



EARTHCHECK

BENCHMARKING ASSESSMENT REPORT (REVISED ASSESSMENT 2)

DESTINATION BENCHMARKING

WESTFJORDS

ÍSAFJÖRÐUR, ICELAND



REPORT DATE: 19 January 2017

Benchmarking Data Collection Period: 1 January 2015 – 31 December 2015

The planet deserves more than half measures

OVERVIEW

This annual assessment of **Westfjords** 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. The Lead Agency responsible for collection, collation and authorization of the information required by the indicators was the **Municipality Association of the Westfjords**.

		Indicator Measure (Benchmark)
1	Policy	Policy is produced and in place ²
2	Energy	Energy Consumption (GJ / Person Year) ² Green Power (%) ⁴ Greenhouse Gas Emissions (Scope 1 and Scope 2) (t CO ₂ -e / Person Year) ³ Indirect Emissions (Scope 3) (t CO ₂ -e / Person Year) ³
3	Water	Potable Water Consumption (kL / Person Year) ³ Recycled / Captured Water (%) ⁴
4	Waste	Waste Sent to Landfill (m ³ / Person Year) ³ Recycled / Reused / Composted Waste (%) ⁴
5	Sector Specific	Nitrous Oxides Produced (kg / Person Year / Hectare) ^{3 5} Sulphur Dioxide Produced (kg / Person Year / Hectare) ^{3 5} Particulate Matter Produced (kg / Person Year / Hectare) ^{3 5} Water Samples Passed (%) ² Habitat Conservation Area (%) ² Green Space (%) ² Significant Site Maintenance Fund (%) Destination Safety – Homicide Rate (%) Destination Safety – Theft Rate (%) Destination Safety – Assault (%) Socio-Economic Benefit – Unemployment Rate (%) Accredited Operations (%) ²
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 community 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 Destination, including waterways. The data is then normalized against the average number of person years per area of the country.

⁵ Assessed for the lead agency only.

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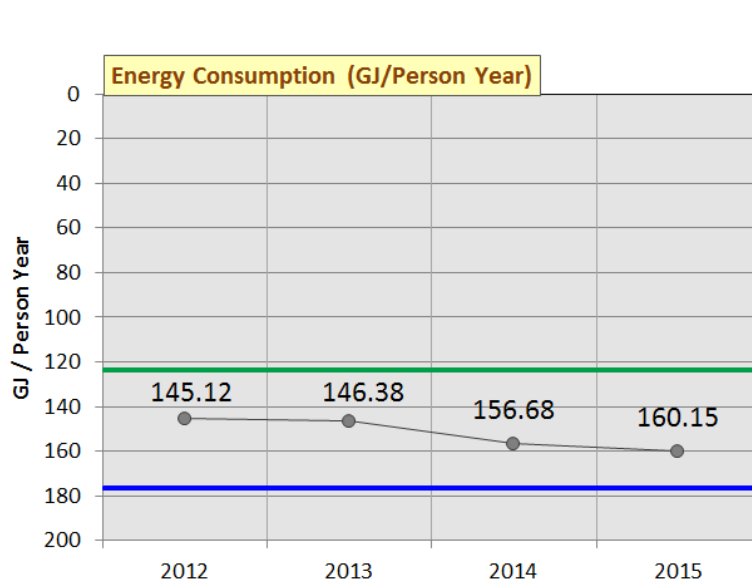
DESTINATION PERFORMANCE BENCHMARKS

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

1. Policy ★

2. Energy

Energy Consumption (GJ / Person Year) ✔

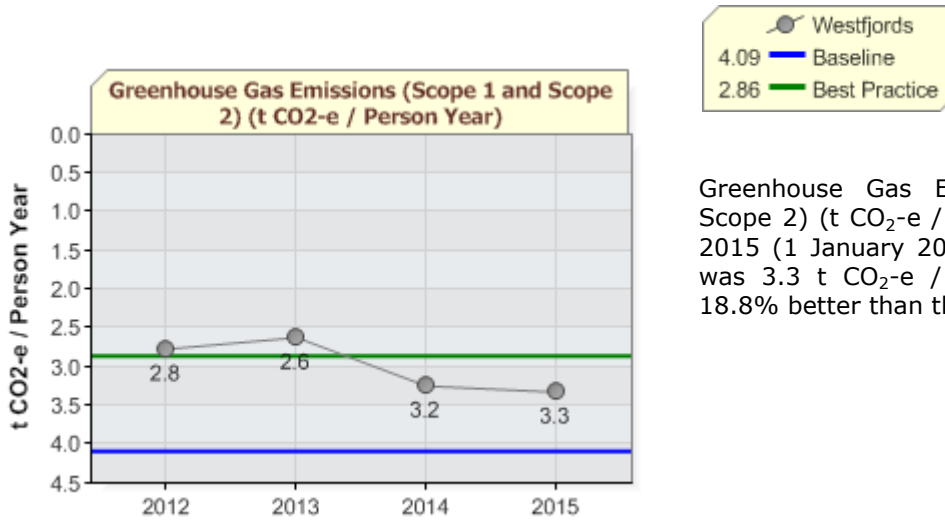


Energy Consumption (GJ / Person Year) for the year 2015 (1 January 2015 - 31 December 2015) was 160.15 GJ / Person Year, which was 9.4% better than the Baseline level.

Green Power (%)

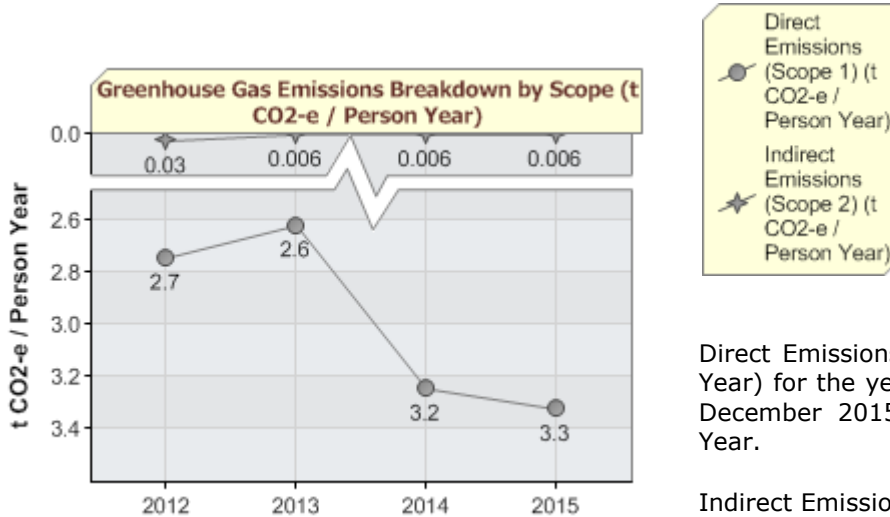
Not Applicable

Greenhouse Gas Emissions (Scope 1 and Scope 2) (t CO₂-e / Person Year) ✓



Greenhouse Gas Emissions (Scope 1 and Scope 2) (t CO₂-e / Person Year) for the year 2015 (1 January 2015 - 31 December 2015) was 3.3 t CO₂-e / Person Year, which was 18.8% better than the Baseline level.

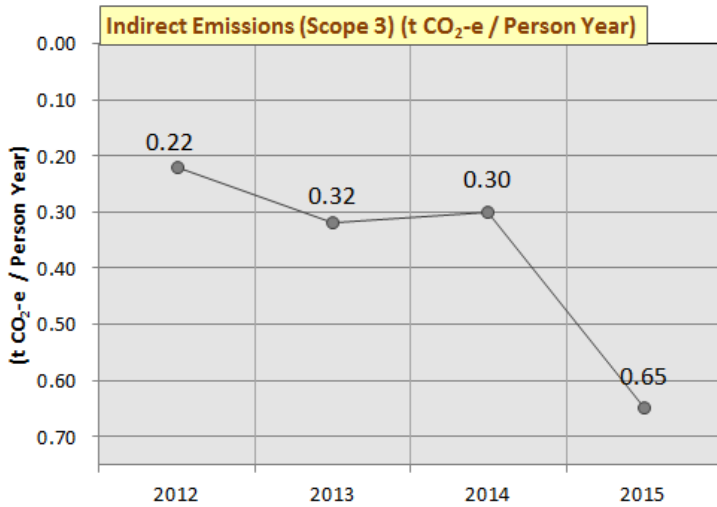
Greenhouse Gas Emissions Breakdown by Scope (t CO₂-e / Person Year)



Direct Emissions (Scope 1) (t CO₂-e / Person Year) for the year 2015 (1 January 2015 - 31 December 2015) was 3.3 t CO₂-e / Person Year.

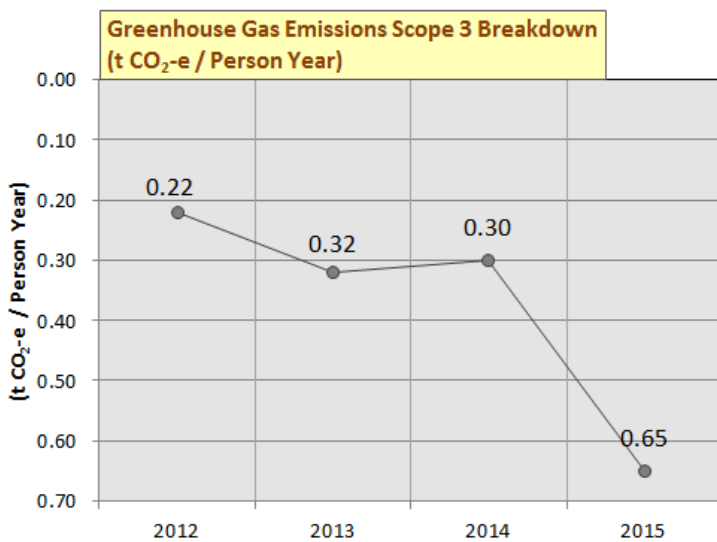
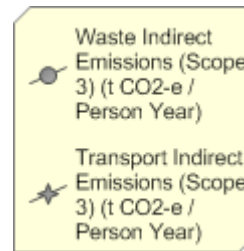
Indirect Emissions (Scope 2) (t CO₂-e / Person Year) for the year 2015 (1 January 2015 - 31 December 2015) was 0.006 t CO₂-e / Person Year.

Indirect Emissions (Scope 3) (t CO₂-e / Person Year)



Indirect Emissions (Scope 3) (t CO₂-e / Person Year) for the year 2015 (1 January 2015 – 31 December 2015) was 0.65 t CO₂-e / Person Year.

Greenhouse Gas Emissions Scope 3 Breakdown (t CO₂-e / Person Year)



Waste Indirect Emissions (Scope 3) (t CO₂-e / Person Year) for the year 2015 (1 January 2015 – 31 December 2015) was 0.65 t CO₂-e / Person Year.

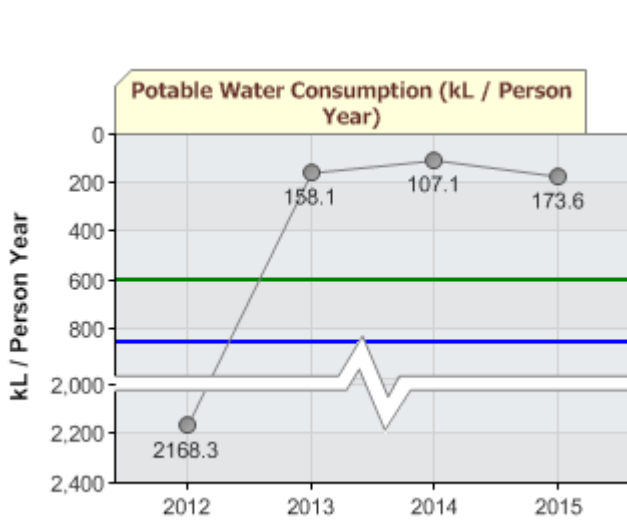
Direct Emissions (Scope 1)									
Stationary Fuel Combustion									
2015									
Type	Quantity	Unit	Energy Consumption (MJ)	CO ₂ Emission Estimate (t CO ₂ -e)	CH ₄ Emission Estimate (t CO ₂ -e)	N ₂ O Emission Estimate (t CO ₂ -e)	Total Emission Estimate (t CO ₂ -e)		
Diesel	199393	litres (L)	7616194.5	536.1	1.5	1.3	539.0		
subtotal			7616194.5	536.1	1.5	1.3	539.0		
Mobile Fuel Combustion (road)									
2015									
Type	Quantity	Unit	Energy Consumption (MJ)	CO ₂ Emission Estimate (t CO ₂ -e)	CH ₄ Emission Estimate (t CO ₂ -e)	N ₂ O Emission Estimate (t CO ₂ -e)	Total Emission Estimate (t CO ₂ -e)		
Motor gasoline	3418199	litres (L)	116910881.2	7696.8	58.3	275.4	8030.6		
Diesel	5444695	litres (L)	207970470.4	14640.1	16.2	238.9	14895.1		
LPG	230619	litres (L)	6223936.6	353.5	7.3	0.3	361.1		
subtotal			331105288.2	22690.4	81.8	514.7	23286.8		
Mobile Fuel Combustion (water)									
2015									
Type	Quantity	Unit	Energy Consumption (MJ)	CO ₂ Emission Estimate (t CO ₂ -e)	CH ₄ Emission Estimate (t CO ₂ -e)	N ₂ O Emission Estimate (t CO ₂ -e)	Total Emission Estimate (t CO ₂ -e)		
Diesel	7157	litres (L)	273375.2	19.2	0.04	0.2	19.4		
subtotal			273375.2	19.2	0.04	0.2	19.4		
Onsite Wastewater Treatment									
2015									
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 ₂ O Emission Estimate (t CO ₂ -e)	Total Emission Estimate (t CO ₂ -e)		
Septic (BOD Unknown)	3629		365	-	500.7	-	500.7		
subtotal				-	500.7	-	500.7		
TOTAL			338994857.9	23245.8	584.0	516.2	24345.9		
Indirect Emissions (Scope 2)									
Purchased Electricity									
2015									
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 ₂ O Emission Estimate (t CO ₂ -e)	Total Emission Estimate (t CO ₂ -e)	
231956000	Kilowatt hour (kWh)	Not Applicable*	Iceland	835041600.0	42.4	0.1	0.7	43.3	
subtotal				835041600.0	42.4	0.1	0.7	43.3	
TOTAL				39588469.2	42.4	0.1	0.7	43.3	
Greenhouse Gas Emissions (Scope 1 and Scope 2)									
GRAND TOTAL				1174036457.9	23288.2	584.2	516.9	24389.3	
Indirect Emissions (Scope 3)									
Waste Sent to Landfill									
2015									
Quantity	Unit	Type of Landfill	Type of Waste	Type of Operation	Source	CO ₂ Emission Estimate (t CO ₂ -e)	CH ₄ Emission Estimate (t CO ₂ -e)	N ₂ O Emission Estimate (t CO ₂ -e)	Total Emission Estimate (t CO ₂ -e)
303.99	tonnes (uncompacted)	Uncovered and/or unmanaged landfill	Wood and straw		International	0.0	915.0	0.0	915.0

871	tonnes (uncompacted)	Uncovered and/or unmanaged landfill	Unknown (mixed waste types)	Other Operation	International	0.0	1045.2	0.0	1045.2
2340	tonnes (uncompacted)	Covered and/or managed waste treatment facility	Unknown (mixed waste types)	Other Operation	International	0.0	2808.0	0.0	2808.0
subtotal						0.0	4768.2	0.0	4768.2
TOTAL						0.0	4768.2	0.0	4768.2

*A Green Power Agreement is unavailable for purchased as standard grid supply of electricity is from close to 100% renewable energy sources in Iceland.

3. Water

Potable Water Consumption (kL / Person Year) ★

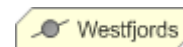
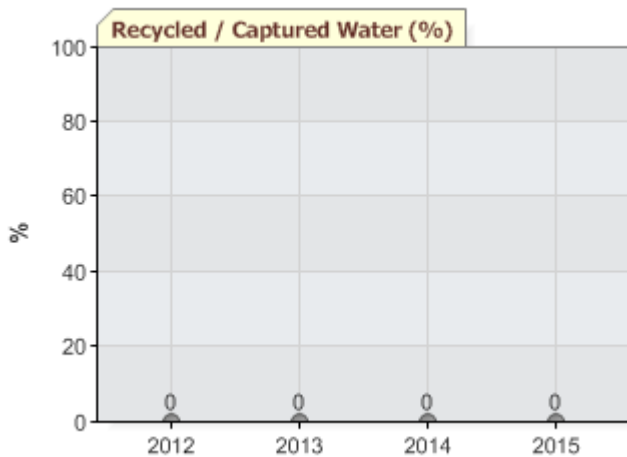


Potable Water Consumption (kL / Person Year) for the year 2015 (1 January 2015 – 31 December 2015) was 173.6 kL / Person Year, which was 70.7% better than the Best Practice level.

2015

Quantity	Unit	Potable Water Consumption (kL)
1272844905	litres	1272844.9 kL
	TOTAL	1272844.9 kL

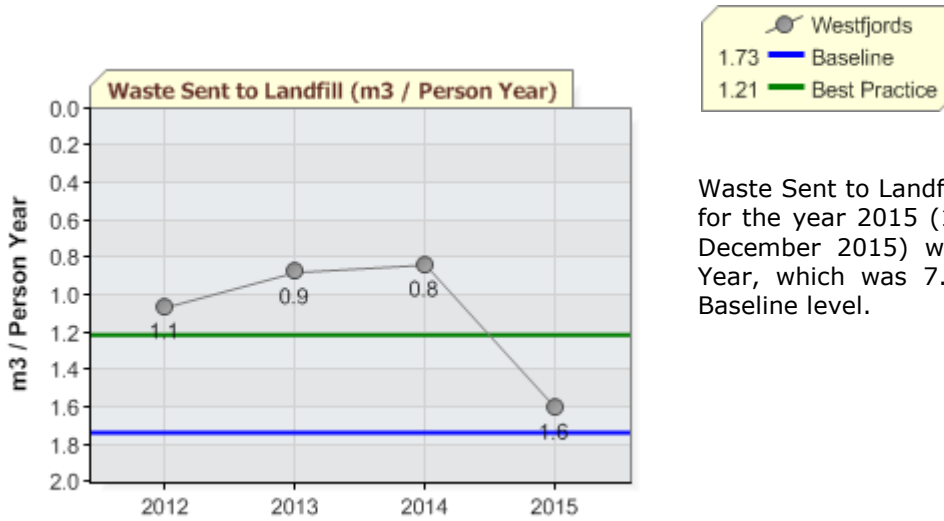
Recycled / Captured Water (%)



Recycled / Captured Water (%) for the year 2015 (1 January 2015 – 31 December 2015) was 0%.

4. Waste

Waste Sent to Landfill (m³ / Person Year) ✓

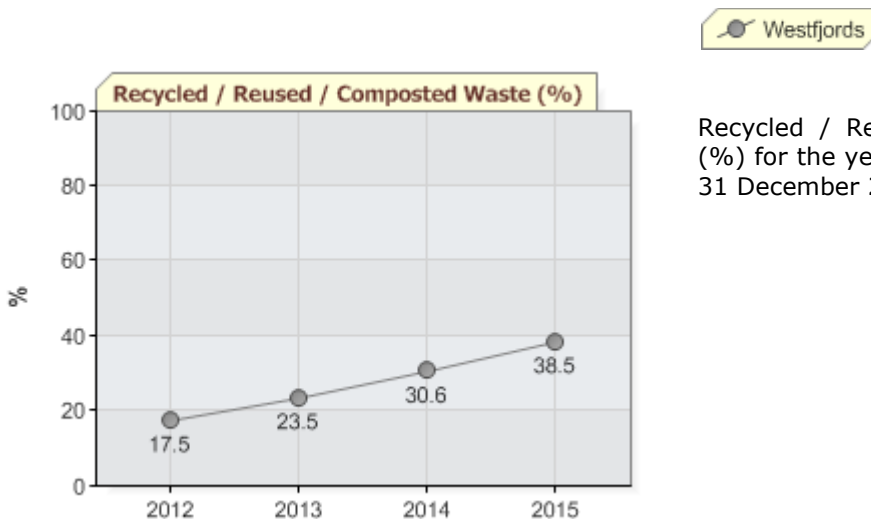


Waste Sent to Landfill (m³ / Person Year) for the year 2015 (1 January 2015 – 31 December 2015) was 1.6 m³ / Person Year, which was 7.6% better than the Baseline level.

2015

Quantity	Unit	Type of Landfill	Type of Waste	Type of Operation	Waste Sent to Landfill (m ³)
303.99	tonnes (uncompacted)	Uncovered and/or unmanaged landfill	Wood and straw	-	1013.3 m ³
871	tonnes (uncompacted)	Uncovered and/or unmanaged landfill	Unknown (mixed waste types)	Other Operation	2903.3 m ³
2340	tonnes (uncompacted)	Covered and/or managed waste treatment facility	Unknown (mixed waste types)	Other Operation	7800.0 m ³
				TOTAL	11716.6 m³

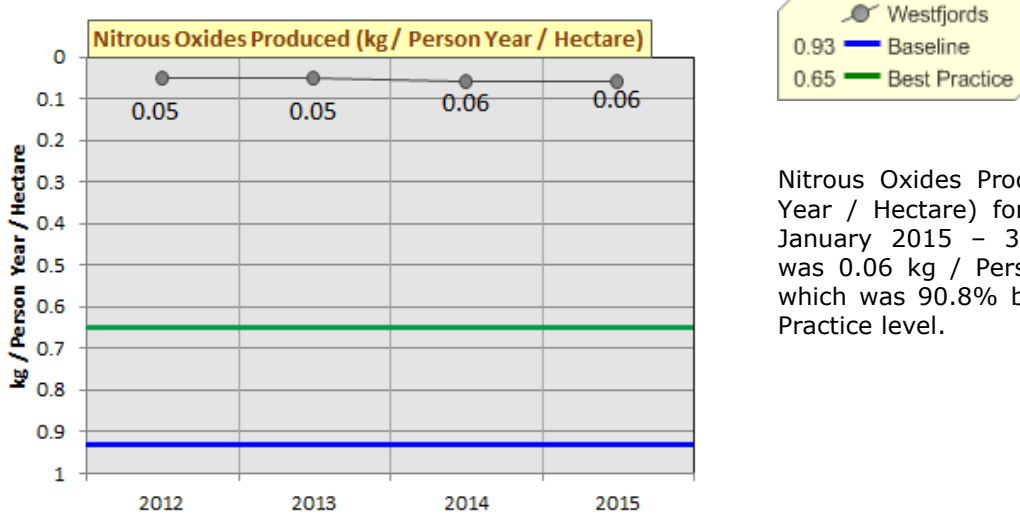
Recycled / Reused / Composted Waste (%)



Recycled / Reused / Composted Waste (%) for the year 2015 (1 January 2015 – 31 December 2015) was 38.5%.

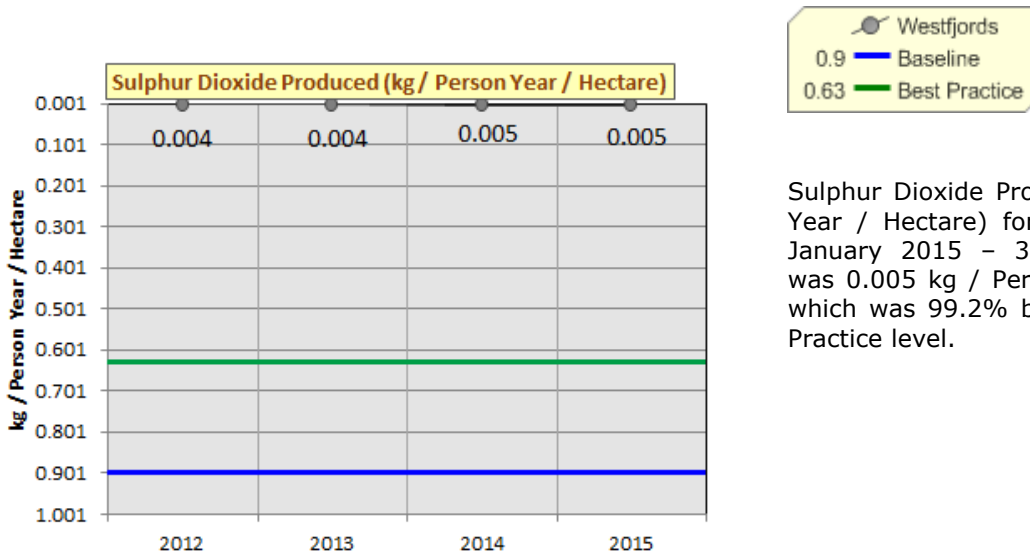
5. Sector Specific

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



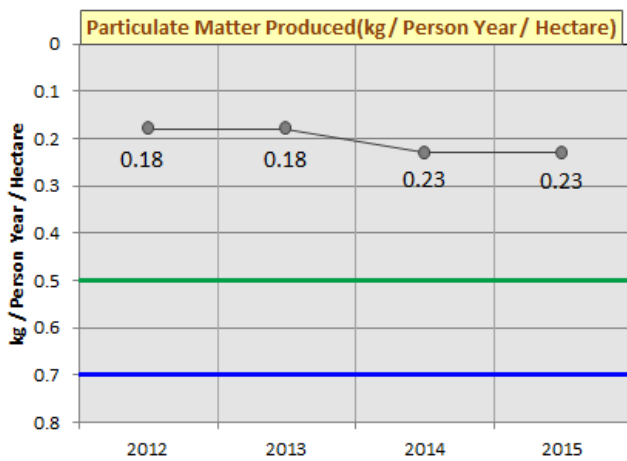
Nitrous Oxides Produced (kg / Person Year / Hectare) for the year 2015 (1 January 2015 – 31 December 2015) was 0.06 kg / Person Year / Hectare, which was 90.8% better than the Best Practice level.

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



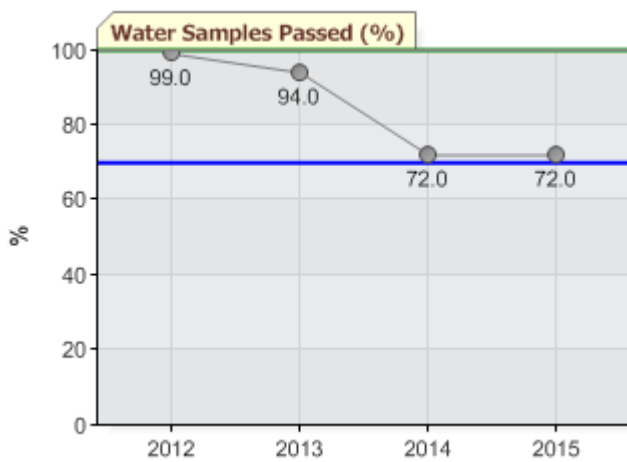
Sulphur Dioxide Produced (kg / Person Year / Hectare) for the year 2015 (1 January 2015 – 31 December 2015) was 0.005 kg / Person Year / Hectare, which was 99.2% better than the Best Practice level.

Particulate Matter Produced (kg / Person Year) ★



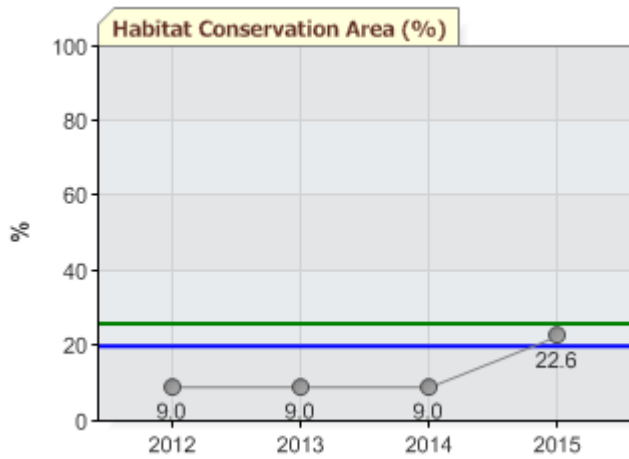
Particulate Matter Produced (kg / Person Year) for the year 2015 (1 January 2015 – 31 December 2015) was 0.23 kg / Person Year / Hectare, which was 54% better than the Best Practice level.

Water Samples Passed (%) ✓



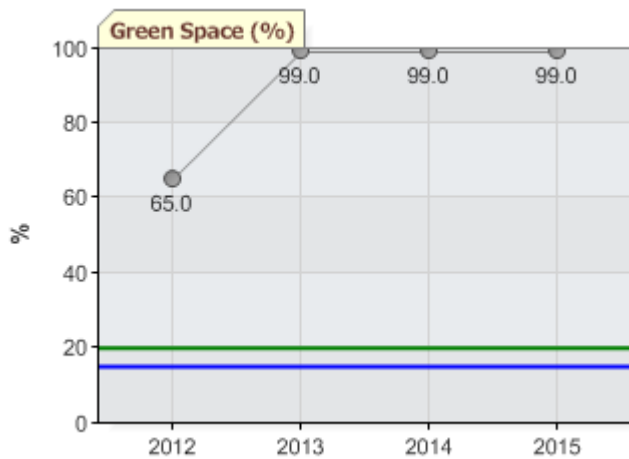
Water Samples Passed (%) for the year 2015 (1 January 2015 – 31 December 2015) was 72.0%, which was 2.0% better than the Baseline level.

Habitat Conservation Area (%) ✓



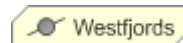
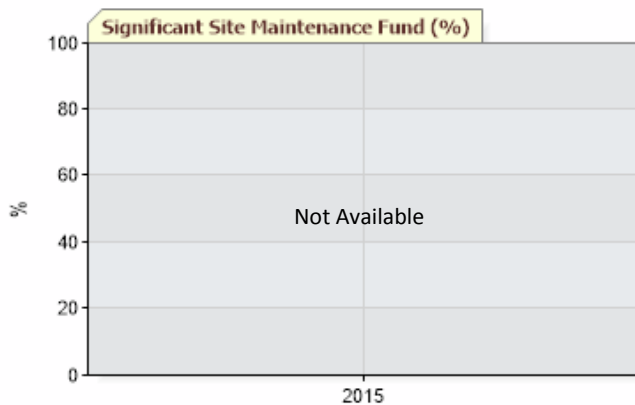
Habitat Conservation Area (%) for the year 2015 (1 January 2015 - 31 December 2015) was 22.6%, which was 2.6% better than the Baseline level.

Green Space (%) ★



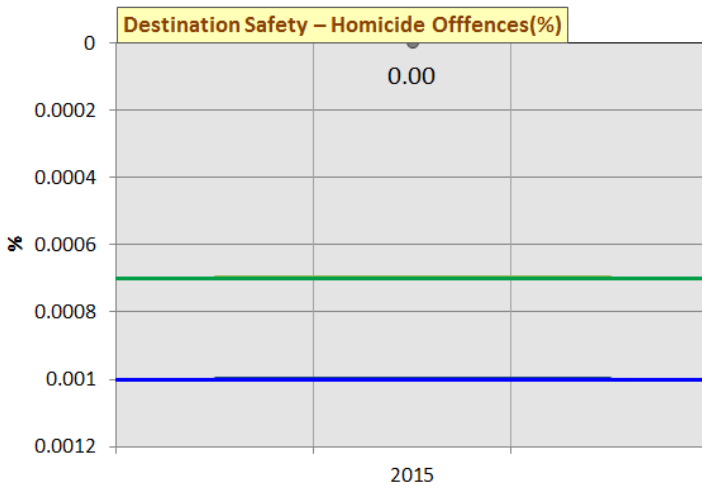
Green Space (%) for the year 2015 (1 January 2015 - 31 December 2015) was 99.0%, which was 79.0% better than the Best Practice level.

Significant Site Maintenance Fund (%)



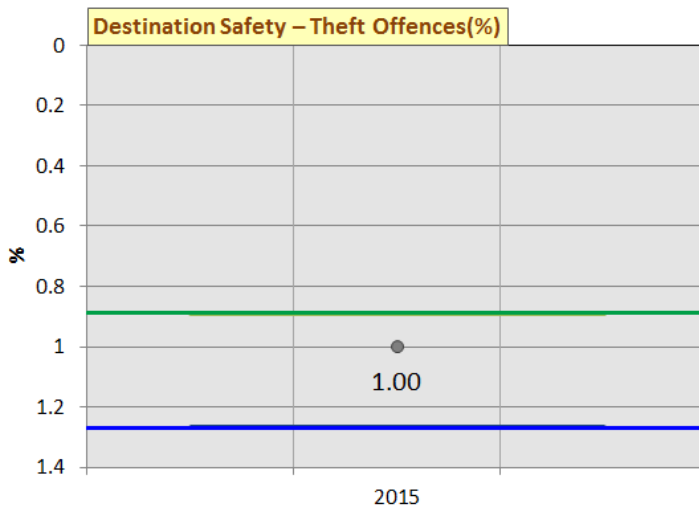
Significant Site Maintenance Fund (%) for the year 2015 (1 January 2015 - 31 December 2015) was Not Available.

Destination Safety – Homicide Rate (%) ★



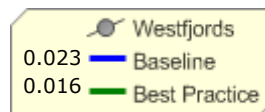
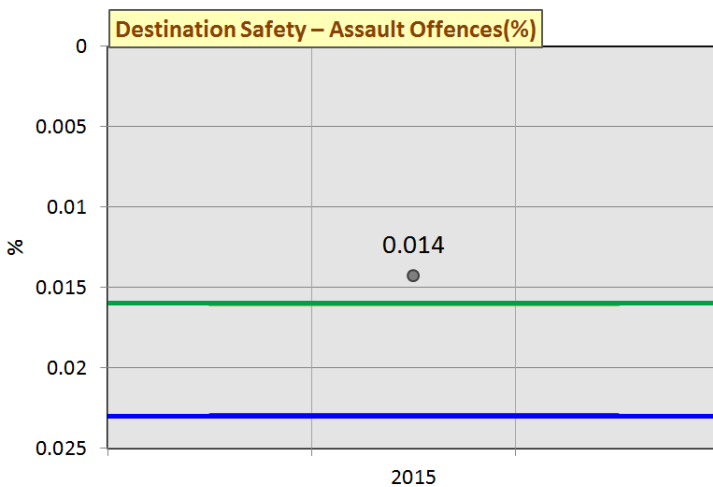
Homicide Rate for the year 2015 (1 January 2015 – 31 December 2015) was 0.0% which was 0.0007% better than the Best Practice Level.

Destination Safety – Theft Rate (%) ✓



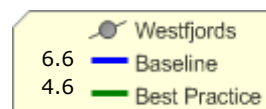
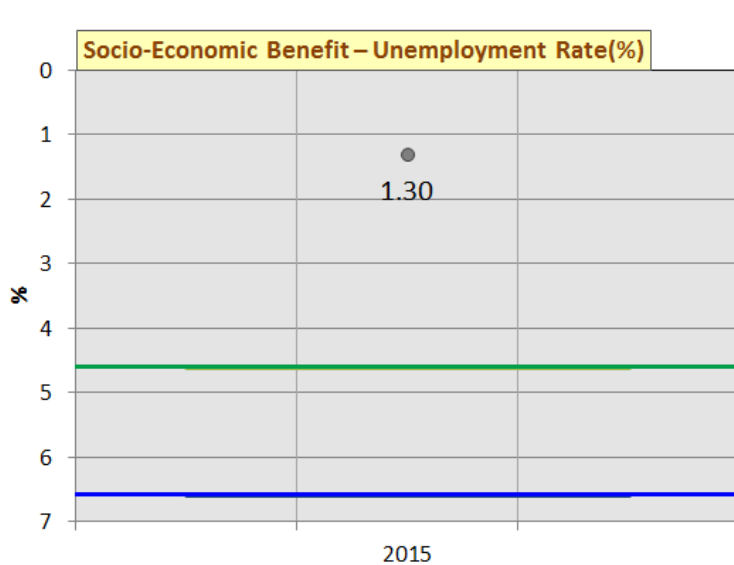
Theft Rate for the year 2015 (1 January 2015 – 31 December 2015) was 1.0% which was 0.27% better than the Baseline Level.

Destination Safety – Assault Rate (%) ★



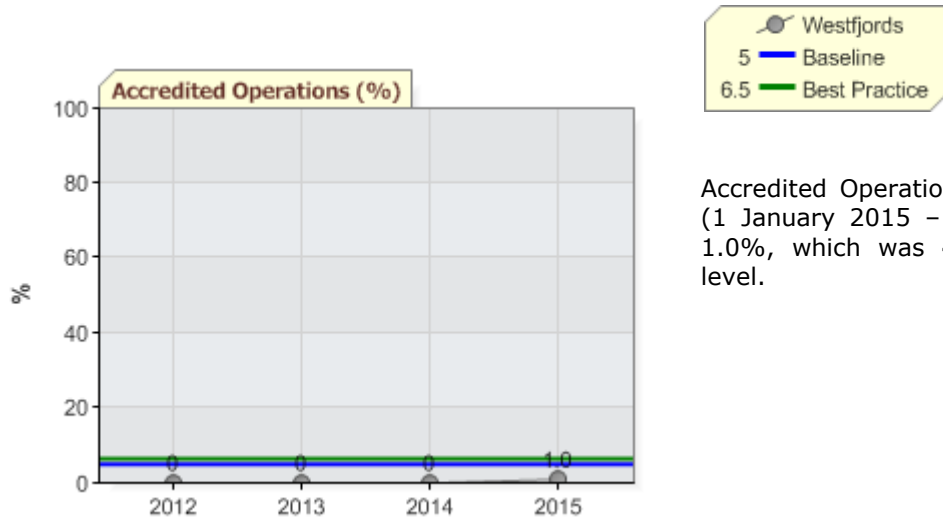
Assault Rate for the year 2015 (1 January 2015 – 31 December 2015) was 0.014%, which was 0.002% better than the Best Practice level.

Socio-Economic Benefit – Unemployment Rate (%) ★



Unemployment Rate (%) for the year 2015 (1 January 2015 – 31 December 2015) was 1.3 %, which was 3.3% better than the Best Practice Level.

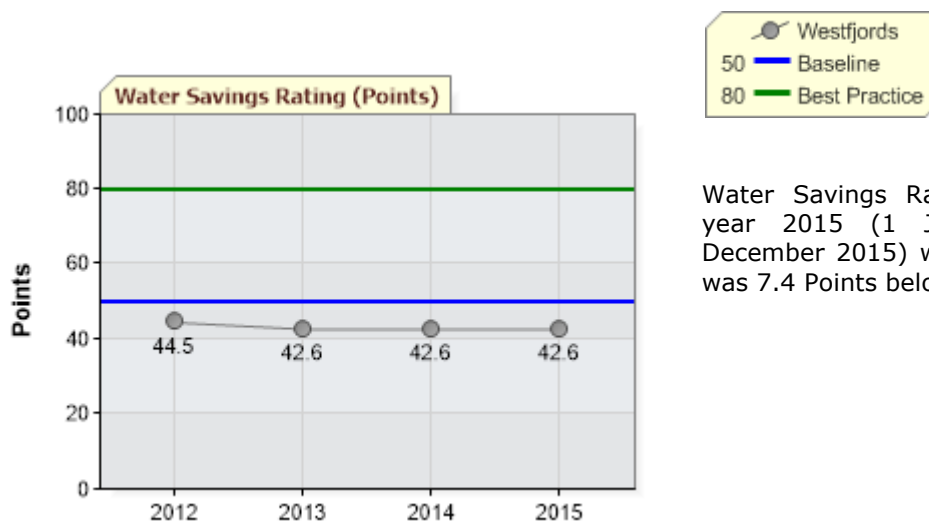
Accredited Operations (%) ✕



Accredited Operations (%) for the year 2015 (1 January 2015 – 31 December 2015) was 1.0%, which was 4.0% below the Baseline level.

6. Lead Agency Performance

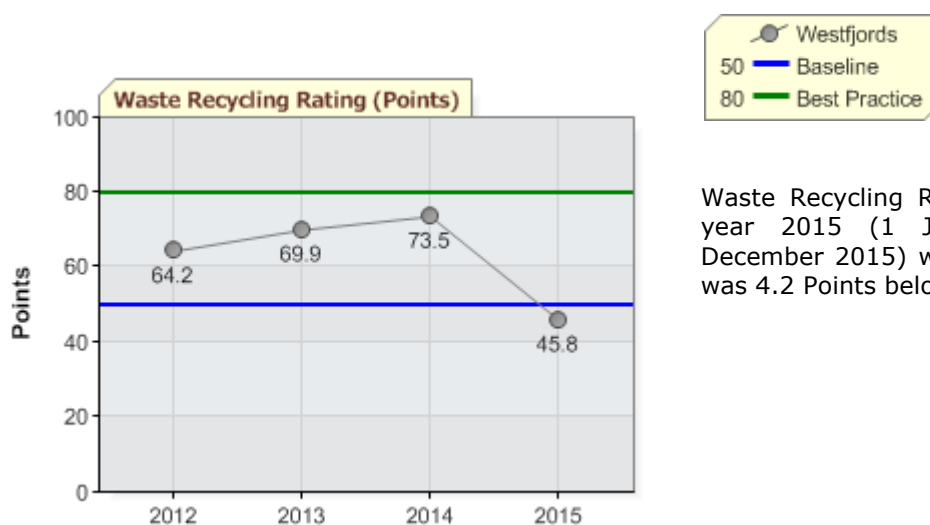
Water Savings Rating (Points) ✕



Water Savings Rating (Points) for the year 2015 (1 January 2015 - 31 December 2015) was 42.6 Points, which was 7.4 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	60-79%	73.9 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	Not Relevant / Not Available	-
	Overall Rating:	42.6 Points

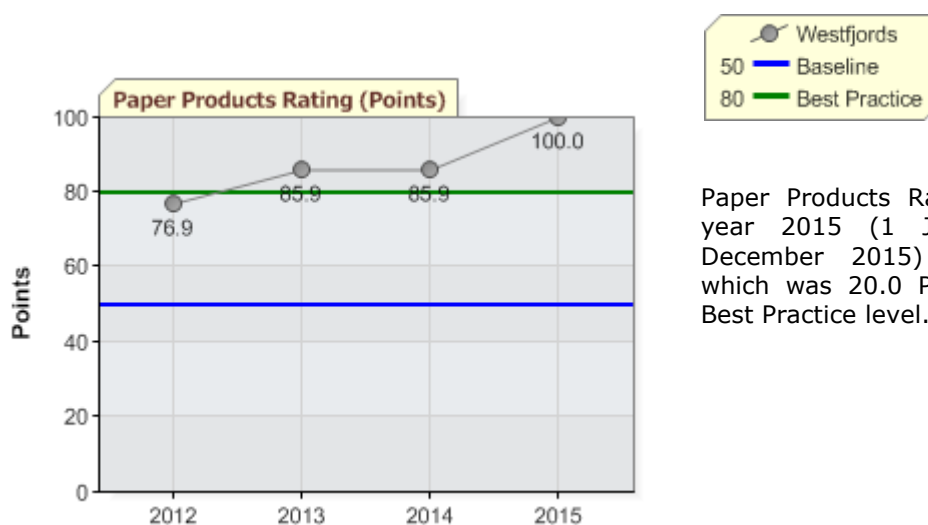
Waste Recycling Rating (Points) ✕



Waste Recycling Rating (Points) for the year 2015 (1 January 2015 – 31 December 2015) was 45.8 Points, which was 4.2 Points below the Baseline level.

Waste Recycling Measures	Frequency / Percentage Rating	Waste Recycling Rating (Points)
Glass	1-19%	54.0 Points
Paper/card	1-19%	54.0 Points
Iron & steel (ferrous metals)	20-39%	58.8 Points
Other metals (non-ferrous)	Not Relevant / Not Available	-
Plastics	1-19%	54.0 Points
Rubber	1-19%	54.0 Points
Green waste	0%	0.0 Points
	Overall Rating:	45.8 Points

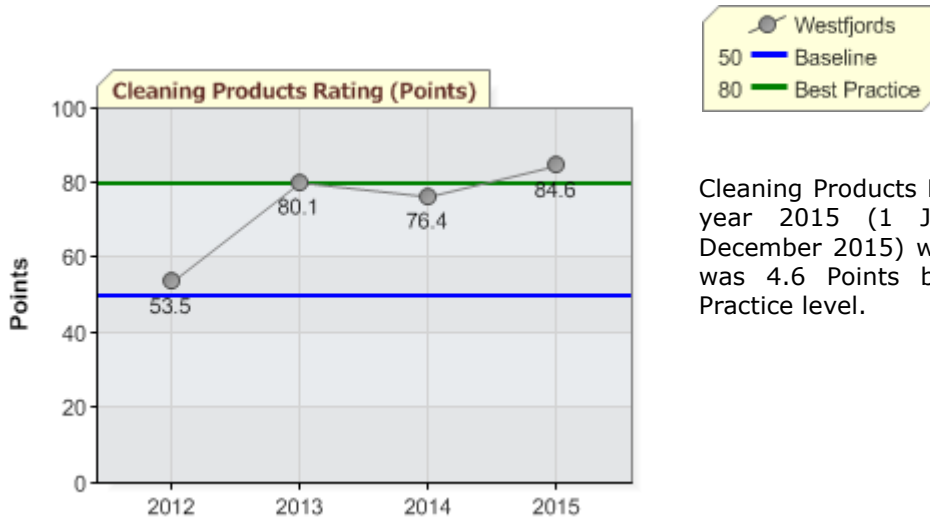
Paper Products Rating (Points) ★



Paper Products Rating (Points) for the year 2015 (1 January 2015 - 31 December 2015) 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	100%	100.0 Points
Tissues	100%	100.0 Points
Toilet tissue	100%	100.0 Points
Paper towels	100%	100.0 Points
	Overall Rating:	100.0 Points

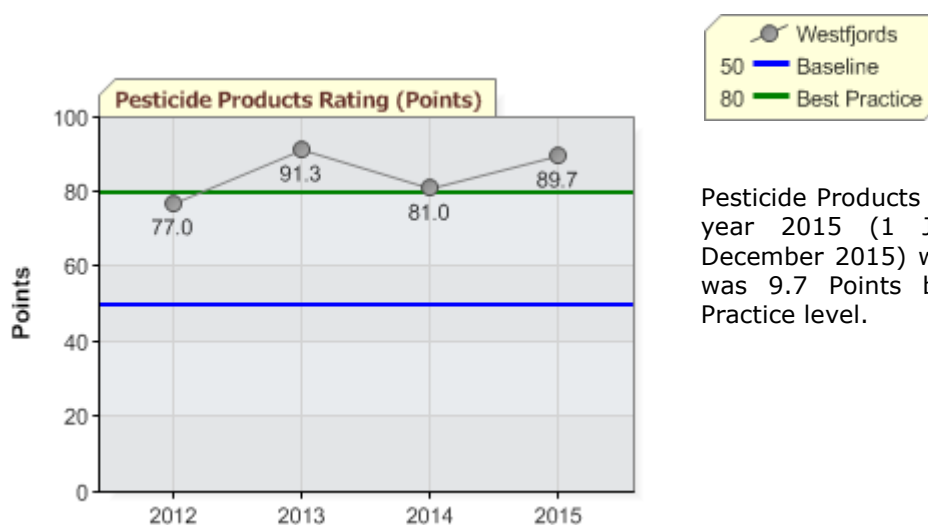
Cleaning Products Rating (Points) ★



Cleaning Products Rating (Points) for the year 2015 (1 January 2015 – 31 December 2015) was 84.6 Points, which was 4.6 Points better than the Best Practice level.

Cleaning Products Measures	Frequency / Percentage Rating	Cleaning Products Rating (Points)
Hard floor cleaners	60-79%	73.9 Points
Carpet cleaners	60-79%	73.9 Points
Interior surface cleaners	80-99%	88.9 Points
External surface cleaners	80-99%	88.9 Points
Glass cleaners	80-99%	88.9 Points
Detergents	80-99%	88.9 Points
Personal hygiene	80-99%	88.9 Points
	Overall Rating:	84.6 Points

Pesticide Products Rating (Points) ★



Pesticide Products Rating (Points) for the year 2015 (1 January 2015 – 31 December 2015) was 89.7 Points, which was 9.7 Points better than the Best Practice level.

Pesticide Products Measures	Frequency / Percentage Rating	Pesticide Products Rating (Points)
Weed killers	20-39%	58.8 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:	89.7 Points

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

CONCLUSION AND RECOMMENDATIONS

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

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

From the benchmarking data provided, eight indicators, *Potable Water Consumption, Nitrous Oxides Produced, Sulphur Dioxide Produced, Particulate Matter Produced, Green Space, Destination Safety – Homicide Rate, Unemployment Rate, Paper Products Rating, Cleaning Products Rating, and Pesticide Products Rating* are at or above the Best Practice level.

The three indicators that fell below the Baseline level were *Accredited Operations, Water Savings Rating, and Waste Recycling Rating*.

The value for *Accredited Operations* was 4.0% below the Baseline Level. **Westfjords** is encouraged to promote environmental accreditation to hotels, restaurants and other business within the community.

The value for *Water Saving Rating* was 7.4 Points below the Baseline level. The **Westfjords** are 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 **Westfjords** 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 *Waste Recycling Rating* was 4.2 Points below the Baseline level. A low rating for this indicator may be a reflection of the limited availability of external recycling facilities (for paper, cardboard, metals, plastics etc). The **Westfjords** are encouraged to review existing practices and procedures. This 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 **Westfjords** 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 **Westfjords** 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 **Westfjords** is encouraged to ensure that *Destination Safety – Assault Rate, Accredited Operations, Water Savings Rating, and Waste Recycling Rating* are at Baseline performance or better. In line with EarthCheck Policy this would enable the **Westfjords** to continue to meet the benchmarking requirements of the EarthCheck program.

APPENDIX

PERSON YEARS

The Benchmarking Assessors sought clarification with regards to *Person Years*, as the data submitted was significantly greater than expected.

Westfjords advised:

*"Regarding persons year I used this formula: Total Destination Residents + (Total Guest Nights / 365) + (Total Day Guests / (3 x 365))
 Day gests = 146.985 - 146985 / (3*365) = 134,23288
 Total gest night = 82.634 - 82634/365 = 226,39452
 Total destination residents = 6970
 Persons year = 6970+ (226,39+134,23) = 7330,6 This is right"*

Person Years		
	2014	2015
Person Years	7,142	7,331

Therefore, the Benchmarking Assessors updated *Person Years* to 7331, as per the information provided above.

PURCHASED ELECTRICITY

The following comments were provided at the time of data submission:

"Recorded electricity is only purchased electricity that the municipalities in the Westfjords are buying."

The Benchmarking Assessors sought clarification with regards to *Purchased Electricity*, as the data submitted for Purchased Electricity from 2012 to 2015 are very different as shown in the table below:

Purchased Electricity		
	Quantity	Unit
2012	222 954	Kilowatt hour (kWh)
2013	225 417 000	Kilowatt hour (kWh)
2014	219 342 000	Kilowatt hour (kWh)
2015	10 996 797	Kilowatt hour (kWh)

Westfjords advised:

"The 2012 electricity is not right. There is missing three zeros. It is supposed to be 222.954.000

Maybe it would be best to have this divided into two sector. One sector who is for the electricity for the institutions run by the municipalities and other for the usage in the whole municipalities.

*I talked to the Electricity company to be sure they were sending me right numbers and they told me that I had forgotten to include the heating in the calculation so the 2015 for the municipalities is supposed to be:
 24.096.201 Kilowatt hour (kWh)*

*If I include all the residents in the municipalities the amount is:
 231.956.000 Kilowatt hour (kWh) for the year 2015."*

Therefore, the updated data for Purchased Electricity can be found below:

Purchased Electricity		
	Quantity	Unit
2012	222 954 000	Kilowatt hour (kWh)
2013	225 417 000	Kilowatt hour (kWh)
2014	219 342 000	Kilowatt hour (kWh)
2015	231 956 000	Kilowatt hour (kWh)

The updated data are reflected in this benchmarking assessment.

MOBILE FUEL COMBUSTION (ROAD)

The Benchmarking Assessors sought clarification with regards to *Mobile Fuel Combustion (road)*, as the data submitted was greater than expected. Additionally, there was no data submitted for 'LPG' when it was included in the previous assessment.

Westfjords advised:

Mobile Fuel Combustion (road): Litres (L)		
Fuel Type	2014	2015
Motor Gasoline	3,441,860	3,418,199
Diesel	5,370,937	5,444,695
LPG	230,619	230,619

Therefore, the Benchmarking Assessors updated *Mobile Fuel Combustion (road)*, 'Diesel', 'Motor Gasoline', and 'LPG' as per the information provided in the table above.

MOBILE FUEL COMBUSTION (WATER)

The Benchmarking Assessors sought clarification with regards to *Mobile Fuel Combustion (water)*, as the 'Fuel Type' was changed from 'Diesel' in the previous assessment to 'Motor Gasoline' in the current assessment.

Westfjords advised:

Mobile Fuel Combustion (water): Litres (L)		
Fuel Type	2014	2015
Motor Gasoline	-	
Diesel	7155	7157

Therefore, the Benchmarking Assessors updated *Mobile Fuel Combustion (water)*, 'Diesel' to 7157 as per the information provided in the table above.

POTABLE WATER CONSUMPTION

The Benchmarking Assessors sought clarification with regards to *Potable Water Consumption*, as the data submitted was greater than expected. Additionally, the unit measurement was changed from 'Litres' in the previous assessment to 'Cubic Metres' in the current assessment.

Westfjords advised:

"We got some new data showing that your water consumption is more than we expected the year 2014"

Potable Water Consumption:		
	2014 Litres (L)	2015 Litres L
Quantity	764,978,291	1,272,844,905

Therefore the Benchmarking Assessors updated the unit from cubic metres to litres as per the information provided above.

WATER SAVINGS RATING

It is noted that all Water Saving Measures had been submitted as 'Not Relevant / Not Available'. The following information was provided by **Westfjords** in relation to the Water Saving Measures in the past benchmarking clarification:

Westfjords advised the following (in red);

*"Does the Westfjords Office have any garden areas which had water sprinklers installed? If so, what is the percentage of these sprinklers used after dark? **No***

*Out of the total taps installed at the Westfjords Office, what is the percentage that are **low flow taps**? **Not relevant / Available***

*Can you please confirm it is correct that the Westfjords Office conducts checks for leaks on an **annual basis**? **Some municipalities started to check for leaks after we started this project so the answer I sent is correct.**"*

The Benchmarking Assessors sought further clarification with regards to the *Low flow taps* measure as it remained unclear the percentage (%) or taps installed that have low flow devices.

Westfjords advised;

"Regarding the taps we do have taps in our offices. The only thing we have low flow are the toilets and they have two ways of flushing. It is about 65 % of them who are like that."

4. Water saving Rating

Low flow tap fittings - Not relevant

Water sprinklers used after dark – Not relevant -

Minimal irrigation landscaping - Not relevant

Use of recycle/grey/ rain water – Not relevant

Therefore the Benchmarking Assessors updated the Water Savings Rating as per below in line with the previous benchmarking assessment:

Water Savings Measures	Frequency / Percentage Rating
Check for leaks	Once a year
Low/dual flush toilets	60-79%
Low flow tap fittings	0%
Low flow shower fittings	Not Relevant / Available
Water sprinklers used after dark	Not Relevant / Available
Minimal irrigation landscaping	Not Relevant / Available
Use of recycle/grey/rain water	Not Relevant / Available

It is recommended that these percentages are verified at time of onsite audit.

WASTE SENT TO LANDFILL

The Benchmarking Assessors sought clarification with regards to *Waste Sent to Landfill*, as the data submitted for 'Covered and/or managed waste treatment facility', 'Unknown (mixed waste types)' was greater than expected.

Westfjords advised:

"To be honest, we have been digging into the waste management process in the Westfjords a lot better this time than we have in the recent years. Now we have been in better co-operation with more companies and have gotten numbers that we haven't even got before. We think that the companies that manage the waste from the area are waking up to the public image that they have created in the past and need to try everything they can to look better to the public. This is why they are sending us more accurate numbers both about waste and recycled waste. That will explain partly why the huge increase happened this year in landfill waste. The fact that we now have numbers from more companies that send their waste straight to Reykjavik, without even contacting the waste management companies in the Westfjords, explains why the recycling percentage has been growing since last year. The inhabitants are also getting more informed about their waste management and the impact they have been having on the environment in the past so they recycle more. The waste management companies have also put up more ways to recycle than there were before and it has made it easier to recycle waste. I can promise you that next year we will have better and more informing information about for example how much plastic is recycled."

We chose to put in: Mixed waste sent to an uncovered, managed landfill because that's exactly what it is. The Fíflholt Landfill is owned by the communities in the Western part of the country and they manage the waste that comes in from the Westfjords. It's mixed waste due to the fact that glass, food, paper, plastics and many other things that are not specifically sorted out by the inhabitants are getting into the landfill.

We chose to put in: Wood and Straw sent to an uncovered, unmanaged landfill because that explains exactly what it is. We have a few small landfills that accept Wood, straw and other garden waste. The landfills are owned by each community and they use the wood, straw and garden waste to make soil or compost for their own use."

Waste Sent to Landfill		
tonnes (uncompacted)		
	2014	2015
Covered and/or managed waste treatment facility	Unknown (mixed waste types)	1792
		3514,65
Uncovered and/or managed landfill	Wood and straw	-
		303.99

Westfjords later provided further clarifications with regards to *Waste Sent to Landfill*:

"We want to update our number regarding waste since we got new information's from waste manager.
 Landfill - 871 ton
 Managed landfill - 2.340 ton
 Wood and straw - 303 ton"

Therefore, the Benchmarking Assessors updated *Waste Sent to Landfill* data as per the information provided above. 'Landfill' was input as 'Uncovered and/or unmanaged landfill' and 'Unknown (mixed waste types).

The submitted value of 3 514 tonnes (3 514 000 kg) of waste (specified by the operator as uncompact waste) has been converted into a volume by using the standard conversion of 1 kg (uncompact waste) = 0.00333333 m³ or 3.33333 L (i.e. 3 514 000 kg x 0.00333333 = 11 716 m³). (If the waste is compacted, then the standard conversion is: 1 kg = 0.00153846 m³ or 1.53846 L).

This equates to 1.6 m³ per *Person Year*.

WASTE RECYCLING RATING

Westfjords provided further clarification with regards to *Waste Recycling*:

"We want to update our number regarding waste since we got new information's from waste manager.
 Glass - 3,31%
 Paper - 14.9%
 Metals - 26,38%
 Plastics - 10,6%
 Rubber - 1,93%
 Other - 42-%"

Therefore, the Benchmarking Assessors updated *Waste Recycling* as per the information provided above.

AIR QUALITY

The per Person Year Per Hectare figures for Nitrous Oxides Produced, Sulphur Dioxide Produced, and Particulate Matter Produced have been recalculated for all benchmark periods in which there had been a technical inaccuracy in factoring the population density loading. The system has been rectified and the figures recalculated for the Air Quality measures as shown below:

2015 Calendar Year

Nitrous Oxides Produced:	0.06 kg per Person Year / Hectare
Sulphur Dioxide Produced:	0.005 kg per Person Year / Hectare
Particulate Matter Produced:	0.23 kg per Person Year / Hectare

2014 Calendar Year

Nitrous Oxides Produced:	0.06 kg per Person Year / Hectare
Sulphur Dioxide Produced:	0.005 kg per Person Year / Hectare
Particulate Matter Produced:	0.23 kg per Person Year / Hectare

2013 Calendar Year

Nitrous Oxides Produced:	0.05 kg per Person Year / Hectare
Sulphur Dioxide Produced:	0.004 kg per Person Year / Hectare
Particulate Matter Produced:	0.18 kg per Person Year / Hectare

2012 Calendar Year

Nitrous Oxides Produced: 0.05 kg per Person Year / Hectare
 Sulphur Dioxide Produced: 0.004 kg per Person Year / Hectare
 Particulate Matter Produced: 0.18 kg per Person Year / Hectare

DESTINATION SAFETY - ASSAULT

Westfjords advised the following after the initial release of the 2015 data benchmarking assessment report:

"For all the municipalities or 6.970 people plus all the gest that year the rate was 2.0%, who is less than 10 assault the whole year. How can that be over the rate."

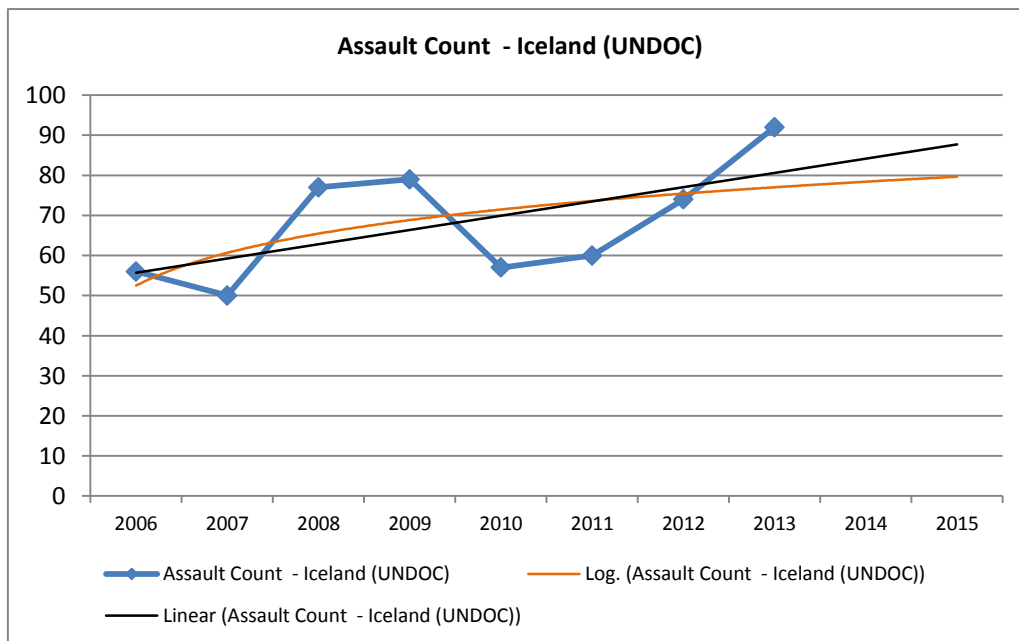
The Benchmarking Assessors provided the below definition of Assault Rate from the United Nations Office on Drugs and Crime (UNODC) and sought to confirm whether the 'Assaults' recorded for **Westfjords** referred to the same type of assaults defined by UNODC.

Westfjords advised:

"Regarding the assault rate query. I have gotten an answer from the police commissioner's office in Iceland.

In the year 2015 1,2% of all assaults in Iceland happened in the Westfjords. In this percentage are all assaults, big or small."

The Benchmarking Assessors reviewed the information along with the data Iceland reported to the UNDOC and found that on average between 2006 - 2013, the total assault counts Iceland reported to UNDOC's never exceeded 100 assaults. To extrapolate the total counts for 2015 based on the trend either using liner or best-fit approach, the total Assault Counts for Iceland in 2015 is expected to be less than 100, give or take a few.



Taking a conservative assumption that the total assaults in 2015 for the entire Iceland is 100 and applying the percentage provided by the police commissioner's office, the total assault count for **Westfjords** which meet UNDOC's definition may be roughly about 1 (ie. $100 \times 1,2\% = 1,2$). This figure appears to be more representative of **Westfjords**.

Assuming **Westfjords'** assault count that meets UNDOC's definition is 1, the Assault Rate would be adjusted as per below:

$$= 1 \div 6970 \times 100$$
$$= 0.014\%$$

The Benchmarking Assessors sought to confirm whether the above assumption is more reflective of **Westfjords** situation so that the data can be adjusted if necessary.

Westfjords advised:

"I am happy with this suggestion about Assault rate. It seems much more accurate than the one before."

Therefore the Benchmarking Assessors have updated the Assault Rate to 0.0143%. It is however recommended that **Westfjords** investigate possibilities to work with local police authority in separating assault counts that meet the UNDOC's definition only for future benchmarking purposes.



EARTHCHECK

Benchmarks Assessed by EarthCheck

SUMMARY OF SUPPLIED BENCHMARKING DATA

Activity Measures

Person Years	7331
Total Destination Area	884424.96

Supplied Benchmarking Data

Energy

Energy Consumption (GJ / Person Year)

Supplied	1174036.4579 GJ
Calculated	160.14 GJ / Person Year
Baseline	176.8 GJ / Person Year
Best Practice	123.7 GJ / Person Year
Difference	9.4% better than the Baseline level

Green Power (%)

Supplied	Not Applicable
Calculated	Not Applicable

Greenhouse Gas Emissions (Scope 1 and Scope 2) (t CO₂-e / Person Year)

Supplied	24389.3 t CO ₂ -e
Calculated	3.3 t CO ₂ -e / Person Year
Baseline	4.09 t CO ₂ -e / Person Year
Best Practice	2.86 t CO ₂ -e / Person Year
Difference	18.8% better than the Baseline level

Direct Emissions (Scope 1) (t CO₂-e / Person Year)

Supplied	24345.9 t CO ₂ -e
Calculated	3.3 t CO ₂ -e / Person Year

Indirect Emissions (Scope 2) (t CO₂-e / Person Year)

Supplied	43.3131 t CO ₂ -e
Calculated	0.006 t CO ₂ -e / Person Year

Indirect Emissions (Scope 3) (t CO₂-e / Person Year)

Supplied	4768.2 t CO ₂ -e
Calculated	0.65 t CO ₂ -e / Person Year

Waste Indirect Emissions (Scope 3) (t CO₂-e / Person Year)

Supplied	4768.2 t CO ₂ -e
Calculated	0.65 t CO ₂ -e / Person Year

Water

Potable Water Consumption (kL / Person Year)

Supplied	1272844.9 kL
Calculated	173.6 kL / Person Year
Baseline	846 kL / Person Year
Best Practice	592 kL / Person Year
Difference	70.7% better than the Best Practice level

Recycled / Captured Water (%)

Supplied	0%
Calculated	0%

Water Savings Rating (Points)

Supplied	42.6 Points
Calculated	42.6 Points
Baseline	50 Points
Best Practice	80 Points
Difference	7.4 Points below the Baseline level

Waste

Waste Sent to Landfill (m³ / Person Year)

Supplied	11716.6 m ³
Calculated	1.6 m ³ / Person Year
Baseline	1.73055 m ³ / Person Year
Best Practice	1.21139 m ³ / Person Year
Difference	7.6% better than the Baseline level

Recycled / Reused / Composted Waste (%)

Supplied	38.5%
Calculated	38.5%

Waste Recycling Rating (Points)

Supplied	45.8 Points
Calculated	45.8 Points
Baseline	50 Points
Best Practice	80 Points
Difference	4.2 Points below the Baseline level

Paper

Paper Products Rating (Points)

Supplied	100.0 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)

Supplied	84.6 Points
Calculated	84.6 Points
Baseline	50 Points
Best Practice	80 Points
Difference	4.6 Points better than the Best Practice level

Pesticides

Pesticide Products Rating (Points)

Supplied	89.7 Points
Calculated	89.7 Points
Baseline	50 Points
Best Practice	80 Points
Difference	9.7 Points better than the Best Practice level

Sector Specific

Nitrous Oxides Produced (kg / Person Year / Hectare)

Supplied	202828.0 kg
Calculated	0.06 kg / Person Year / Hectare
Baseline	0.93 kg / Person Year / Hectare
Best Practice	0.65 kg / Person Year / Hectare
Difference	90.8% better than the Best Practice level

Sulphur Dioxide Produced (kg / Person Year / Hectare)

Supplied	15884.0 kg
Calculated	0.005 kg / Person Year / Hectare
Baseline	0.9 kg / Person Year / Hectare
Best Practice	0.63 kg / Person Year / Hectare
Difference	99.2% better than the Best Practice level

Particulate Matter Produced (kg / Person Year / Hectare)

Supplied	749709.0 kg
Calculated	0.23 kg / Person Year / Hectare
Baseline	0.7 kg / Person Year / Hectare
Best Practice	0.5 kg / Person Year / Hectare
Difference	54% better than the Best Practice level

Water Samples Passed (%)

Supplied	72.0%
Calculated	72.0%
Baseline	70 %
Best Practice	100 %
Difference	2.0% better than the Baseline level

Habitat Conservation Area (%)

Supplied	22.6%
Calculated	22.6%
Baseline	20 %
Best Practice	26 %
Difference	2.6% better than the Baseline level

Green Space (%)

Supplied	99.0%
Calculated	99.0%
Baseline	15 %
Best Practice	20 %
Difference	79.0% better than the Best Practice level

Significant Site Maintenance Fund (%)

Supplied	Not Available
Calculated	Not Available

Destination Safety – Homicide Rate (%)

Supplied	0.0%
Calculated	0.000009%
Baseline	0.001%
Best Practice	0.0007%
Difference	0.0007% better than the Best Practice level

Destination Safety – Theft Rate (%)

Supplied	1.0%
Calculated	0.0008%
Baseline	1.27%
Best Practice	0.89%
Difference	0.27% better than the Baseline level

Destination Safety – Assault Rate (%)

Supplied	1.2%
Calculated	0.014%
Baseline	0.023%
Best Practice	0.016%
Difference	0.002% better than the Best Practice level

Socio-Economic Benefit – Unemployment Rate (%)

Supplied	1.3%
Calculated	1.3%
Baseline	6.6%

Best Practice	4.6%
Difference	3.3% better than the Best Practice Level

Accredited Operations (%)

Supplied	1.0%
Calculated	1.0%
Baseline	5 %
Best Practice	6.5 %
Difference	4.0% 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 (m³) or litres (L)). These are: 1 kg (uncompacted waste) = 0.00333333 m³ or 3.33333 L and 1 kg (compacted waste) = 0.00153846 m³ 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).