



EARTHCHECK

BENCHMARKING ASSESSMENT REPORT

VILLA ACCOMMODATION BENCHMARKING

BANYAN TREE LIJIANG HOTEL & RESORT
LIJIANG, CHINA



REPORT DATE: 8 March 2010

Benchmarking Data Collection Period: 01 January 2008 – 31 December 2008

The planet deserves more than half measures

1. OVERVIEW

This annual assessment of **Banyan Tree Lijiang Hotel & Resort** 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. Their outcomes which are presented in this report are used by EarthCheck to evaluate whether the operation has reached the standards necessary to pass the benchmarking requirements, as stated in the EarthCheck Benchmarking Policy.²

		Indicator Measure (Benchmark)
1	Sustainability Policy	Policy is produced and in place
2	Energy Consumption	Energy used (MJ / Guest Night)
		Renewable energy used (%) ³
3	Potable Water Consumption	Potable water consumed (L / Guest Night)
		% of total potable water consumed that is recycled/ from captured sources (%) ³
		Water saving (Checklist rating)
4	Waste Sent to Landfill	Waste sent to landfill (L / Guest Night)
		% of total waste produced that is recycled/reused/composted (%) ³
5	Community Commitment	Waste recycling (Checklist rating)
		Local employment (Employees living within 20 km of operation / Total employees)
6	Paper Products	Community contributions (Checklist Rating)
		Paper product types used (Checklist Rating)
7	Cleaning Products	Cleaning product types used (Checklist rating)
8	Pesticide Products	Pesticide product types used (Checklist Rating)

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

² To meet the requirements stipulated in the EarthCheck Company Standard, the benchmarks for all the submitted EarthCheck indicators need to be at, or better than, the Baseline level. Baseline and Best Practice performance levels are set with reference to the type of activity (registered sector/s) and appropriate national and international data which take into account social, geographical and climatic impacts.

First-time benchmarking operations that fail to meet the minimum requirements (Baseline performance or better) for up to two submitted EarthCheck indicators (with a third indicator within 10% of the Baseline level), will be permitted to pass benchmarking. The operation is however, given a maximum of 12 months to improve performance in at least one of the indicators to Baseline performance or better. If on the next submission this is not achieved without substantiated evidence that the situation was beyond the control of the operation (e.g., occurrence of a natural disaster), then the right to use the appropriate EarthCheck logo will be withdrawn.

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

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

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

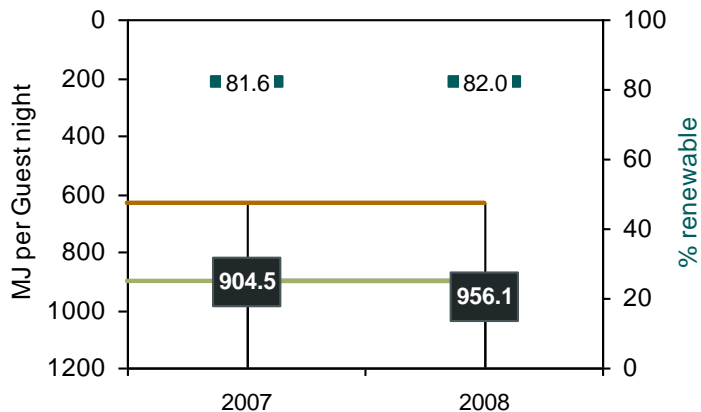
VILLA ACCOMMODATION PERFORMANCE BENCHMARKS

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

1. Policy ★

2. Energy ✘

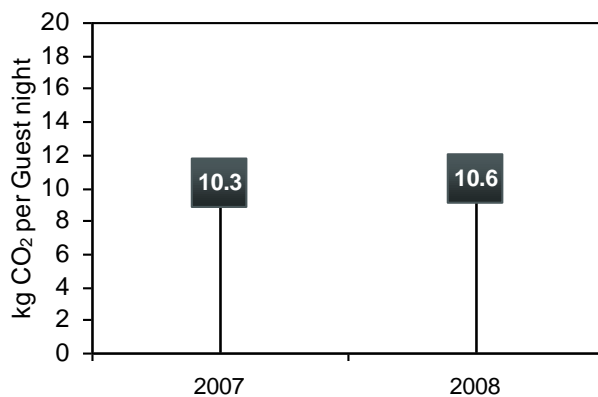
Energy Consumption (MJ / Guest Night) ✘



Banyan Tree Lijiang Hotel & Resort

consumed 956.1 MJ per Guest Night for the year 2008 (01/01/08 – 31/12/08), which was 5.6% below the Baseline level.

Total CO₂-e Produced (kg CO₂-e / Guest Night)



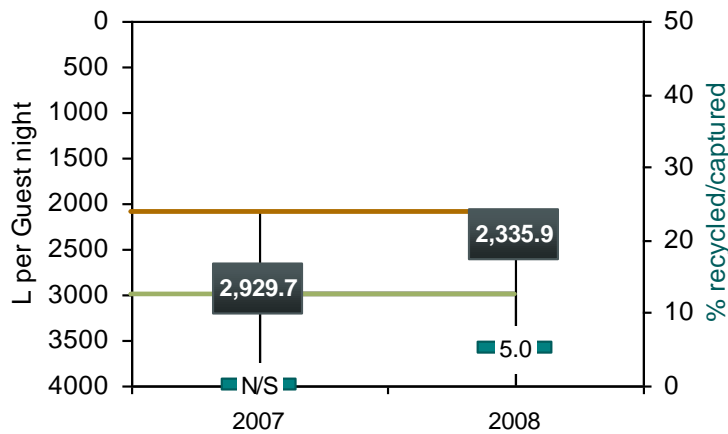
Reported Energy Consumption for the year 2008 (01/01/08 – 31/12/08) produced an estimated 10.6 kg of CO₂ per Guest Night.

Energy type	Quantity used		Calculated Energy		Calculated CO ₂	
			MJ	% of total	kg	% of total
Solar	3,060,000	Btu(British thermal unit)	3,228	0.01	0	0
Hydro	6,000,000	kWh(kilowatt hour)	21,600,000	82.0	0	0
Diesel	1,000	L(litre)	38,600	0.1	2,690	0.9
Liquefied Petroleum Gas	62,033	kg (kilogram)	3,073,546	11.7	182,569	62.4
Gasoline (Auto)	47,506	L(litre)	1,624,705	6.2	107,231	36.7
Totals:			26,340,079	100	292,490	100

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

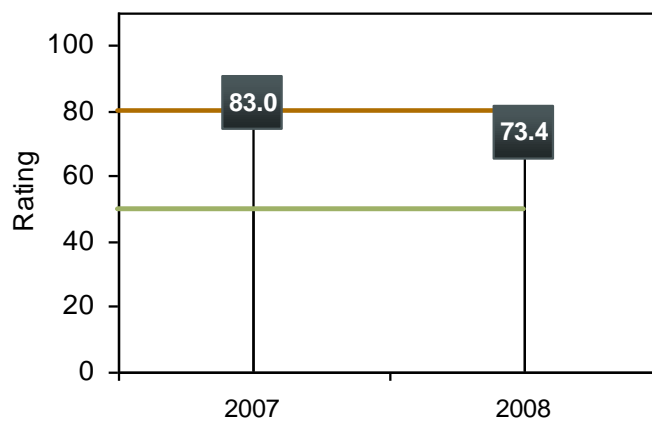
3. Water

Potable Water Consumption (L / Guest Night) ✔



The **Banyan Tree Lijiang Hotel & Resort** consumed 2,335.9 L per Guest Night for the year 2008 (01/01/08 – 31/12/08), which was 22.1% better than the Baseline level.

Water Savings Rating (Points) ✔

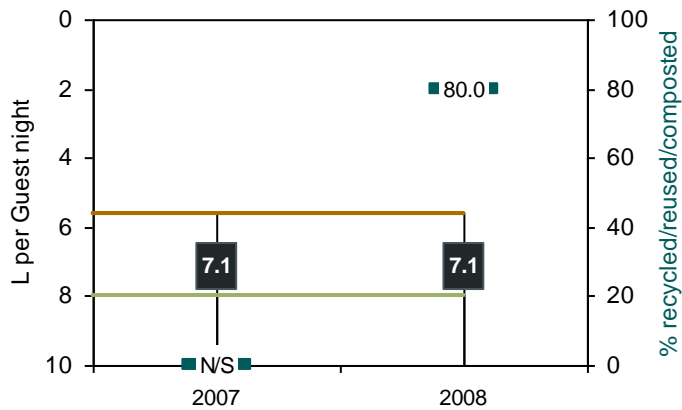


The Water Saving checklist rating for the year 2008 (01/01/08 – 31/12/08), was 23.4 points better than the Baseline level.

Water Savings Measures	Frequency / Percentage Rating	Water Savings Rating (Points)
Water sprinklers used after dark	Not Relevant / Not Available	
Low/dual flush toilets	Not Relevant / Not Available	
Low flow tap fittings	60-79%	73.9 Points
Check for leaks	Every week	100.0 Points
Use of recycle/grey/rain water	1-19%	54.0 Points
Low flow shower fittings	60-79%	73.9 Points
Minimal irrigation landscaping	40-59%	65.1 Points
	Overall Rating:	73.4 Points

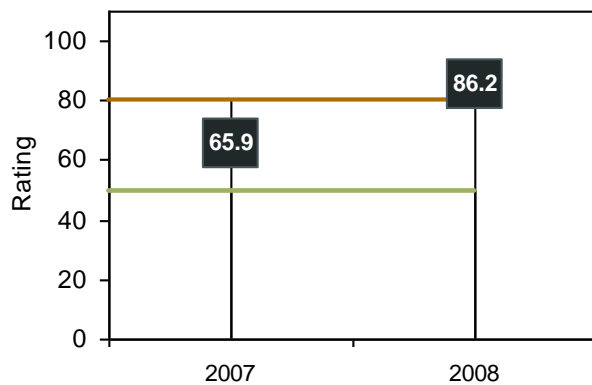
4. Waste

Waste Sent to Landfill (L / Guest Night) ✓



The **Banyan Tree Lijiang Hotel & Resort** produced 7.1 L per Guest Night for the year 2008 (01/01/08 – 31/12/08), which was 11.7% better than the Baseline level.

Waste Recycling Rating (Points) ★

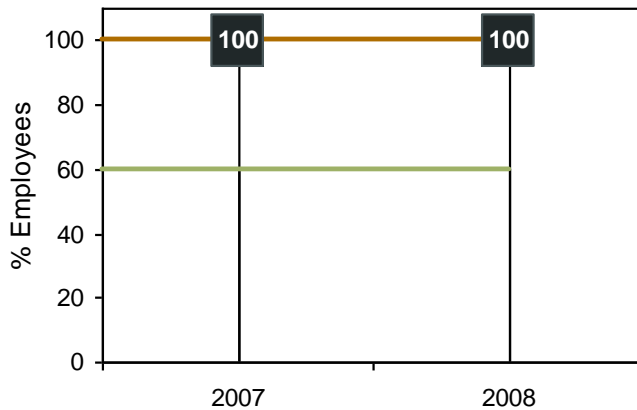


The Waste Recycling checklist rating for the year 2008 (01/01/08 – 31/12/08) was 6.2 points better than the Best Practice level.

Waste Recycling Measures	Frequency / Percentage Rating	Waste Recycling Rating (Points)
Green waste	60-79%	73.9 Points
Plastics	80-99%	88.9 Points
Other metals (non-ferrous)	60-79%	73.9 Points
Paper/card	80-99%	88.9 Points
Rubber	80-99%	88.9 Points
Iron & steel (ferrous metals)	100%	100.0 Points
Glass	80-99%	88.9 Points
	Overall Rating:	86.2 Points

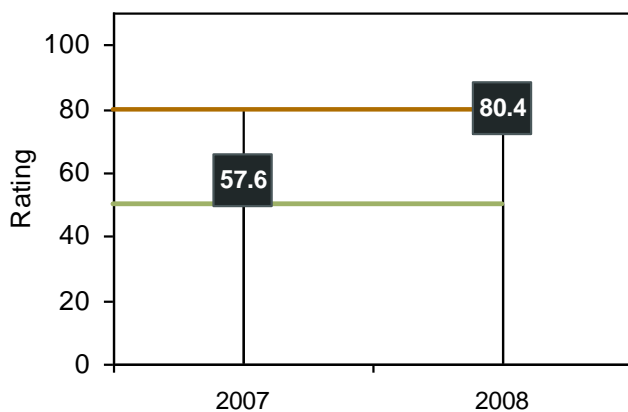
5. Community Commitment

Community Commitment (%) ★



Community Commitment for the year 2008 (01/01/08 – 31/12/08) was at the Best Practice level.

Community Contributions Rating (Points) ★

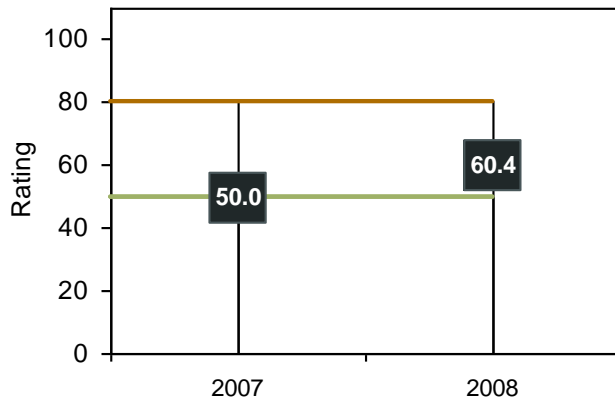


The Community Contributions checklist rating for the year 2008 (01/01/08 – 31/12/08) was 0.4 of a point better than the Best Practice level.

Community Contributions Measures	Frequency / Percentage Rating	Community Contributions Rating (Points)
Staff received training on sustainability issues	100%	100.0 Points
Perishable purchased goods that are of local origin	80-99%	88.9 Points
Net income spent on sustainability programs	2.0% - 3.9%	58.8 Points
Service contracts given to local contractors	60-79%	73.9 Points
	Overall Rating:	80.4 Points

6. Paper Products

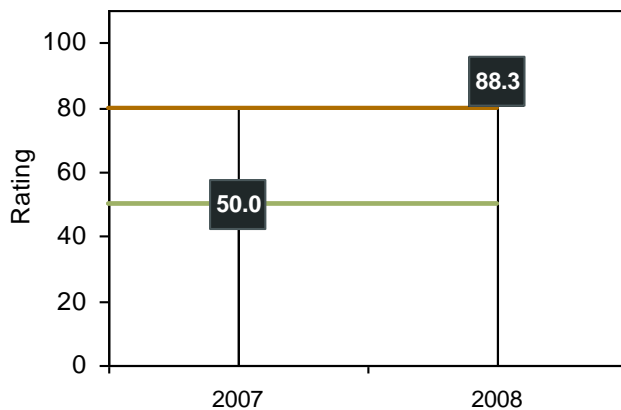
Paper Products Rating (Points) ✓



The Paper Products checklist rating for the year 2008 (01/01/08 – 31/12/08) was 10.4 points better than the Baseline level.

7. Chemical Products / Cleaning Products

Cleaning Products Rating (Points) ★

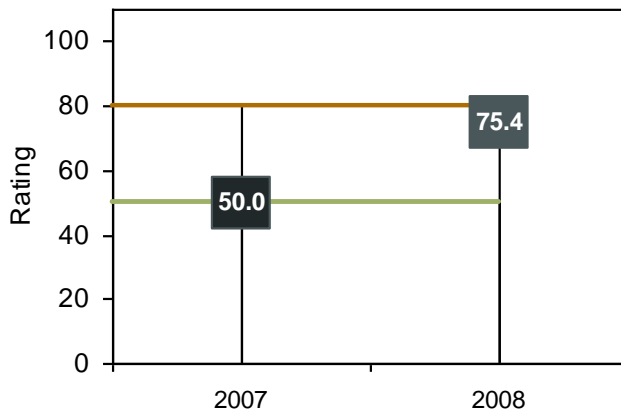


The Cleaning Products checklist for the year 2008 (01/01/08 – 31/12/08) was 8.3 points better than the Best Practice level.

Cleaning Products Measures	Frequency / Percentage Rating	Cleaning Products Rating (Points)
Carpet cleaners	80-99%	88.9 Points
Detergents	60-79%	73.9 Points
External surface cleaners	80-99%	88.9 Points
Interior surface cleaners	80-99%	88.9 Points
Hard floor cleaners	80-99%	88.9 Points
Personal hygiene	100%	100.0 Points
Glass cleaners	80-99%	88.9 Points
	Overall Rating:	88.3 Points

8. Pesticide Products

Pesticide Products Rating (Points) ✓



The Pesticide Products checklist rating for the year 2008 (01/01/08 – 31/12/08) was 25.4 points better than the Baseline level.

Pesticide Products Measures	Frequency / Percentage Rating	Pesticide Products Rating (Points)
Weed killers	Relevant / Not Available	50.0 Points
Rodent killers	80-99%	88.9 Points
Insect killers	80-99%	88.9 Points
Fungal killers	60-79%	73.9 Points
	Overall Rating:	75.4 Points

The supplied data has been compiled by **Banyan Tree Lijiang Hotel & Resort** in the prescribed manner, authorised by a senior executive of the company and submitted for an annual assessment.

CONCLUSION AND RECOMMENDATIONS

Congratulations, **Banyan Tree Lijiang Hotel & Resort** has passed the requirements to continue to be recognised as a EarthCheck Benchmarked Accommodation.

In addition to having a Sustainability Policy in place, nine of the ten assessed EarthCheck indicators are at or above the Baseline level.⁴ From the benchmarking data provided, four indicators, *Waste Recycling*, *Community Commitment*, *Community Contributions*, and *Cleaning Products*, are at or above the Best Practice level which is an achievement to be commended.

The one indicator that fell below the Baseline level was *Energy Consumption*, which was 5.6% below the Baseline performance level. The **Banyan Tree Lijiang Hotel & Resort** 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).

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 the **Banyan Tree Lijiang Hotel & Resort** 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 **Banyan Tree Lijiang Hotel & Resort** is encouraged to ensure that *Energy Consumption* is at Baseline performance or better. In line with EarthCheck Policy this would enable the **Banyan Tree Lijiang Hotel & Resort** to continue to meet the benchmarking requirements of the EarthCheck program.

⁴ **Banyan Tree Lijiang Hotel & Resort** is registered to be certified by EarthCheck and, therefore, does not need to submit verification documents as these should be checked as part of the certification process.

APPENDIX

ENERGY CONSUMPTION

The benchmarking assessors sought clarification with regards to *Energy Consumption*, which was derived from the following energy sources:

- Solar: 3 060 000 Btu
- Hydro: 6 000 000 kWh
- Diesel: 1 000 L
- Liquefied Petroleum Gas: 62 033 kg

These sources produced a total of 24 715 374 MJ which equates to 897.1 MJ per Guest Night. Total Carbon Dioxide (CO₂) Produced was 185 259 kg which equates to 6.7 kg per Guest Night.

It was later identified that Gasoline (Auto) was omitted in the initial submission; therefore the revised figures are shown below:

- Solar: 3 060 000 Btu
- Hydro: 6 000 000 kWh
- Diesel: 1 000 L
- Liquefied Petroleum Gas: 62 033 kg
- Gasoline (Auto): 47 506 kWh

These sources produce a total of 26 340 079 MJ which equates to 956.1 MJ per Guest Night. Total Carbon Dioxide (CO₂) Produced was 292 490 kg which equates to 10.6 kg per Guest Night.

As Solar and Hydro are the only renewable sources of energy (contributing 0.01% and 82.0% of total *Energy Consumption* respectively), the figure for percentage of energy from renewable sources was changed from 15.0% to 82.01%. Please refer to the energy table on page 3 for more information.

WASTE SENT TO LANDFILL

Clarification was sought with regards to *Waste Sent to Landfill*, as the figure of 72 000 kg (uncompacted) initially submitted by the **Banyan Tree Lijiang Hotel & Resort** was 8.8% below the Baseline level, and conflicted with the Best Practice performance of 86.2 points submitted for *Waste Recycling*. It was later identified that the correct figure for *Waste Sent to Landfill* for the nominated benchmarking period was 58 400 kg (uncompacted).

The submitted value of 58 400 kg of waste (specified by the operator as uncompacted waste) has been converted into a volume by using the standard conversion of 300 kg/m³ for uncompacted waste (i.e. 58 400 kg / 300 kg/m³ = 194.667 m³ or 194 667 L).

This equates to 7.1 L per Guest Night.



EARTHCHECK

Benchmarks Assessed by EarthCheck

SUMMARY OF SUPPLIED BENCHMARKING DATA

Activity Measure(s)						
Guest Night	27,549	gn				
Area Under Roof	32,626	m ²				
Energy Consumption			Community Commitment			
	Indicator			Indicator		
Supplied	26,340,079	MJ		Supplied	100	%
Calculated	956.1	MJ per gn		Baseline	60	%
Baseline	905	MJ per gn		Best Practice	100	%
Best Practice	635	MJ per gn		% difference	0	at the Best Practice level
% difference	5.6	below the Baseline level				
				Checklist		
Renewable	82.01	%		Rating	80.4	
				Baseline	50	
Total CO ₂	292,490	kg		Best Practice	80	
	10.6	kg per gn		points difference	0.4	better than the Best Practice level
Water Consumption			Paper Products			
	Indicator			Checklist		
Supplied	64,352	cubic metres		Supplied Rating	60.4	
Calculated	2,335.9	L per gn		Baseline	50	
Baseline	3000	L per gn		Best Practice	80	
Best Practice	2100	L per gn		points difference	10.4	better than the Baseline level
% difference	22.1	better than the Baseline level				
				Cleaning Products		
Recycled/captured	5	%		Checklist		
				Supplied Rating	88.3	
	Checklist			Baseline	50	
Supplied Rating	73.4			Best Practice	80	
Baseline	50			points difference	8.3	better than the Baseline level
Best Practice	80					
points difference	23.4	better than the Baseline level		Pesticide Products		
				Checklist		
Waste Sent to Landfill				Supplied Rating	75.4	
	Indicator			Baseline	50	
Supplied	58,400	kilograms (uncompacted)		Best Practice	80	
Converted	194,667	L		points difference	25.4	better than the Baseline level
Calculated	7.1	L per gn				
Baseline	8	L per gn				
Best Practice	5.6	L per gn				
% difference	11.7	better than the Baseline level				
Recycled/reused	80	%				
	Checklist					
Supplied Rating	86.2					
Baseline	50					
Best Practice	80					
points difference	6.2	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 solid waste production (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., litres (L)). These are 300 kg/m³ for uncompacted waste or 650 kg/m³ for lightly compacted waste.

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).