



EARTHCHECK

BENCHMARKING ASSESSMENT REPORT

COMMUNITY BENCHMARKING

KAIKOURA

KAIKOURA, NEW ZEALAND



REPORT DATE: 31 March 2011

Benchmarking Data Collection Period: 1 July 2009 – 30 June 2010

The planet deserves more than half measures

OVERVIEW

This annual assessment of **Kaikoura** was undertaken against EarthCheck benchmarking indicators and checklists developed for EarthCheck and listed below¹. 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 authorisation of the information required by the indicators was the **Kaikoura District Council**.

Indicator Measure (Benchmark)		
1	Policy	Policy is produced and in place ²
2	Energy	Energy Consumption (GJ / Person Year) ³
		Total CO ₂ -e Produced (t CO ₂ -e / Person Year) ³
		Renewable Energy Used (%) ⁴
3	Water	Potable Water Consumption (kL / Person Year) ³
		Recycled / Captured Water (%) ⁴
4	Waste	Waste Sent to Landfill (t / Person Year) ³
		Recycled / Reused / Composted Waste (%) ⁴
5	Sector Specific	Total CO ₂ -e Produced (t CO ₂ -e / Person Year) ⁵
		Nitrous Oxides Produced (kg / Person Year/ Area) ⁵
		Sulphur Dioxide Produced (kg / Person Year/ Area) ⁵
		Particulate Matter Produced (kg / Person Year/ Area) ⁵
		Water Samples Passed (%) ²
		Habitat Conservation Area (%) ²
		Green Space (%) ²
Accredited Operations (%) ²		
Lead Agency Performance		
3	Water Saving	Water Saving Rating ⁶
4	Waste Recycling	Waste Recycling Rating ⁶
5	Paper Products	Paper Products Rating ⁶
6	Cleaning Products	Cleaning Products Rating ⁶
7	Pesticide Products	Pesticide Products Rating 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 Communities 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

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 Community, 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

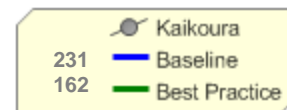
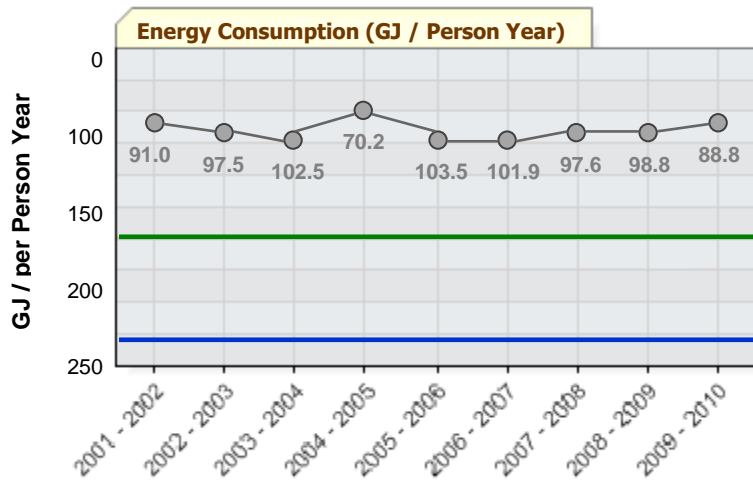
COMMUNITY PERFORMANCE BENCHMARKS

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

1. Policy ★

2. Energy

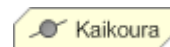
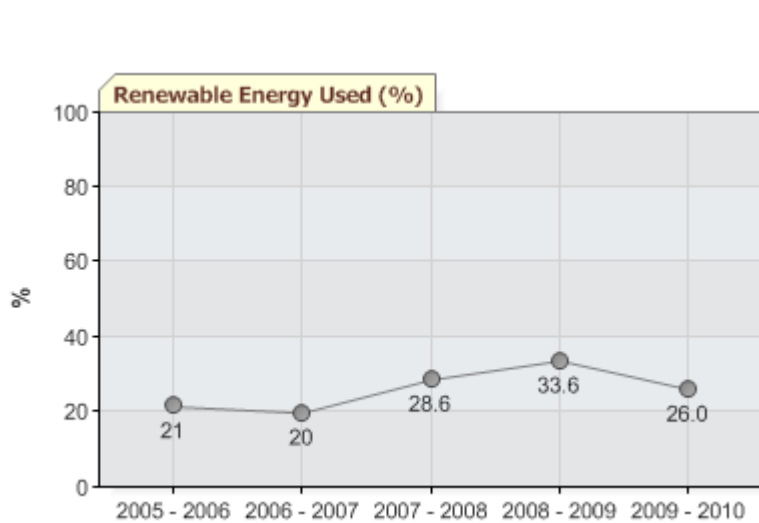
Energy Consumption (GJ / Person Year) ★



Energy Consumption (GJ / Person Year) for the year 2009 - 2010 (1 July 2009 - 30 June 2010) was 88.8 GJ / Person Year, which was 45.2% better than the Best Practice level.

Source	Quantity	Unit	Energy Consumption (MJ)	Total CO ₂ -e Produced (t CO ₂ -e)
Gasoline (automotive)	3191420	L (litre)	109146564.0 MJ	7203.7 t CO ₂ -e
Diesel	4936380.14	L (litre)	190544273.4 MJ	13280.9 t CO ₂ -e
Liquefied Petroleum Gas	88360	L (litre)	2270852.0 MJ	134.9 t CO ₂ -e
Aviation Turbine	188900	L (litre)	6951520.0 MJ	484.5 t CO ₂ -e
Coal (black)	71.08	t (tonne)	1698812.0 MJ	154.6 t CO ₂ -e
Wood (dry)	225	t (tonne)	3645000.0 MJ	342.6 t CO ₂ -e
Hydro - Grid	31401769.43	kWh (kilowatt hour)	113046369.9 MJ	0.0 t CO ₂ -e
Oil (fuel) - Grid	12.48	kWh (kilowatt hour)	44.9 MJ	0.01 t CO ₂ -e
Coal (black) - Grid	40525.69	kWh (kilowatt hour)	145892.5 MJ	43.4 t CO ₂ -e
Wood (dry) - Grid	4721.65	kWh (kilowatt hour)	16997.9 MJ	1.8 t CO ₂ -e
Wind - Grid	310334.23	kWh (kilowatt hour)	1117203.2 MJ	0.0 t CO ₂ -e
Liquefied Petroleum Gas	216.244	t (tonne)	10714229.4 MJ	636.4 t CO ₂ -e
		Totals:	439297759.4 MJ	22282.8 t CO₂-e

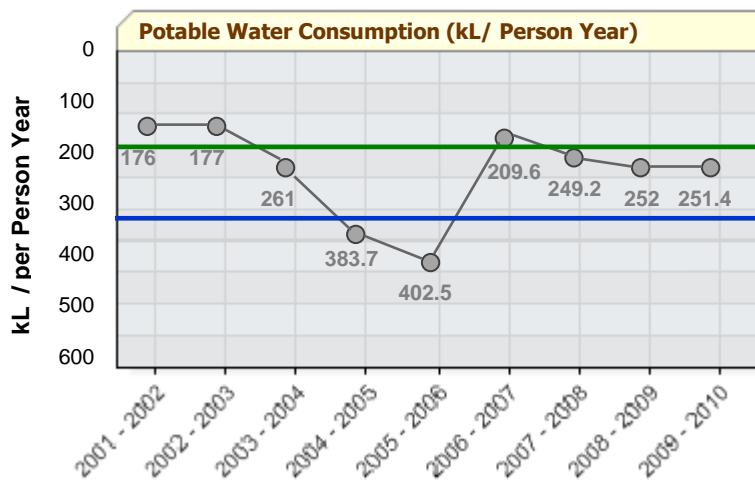
Renewable Energy Used (%)



Renewable Energy Used (%) for the year 2009 - 2010 (1 July 2009– 30 June 2010) was 26.0%.

3. Water

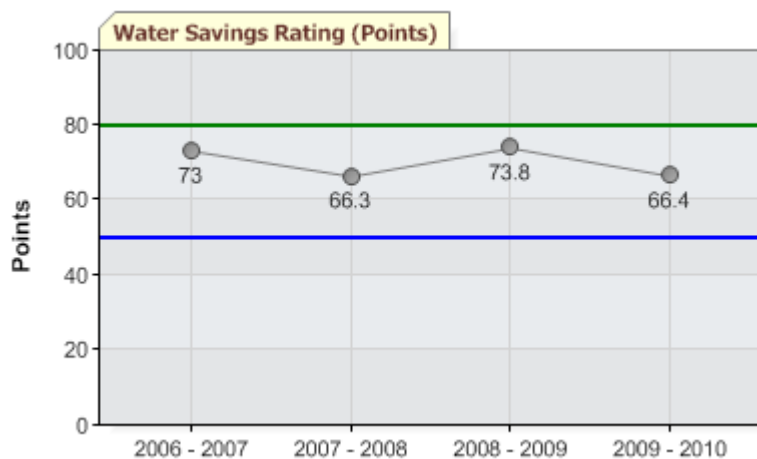
Potable Water Consumption (kL / Person Year) ✓



Potable Water Consumption (kL / Person Year) for the year 2009 - 2010 (1 July 2009- 30 June 2010) was 251.4 kL / Person Year, which was 21.4% better than the Baseline level.

Quantity	Unit	Potable Water Consumption (kL)
1242650	kilolitres (kL)	1242650.0 kL
	Totals:	1242650.0 kL

Water Savings Rating (Points) ✓

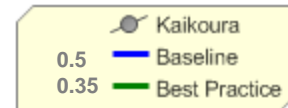
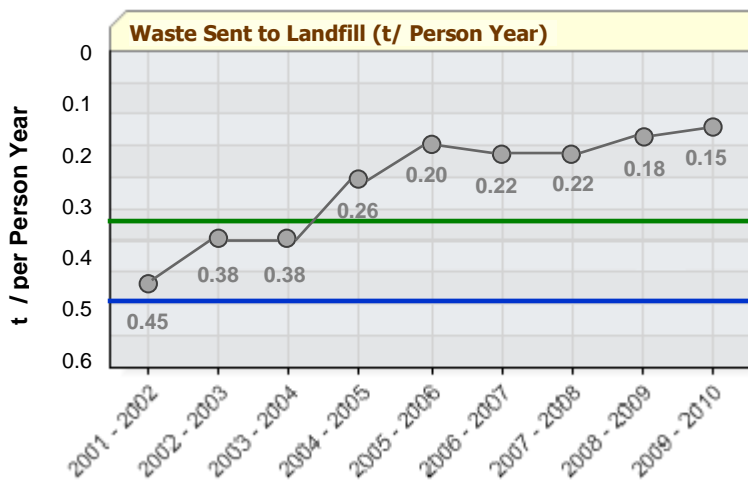


Water Savings Rating (Points) for the year 2009 - 2010 (1 July 2009- 30 June 2010) was 66.4 Points, which was 16.3 Points better than the Baseline level.

Water Savings Measures	Frequency / Percentage Rating	Water Savings Rating (Points)
Check for leaks	Every 6 months	58.8 Points
Low/dual flush toilets	60-79%	73.9 Points
Low flow tap fittings	Not Relevant / Not Available	-
Low flow shower fittings	Not Relevant / Not Available	-
Water sprinklers used after dark	Not Relevant / Available	-
Minimal irrigation landscaping	Not Relevant / Available	-
Use of recycle/grey/rain water	Not Relevant / Not Available	-
	Overall Rating:	66.4 Points

4. Waste

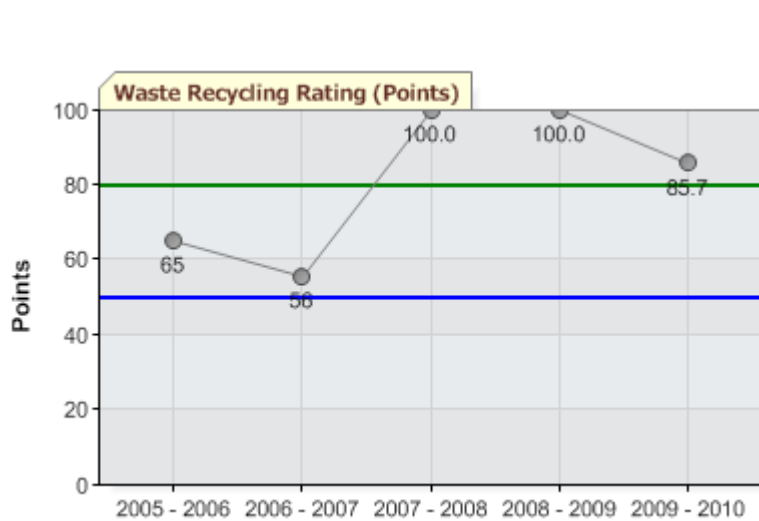
Waste Sent to Landfill (t / Person Year) ★



Waste Sent to Landfill (t / Person Year) for the year 2009 - 2010 (1 July 2009- 30 June 2010) was 0.15 t / Person Year, which was 57% better than the Best Practice level.

Quantity	Unit	Waste Sent to Landfill (m ³)
761.25	tonnes (compacted)	1171.2 m ³
	Totals:	1171.2 m³

Waste Recycling Rating (Points) ★

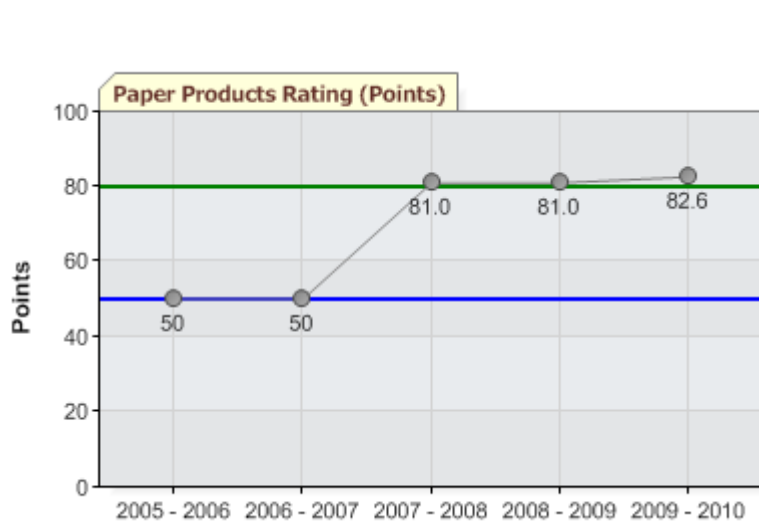


Waste Recycling Rating (Points) for the year 2009 - 2010 (1 July 2009–30 June 2010) was 85.7 Points, which was 5.7 Points better than the Best Practice level.

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)	100%	100.0 Points
Other metals (non-ferrous)	100%	100.0 Points
Plastics	100%	100.0 Points
Rubber	0%	0.0 Points
Green waste	100%	100.0 Points
	Overall Rating:	85.7 Points

5. Paper

Paper Products Rating (Points) ★



Paper Products Rating (Points) for the year 2009 - 2010 (1 July 2009–30 June 2010) was 82.6 Points, which was 2.6 Points better than the Best Practice level.

Paper Products Measures	Frequency / Percentage Rating	Paper Products Rating (Points)
Office paper	20-39%	58.8 Points
Serviettes	100%	100.0 Points
Tissues	Not Relevant / Not Available	-
Toilet tissue	80-99%	88.9 Points
Paper towels	Not Relevant / Not Available	-
	Overall Rating:	82.6 Points

6. Cleaning

Cleaning Products Rating (Points) ★

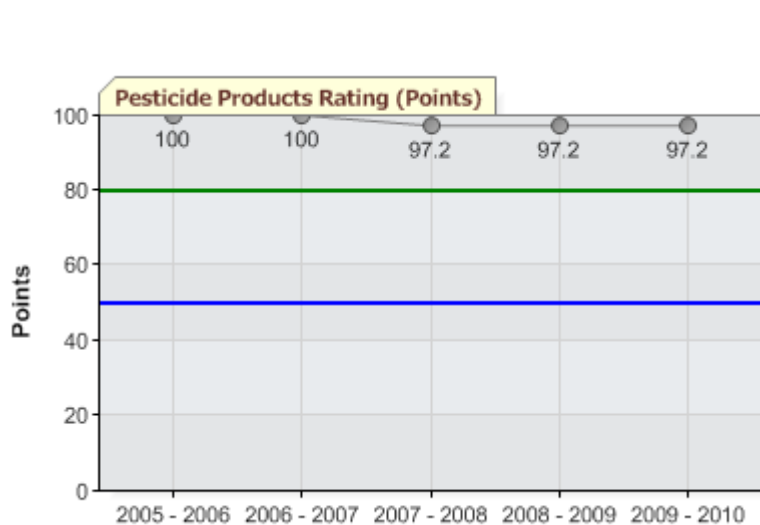


Cleaning Products Rating (Points) for the year 2009 - 2010 (1 July 2009- 30 June 2010) was 95.0 Points, which was 15.0 Points better than the Best Practice level.

Cleaning Products Measures	Frequency / Percentage Rating	Cleaning Products Rating (Points)
Hard floor cleaners	40-59%	65.1 Points
Carpet cleaners	Not Relevant / Not Available	100.0 Points
Interior surface cleaners	Not Relevant / Not Available	100.0 Points
External surface cleaners	Not Relevant / Not Available	100.0 Points
Glass cleaners	Not Relevant / Not Available	100.0 Points
Detergents	Not Relevant / Not Available	100.0 Points
Personal hygiene	Not Relevant / Not Available	100.0 Points
	Overall Rating:	95.0 Points

7. Pesticides

Pesticide Products Rating (Points) ★

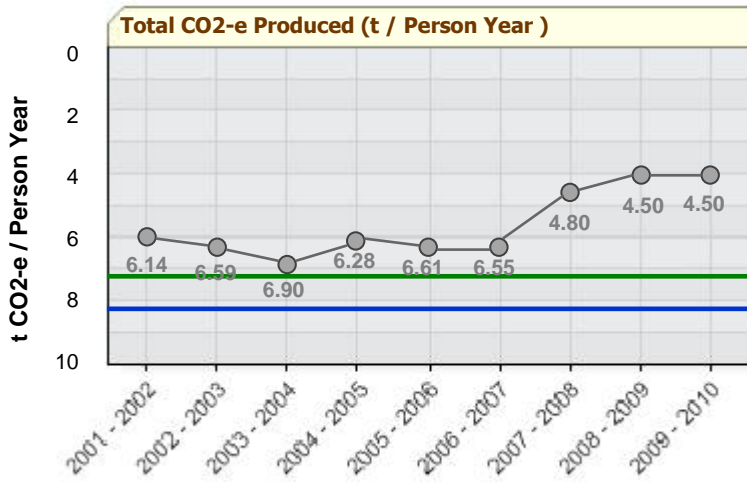


Pesticide Products Rating (Points) for the year 2009 - 2010 (1 July 2009- 30 June 2010) was 97.2 Points, which was 17.2 Points better than the Best Practice level.

Pesticide Products Measures	Frequency / Percentage Rating	Pesticide Products Rating (Points)
Weed killers	80-99%	88.9 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:	97.2 Points

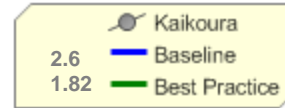
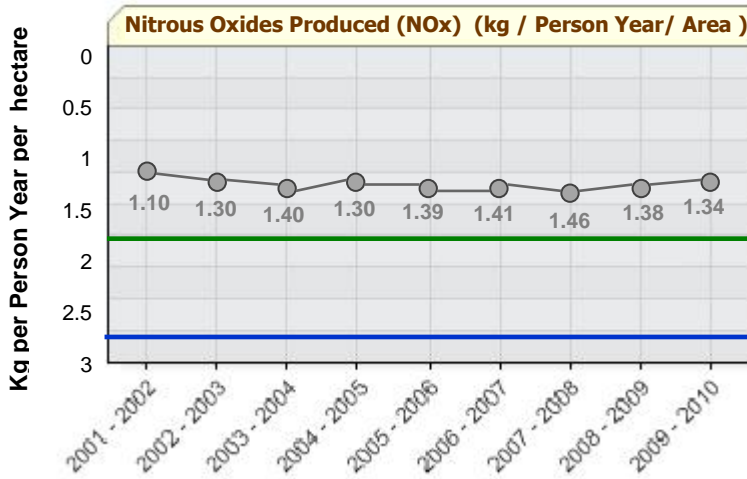
8. Sector Specific

Total CO₂-e Produced (t CO₂-e / Person Year) ★



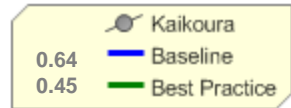
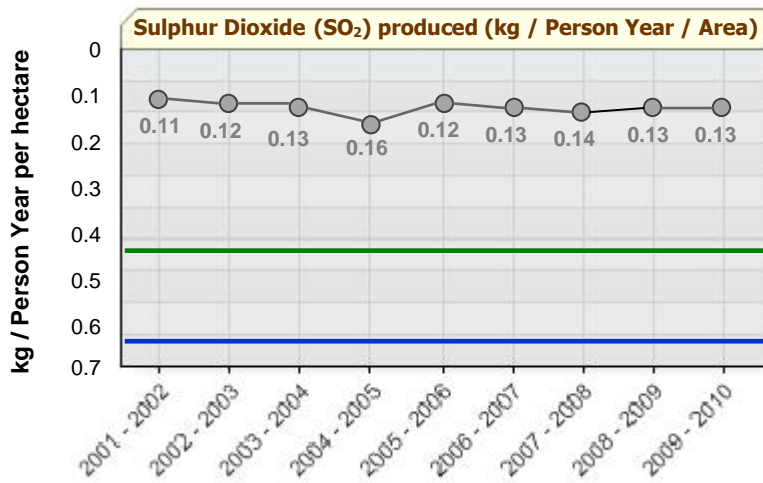
Total CO₂-e Produced (t CO₂-e / Person Year) for the year 2009 - 2010 (1 July 2009- 30 June 2010) was 4.5 t CO₂-e / Person Year, which was 39.1% better than the Best Practice level.

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



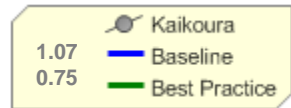
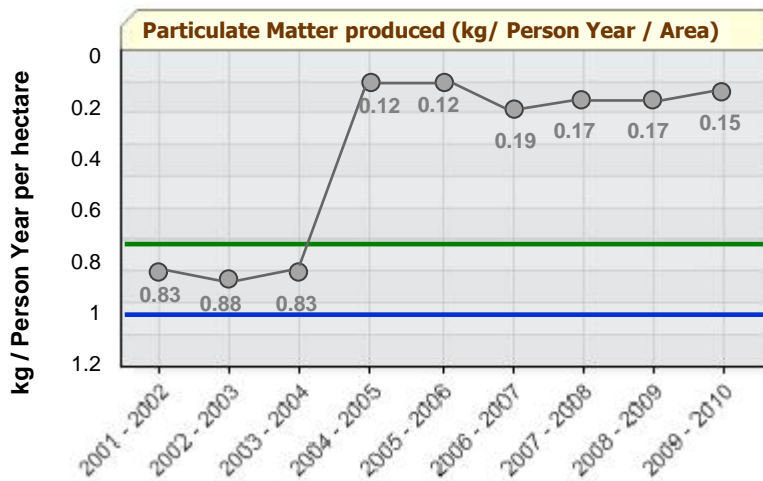
Nitrous Oxides Produced (kg / Person Year /Area) for the year 2009 - 2010 (1 July 2009- 30 June 2010) was 1.34kg / Person Year/ Area, which was 26.3% better than the Best Practice Level

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



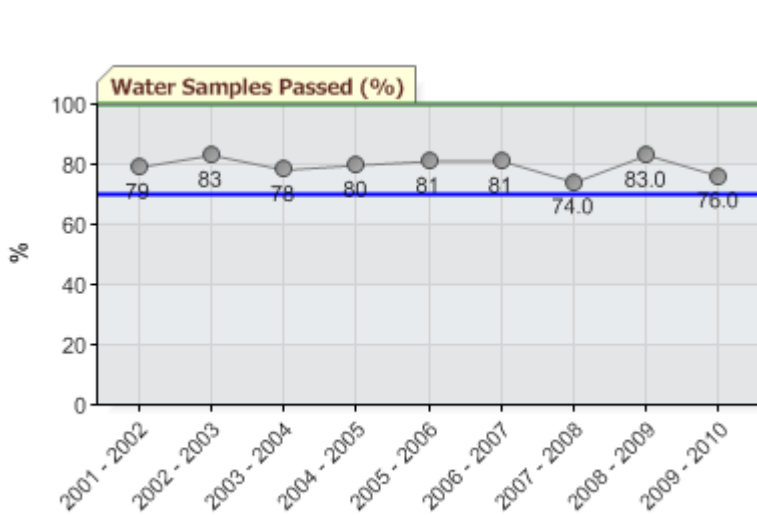
Sulphur Dioxide Produced (kg / Person Year /Area) for the year 2009 - 2010 (1 July 2009- 30 June 2010) was 0.13 kg / Person Year/ Area, which was 71% better than the Best Practice Level

Particulate Matter Produced (kg / Person Year) ★



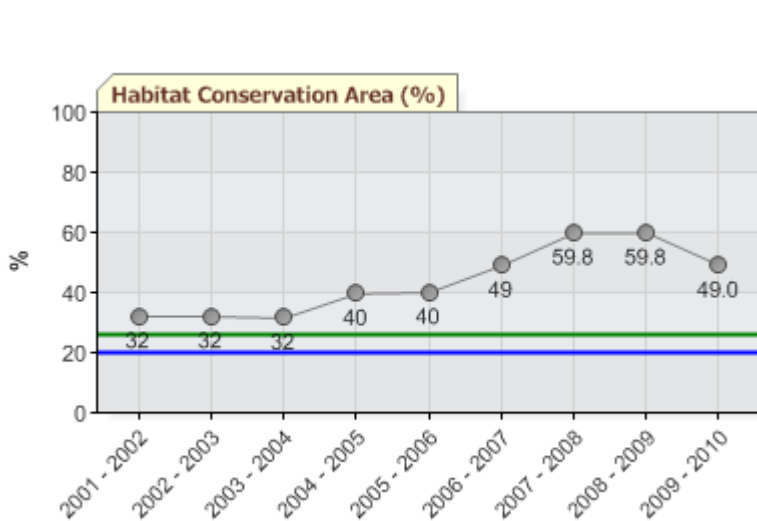
Particulate Matter Produced (kg / Person Year /Area) for the year 2010 (1 July 2009- 30 June 2010) was 0.15 kg / Person Year /Area, which was 80% better than Best Practice Level.

Water Samples Passed (%) ✓



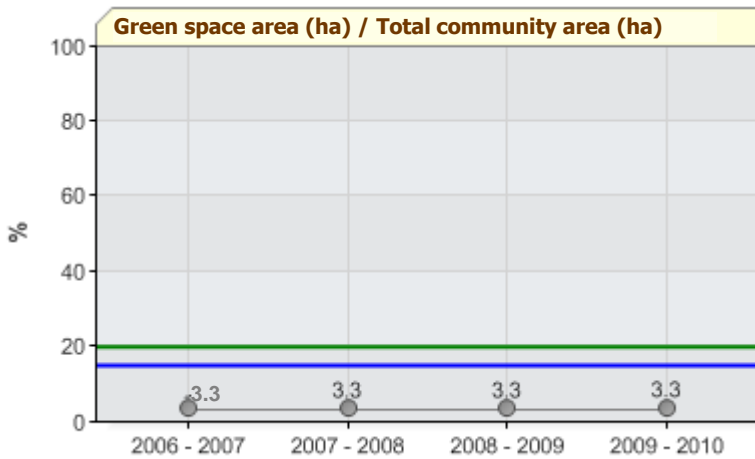
Water Samples Passed (%) for the year 2009 - 2010 (1 July 2009– 30 June 2010) was 76.0%, which was 6.0% better than the Baseline level.

Habitat Conservation Area (%) ★



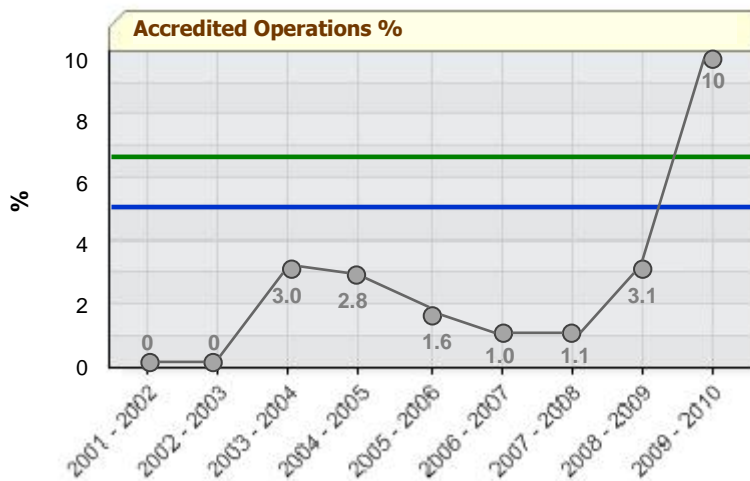
Habitat Conservation Area (%) for the year 2009 - 2010 (1 July 2009– 30 June 2010) was 49.0%, which was 23.0% better than the Best Practice level.

Green Space (%) ✘



Green Space (%) for the year 2009 - 2010 (1 July 2009– 30 June 2010) was 3.3%, which was 11.7% below the Baseline level.

Accredited Operations (%) ★



Accredited Operations (%) for the year 2009 - 2010 (1 July 2009– 30 June 2010) was 10.0%, which was 3.5% better than the Best Practice level.

OPTIONAL BENCHMARKING INDICATORS

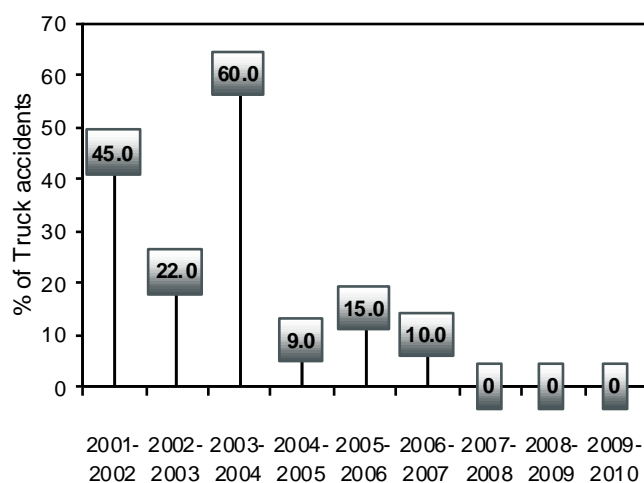
Kaikoura has also nominated optional Operation Specified Indicators that they consider relevant to their specific operation and locality. The Operation Specified Indicators do not form part of the formal annual benchmarking exercise.

1. Specified Indicators

Specified Indicators are devised by the operator for local and/or internal performance assessment.

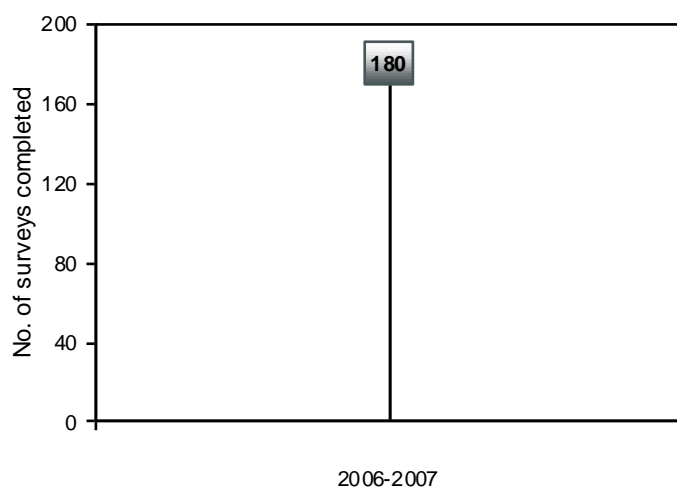
Environmental Hazard Monitoring

No. of truck accidents within **Kaikoura**
involving chemical spills pa /
Total number of truck accidents within **Kaikoura** pa

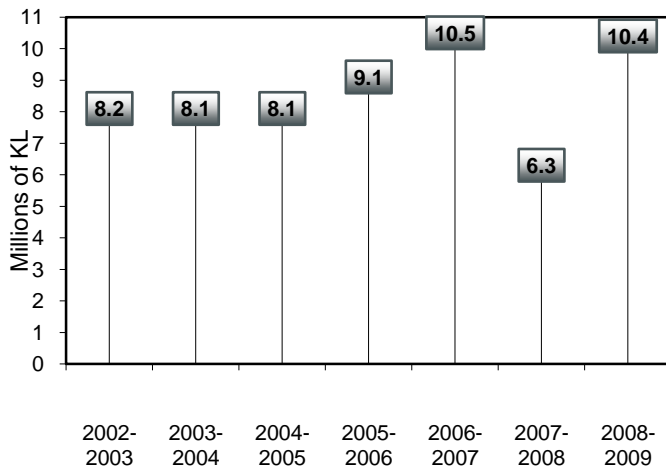


Community Satisfaction Survey

No. of surveys completed



Community Indicator - Rural Water Consumption Rural Water Consumption



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

CONCLUSION AND RECOMMENDATIONS

Congratulations, **Kaikoura** has passed 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, twelve indicators, *Energy Consumption, Waste Sent to Landfill, Waste Recycling Rating, Paper Products Rating, Cleaning Products Rating, Pesticide Products Rating, Total CO₂-e Produced, Nitrous Oxides Produced, Sulphur Dioxide Produced, Particle Matter Produced, Habitat Conservation Area, Accredited Operations*, are at or above the Best Practice level, which is an achievement to be highly commended.

The one indicator that fell below the Baseline level was *Green Space*.

The value for Green Space was 11.7% below the Baseline level, but as this is a focus on open spaces created and set aside for recreational purposes (e.g. sports fields, parks etc.), it is recognised that in rural areas this is not always very relevant and/or a significant percentage of the Community area. It is also acknowledged that the actual area set aside for green space has increased by 8.4 hectares due to acquisition of new reserves by the Kaikoura District Council, which is to be commended.

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 **Kaikoura** 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 **Kaikoura** is encouraged to ensure that Green Space are at Baseline performance or better. In line with EarthCheck Policy this would enable the **Kaikoura** to continue to meet the benchmarking requirements of the EarthCheck program.

APPENDIX

BENCHMARKING POLICY

A member benchmarking for the 8th time (and subsequent assessments) is not permitted to fail any EarthCheck™ indicators (excluding supplementary EarthCheck™ indicators).

HISTORICAL DATA

It is acknowledged that whilst information presented in the benchmarking assessment report displays results for the years 2007-2008, it is **Kaikoura's** eighth benchmarking assessment. The information for the 2007-2008 has been included as historical Benchmarking Data, however this data has not been formally assessed.

ENERGY CONSUMPTION

The Benchmarking Assessors sought clarification regarding the sources submitted (below) for *Energy Consumption* as they varied from those submitted in the previous assessment.

Source	Quantity	Unit	Energy Consumption (MJ)	Total CO ₂ -e Produced (t CO ₂ -e)
Gasoline (automotive)	3191420	L (litre)	109146564.0 MJ	7203.7 t CO ₂ -e
Diesel	4936380.14	L (litre)	190544273.4 MJ	13280.9 t CO ₂ -e
Liquefied Petroleum Gas	88360	L (litre)	2270852.0 MJ	134.9 t CO ₂ -e
Aviation Turbine	188900	L (litre)	6951520.0 MJ	484.5 t CO ₂ -e
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Coal (black) - Grid	40525.69	kWh (kilowatt hour)	145892.5 MJ	43.4 t CO ₂ -e
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Wind - Grid	310334.23	kWh (kilowatt hour)	1117203.2 MJ	0.0 t CO ₂ -e
Liquefied Petroleum Gas	216.244	t (tonne)	10714229.4 MJ	636.4 t CO ₂ -e
		Totals:	439297759.4 MJ	22282.8 t CO₂-e

These sources produce a total of 439 297.7 GJ which equates to 88.8 GJ per Guest Night. Total Carbon Dioxide (CO₂) produced was 22282.8 t which equates to 4.5 t per Guest Night.

Kaikoura confirmed that the sources submitted were correct and provided the following comments:

"Energy consumption sources have changed as I looked at grid electricity a bit more closely and found that we no longer have 100% Hydro-generated electricity. Our grid

supply electricity is generated through a number of sources including Hydro – Grid, Oil (fuel) – Grid, Coal (black) – Grid, Wood (dry) – Grid. This gives a better indication of our greenhouse gas production.”

As advised no changes to *Energy Consumption* have been made.

As Hydro - Grid and Wind - Grid are the only renewable sources of energy (contributing 25.7% and 0.25% of total *Energy Consumption* respectively), the figure for percentage of energy from renewable sources was changed from 67% to 26%. Please refer to the energy table on page 3 for more information.

WATER SAVINGS RATING

The Benchmarking Assessors sought clarification regarding *Water Savings Rating* as the submitted figure of 66.4 points was less than the previous assessment. **Kaikoura** advised:

“Council have had a leak detection program running for the last 3 years. All our water pipes have had internal surveys and have completed a repair program to replace faulty Community infrastructure. Leakages on private property are being worked through. Council now check for leakage through volume checks, this is more than 6 monthly as metering indicates any leakage.”

“We don’t irrigate any Council land”

“No planting is irrigated”

“On a community scale some water is recycled, but Council does not have any water recycling program”

The Benchmarking Assessors have not changed the initially submitted figure.

CLEANING PRODUCTS RATING

The Benchmarking Assessors sought clarification regarding *Cleaning Products Rating* as the submitted figure of 95 points was greater than the previous assessment. **Kaikoura** advised:

“We have an external cleaner and was unable to locate the information. I hope to implement a procurement policy in 2011, so this will be addressed”

“We now have a contractor supply these items and I was unable to locate the information. I hope to implement a procurement policy in 2011, so this will be addressed”

The Benchmarking Assessors have not changed the initially submitted figure.

AIR QUALITY

The benchmarking assessors have revised the submitted figures for Air Quality as per below;

Initial figures;

Nitrous Oxides Produced : 42.7 kg per Person Year
Sulphur Dioxide Produced : 3.1 kg per Person Year
Particulate Matter Produce : 216.4 kg per Person Year

Revised figures;

Nitrous Oxides Produced : 1.34 kg per Person Year / Area
Sulphur Dioxide Produced : 0.13 kg per Person Year / Area
Particulate Matter Produce : 0.15 kg per Person Year / Area

GREEN SPACE

The Benchmarking Assessors sought clarification regarding *Green Space* as the submitted value of 1% was less than the previous assessment. **Kaikoura** advised that the total had been incorrectly calculated and the provided the following comments and table:

"It was a unit conversion mistake. The figure should be 3.31%. Would you please correct the report. Calculations as follows."

GREEN SPACE		
2007/08	67.66	km2
2007/08 additions	hec	km2
	1	0.01
Ocean Ridge (Greenburn Way Reserve)	5.1404	0.05
Seaview (Shearwater Drive Reserve)	0.0788	0.00
Seaview (Miromiro Drive - Walkway to Churchill St)	0.0306	0.00
Seaview (Shearwater Drive Playground and Recreation Reserve)	1.2912	0.01
Ocean Ridge (Kekeno Park)	1.8481	0.02
		0.08
total Green Space	67.74	km2
Total Area of Kaikoura	204,800	
	3.31%	

The Benchmarking Assessors have updated the total for *Green Space* to 3.3% as indicated below.

Initial rating: 1.0%
Revised rating: 3.3%

HABITAT CONSERVATION AREA

The Benchmarking Assessors sought clarification regarding *Habitat Conservation Area* as the submitted figure of 49% was less than the previous assessment. **Kaikoura** confirmed the figure as correct and provided the following comments:

"The value has decreased as the area was calculated incorrectly in 2008/2009 period"

As advised no changes to *Habitat Conservation Area* have been made.

OPTIONAL INDICATORS

The Benchmarking Assessors have removed the optional specified indicator '*Social Indicator*' as no value was submitted. **Kaikoura** are encouraged to submit a numerical value if '*Social Indicator*' is to be included in future assessments.



EARTHCHECK

Benchmarks Assessed by EarthCheck

SUMMARY OF SUPPLIED BENCHMARKING DATA

Activity Measures

Person Years	4943
Total Community Area	204800

Supplied Benchmarking Data

level

Energy

Energy Consumption (GJ / Person Year)

Supplied	439 297.7 GJ
Calculated	88.8 GJ / Person Year
Baseline	231 GJ / Person Year
Best Practice	162 GJ / Person Year
Difference	45.2% better than the Best Practice level

Renewable Energy Used (%)

Supplied	26%
Calculated	26%

Water

Potable Water Consumption (kL / Person Year)

Supplied	1242650.0 kL
Calculated	251.4 kL / Person Year
Baseline	320 kL / Person Year
Best Practice	224 kL / Person Year
Difference	21.4% better than the Baseline level

Water Savings Rating (Points)

Supplied	66.4 Points
Calculated	66.4 Points
Baseline	50 Points
Best Practice	80 Points
Difference	16.3 Points better than the Baseline level

Recycled / Captured Water (%)

Supplied	
Calculated	

Waste

Waste Sent to Landfill (t / Person Year)

Supplied	761.25 t
Calculated	0.15 t / Person Year
Baseline	0.5 t / Person Year
Best Practice	0.35 t / Person Year
Difference	57% better than the Best Practice

Waste Recycling Rating (Points)

Supplied	85.7 Points
Calculated	85.7 Points
Baseline	50 Points
Best Practice	80 Points
Difference	5.7 Points better than the Best Practice level

Recycled / Reused / Composted Waste (%)

Supplied	
Calculated	

Paper

Paper Products Rating (Points)

Supplied	82.6 Points
Calculated	82.6 Points
Baseline	50 Points
Best Practice	80 Points
Difference	2.6 Points better than the Best Practice level

Cleaning

Cleaning Products Rating (Points)

Supplied	95.0 Points
Calculated	95.0 Points
Baseline	50 Points
Best Practice	80 Points
Difference	15.0 Points better than the Best Practice level

Pesticides

Pesticide Products Rating (Points)

Supplied	97.2 Points
Calculated	97.2 Points
Baseline	50 Points
Best Practice	80 Points
Difference	17.2 Points better than the Best Practice level

Sector Specific

Total CO₂-e Produced (t CO₂-e / Person Year)

Supplied	22282.8 t CO ₂ -e
Calculated	4.5 t CO ₂ -e / Person Year
Baseline	8.25 t CO ₂ -e / Person Year
Best Practice	7.4 t CO ₂ -e / Person Year
Difference	39.1% better than the Best Practice level

Nitrous Oxides Produced (kg / Person Year / Hectare)

Supplied	211232.4 kg
Calculated	1.34 / kg per PY per ha
Baseline	2.6 / kg per PY per ha
Best Practice	1.82 / kg per PY per ha
Difference	26.3 % better and Best Practice Level

Sulphur Dioxide Produced (kg / Person Year / Hectare)

Supplied	15406.7 kg
Calculated	0.13 kg / kg per PY per ha
Baseline	0.64 kg/ per PY per ha
Best Practice	0.45 kg/ per PY per ha
Difference	71% better than Best Practice Level

Particulate Matter Produced (kg / Person Year / Hectare)

Supplied	1069488.7 kg
Calculated	0.15 kg / kg per PY per ha
Baseline	1.07 / kg per PY per ha
Best Practice	0.75 / kg per PY per ha
Difference	80 % better than Best Practice Level

Water Samples Passed (%)

Supplied	76.0%
Calculated	76.0%
Baseline	70 %
Best Practice	100 %
Difference	6.0% better than the Baseline level

Habitat Conservation Area (%)

Supplied	49.0%
Calculated	49.0%
Baseline	20 %
Best Practice	26 %
Difference	23.0% better than the Best Practice level

Green Space (%)

Supplied	3.3%
Calculated	3.3%

Baseline	15 %
Best Practice	20 %
Difference	11.7% below the Baseline level

Accredited Operations (%)

Supplied	10.0%
Calculated	10.0%
Baseline	5 %
Best Practice	6.5 %
Difference	3.5% better than the Best Practice 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).