which was 202% below the Baseline level. **Municipio de Melgaco** is encouraged to review all its existing energy consumption and demand patterns for both facilities (e.g. use of low wattage, energy saving light fittings and timers to switch-off lights) and vehicles (e.g. reducing the number of journeys).

The value for Water Saving was 36.5 Points below the Baseline level. **Municipio de Melgaco** is encouraged, therefore, to review current on-site water use and the possibility of increasing on-site recycling and reuse (e.g. using non-hazardous rain water and/or grey water for watering plants and washing exterior surfaces). The **Municipio de Melgaco** are also encouraged to regularly check for possible leaks, and fitting (where appropriate) water saving devices such as low-flow shower heads and dual flush toilet cisterns.

The value for Cleaning Products was 21.4 Points below the Baseline level. **Municipio de Melgaco** is encouraged, therefore, to review existing practices and procedures. This review should aim to look to increasing where practical the use of biodegradable chemicals in order to replace and phase out those that are non-biodegradable, and more likely to cause environmental harm.

The value for Particulate Matter Produced was was 0.98 kg / Person Year / Hectare, which was 96% worse than the Baseline level. **Municipio de Melgaco** is encouraged to promote the use of public transport within the destination and to investigate opportunities of switching to cleaner and more efficient combustion fuels (e.g. renewables, LPG) and processes.

**Municipio de Melgaco** is encouraged to continue to make improvements in the above indicators and to ensure that any indicators 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 **Municipio de Melgaco** 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, **Municipio de Melgaco** is encouraged to ensure that Water Savings Rating, Cleaning Products Rating, and Accredited Operations are at Baseline performance or better.  In line with

EarthCheck Policy this would enable **Municipio de Melgaco** to continue to meet the benchmarking requirements of the EarthCheck program.

# APPENDIX

## MOBILE FUEL COMBUSTION (ROAD)

The Benchmarking Assessors sought clarification with regards to the fuel sources being reported in terms of weight, instead of volume as is typically reported.

Municipio de Melgaco provided the following response for clarification:

> *"The fuel consumption figures are, indeed, accurate. The 'Direção-Geral de Energia e Geologia' provides data for fuel in tonnes for each Portuguese municipality, as you can see in the excel file attached (obtained directly from that source)."*

Therefore the Benchmarking Assessors maintained the initial data submission.

EARTHCHECK

**Benchmarks Assessed by EarthCheck**

# Summary Of Supplied Benchmarking Data

## Activity Measures

| | |
|---|---|
| Person Years | 8077 |
| Total Destination Area | 23825 |

## Supplied Benchmarking Data

### Energy

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

| | |
|---|---|
| Supplied | 1357494.45 GJ |
| Calculated | 168.1 GJ / Person Year |
| Baseline | 55.6 GJ / Person Year |
| Best Practice | 38895.03125 MJ / Person Year |
| Difference | 202% below the Baseline level. |

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

| | |
|---|---|
| Supplied | 0% |

#### Greenhouse Gas Emissions (Scope 1 and Scope 2) (t $CO_2$-e / Person Year)

| | |
|---|---|
| Supplied | 12818.1 t $CO_2$-e |
| Calculated | 1.57 t $CO_2$-e / Person Year |
| Baseline | 4.0 t $CO_2$-e / Person Year |
| Best Practice | 2.8 t $CO_2$-e / Person Year |
| Difference | 43.3% better than the Best Practice level |

#### Direct Emissions (Scope 1) (kg $CO_2$-e / Person Year)

| | |
|---|---|
| Supplied | 6277745.7 kg $CO_2$-e |
| Calculated | 777.2 kg $CO_2$-e / Person Year |

#### Indirect Emissions (Scope 2) (kg $CO_2$-e / Person Year)

| | |
|---|---|
| Supplied | 6540340.1 kg $CO_2$-e |
| Calculated | 809.7 kg $CO_2$-e / Person Year |

#### Indirect Emissions (Scope 3) (t $CO_2$-e / Person Year)

| | |
|---|---|
| Calculated | 0.43 t $CO_2$-e / Person Year |

### Water

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

| | |
|---|---|
| Supplied | 376644.0 kL |
| Calculated | 46.6 kL / Person Year |
| Baseline | 80.75 kL / Person Year |
| Best Practice | 56.53 kL / Person Year |
| Difference | 17.5% better than the Best Practice level |

#### Recycled / Captured Water (%)

| | |
|---|---|
| Supplied | 0% |

#### Water Savings Rating (Points)

| | |
|---|---|
| Calculated | 13.5 Points |
| Baseline | 50 Points |
| Best Practice | 80 Points |
| Difference | 36.5 Points below the Baseline level |

### Waste

#### Waste Sent to Landfill ($m^3$ / Person Year)

| | |
|---|---|
| Supplied | 4460.2 $m^3$ |
| Calculated | 0.55 $m^3$ / Person Year |
| Baseline | 0.89 $m^3$ / Person Year |
| Best Practice | 0.62 $m^3$ / Person Year |

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

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

#### Waste Recycling Rating (Points)

| | |
|---|---|
| Calculated | 100.0 Points |
| Baseline | 50 Points |
| Best Practice | 80 Points |
| Difference | 20.0 Points better than the Best Practice level |

### Paper

#### Paper Products Rating (Points)

| | |
|---|---|
| Calculated | 100.0 Points |
| Baseline | 50 Points |
| Best Practice | 80 Points |
| Difference | 20.0 Points better than the Best Practice level |

### Cleaning

#### Cleaning Products Rating (Points)

| | |
|---|---|
| Calculated | 28.6 Points |

| | |
|---|---|
| Baseline | 50 Points |
| Best Practice | 80 Points |
| Difference | 21.4 Points below the Baseline level |

## Pesticides

### Pesticide Products Rating (Points)

| | |
|---|---|
| Calculated | 100.0 Points |
| Baseline | 50 Points |
| Best Practice | 80 Points |
| Difference | 20.0 Points better than the Best Practice level |

## Sector Specific

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

| | |
|---|---|
| Calculated | 0.38 kg / Person Year / Hectare |
| Baseline | 9.0 kg / Person Year / Hectare |
| Best Practice | 6.3 kg / Person Year / Hectare |
| Difference | 94% better than the Best Practice level |

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

| | |
|---|---|
| Calculated | 0.035 kg / Person Year / Hectare |
| Baseline | 12.8 kg / Person Year / Hectare |
| Best Practice | 9.0 kg / Person Year / Hectare |
| Difference | 99.6% better than the Best Practice level |

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

| | |
|---|---|
| Calculated | 0.98kg / Person Year / Hectare |
| Baseline | 0.7 kg / Person Year / Hectare |
| Best Practice | 0.5 kg / Person Year / Hectare |
| Difference | 96% below the Baseline level |

### Water Samples Passed (%)

| | |
|---|---|
| Supplied | 97.6% |
| Baseline | 70 % |
| Best Practice | 100 % |
| Difference | 27.6% better than the Baseline level |

### Habitat Conservation Area (%)

| | |
|---|---|
| Supplied | 46.0% |
| Baseline | 20 % |
| Best Practice | 26 % |
| Difference | 20.0% better than the Best Practice level |

### Green Space (%)

| | |
|---|---|
| Supplied | 95.0% |
| Baseline | 15 % |
| Best Practice | 20 % |
| Difference | 75.0% better than the Best Practice level |

### Accredited Operations (%)

| | |
|---|---|
| Supplied | 1.9% |
| Baseline | 5 % |
| Best Practice | 6.5 % |
| Difference | 3.2% below the Baseline level |

| | |
|---|---|
| Calculated | 12.1% |

## Destination Safety

### Homicide Rate (%)

| | |
|---|---|
| Calculated | 0.00% |
| Baseline | 0.0013% |
| Best Practice | 0.0009% |
| Difference | 0.0009% better than Best Practice |

### Theft Rate (%)

| | |
|---|---|
| Calculated | 0.06% |
| Baseline | 0.96% |
| Best Practice | 0.68% |
| Difference | 0.62% better than the Best Practice level |

### Assault Rate (%)

| | |
|---|---|
| Calculated | 0.01% |
| Baseline | 0.26% |
| Best Practice | 0.18% |
| Difference | 0.11% better than the Baseline Level |

## Socio-Economic Benefit

### Unemployment Rate (%)

| | |
|---|---|
| Calculated | 3.2% |
| Baseline | 6.5% |
| Best Practice | 4.6% |
| Difference | 1.4% below the Baseline Level |

# 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 ($m^3$) or litres (L)). These are: 1 kg (uncompacted waste) = 0.00333333 $m^3$ or 3.33333 L and 1 kg (compacted waste) = 0.00153846 $m^3$ 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).