



EARTHCHECK

# BENCHMARKING ASSESSMENT REPORT

ACCOMMODATION - BUSINESS HOTEL BENCHMARKING

**NOVOTEL BEIJING XINQIAO**  
BEIJING, CHINA



**REPORT DATE: 27 April 2011**

Benchmarking Data Collection Period: 1 January 2010 – 31 December 2010

*The planet deserves more than half measures*

## OVERVIEW

This annual assessment of **Novotel Beijing Xinqiao** was undertaken against EarthCheck benchmarking indicators and checklists developed for EarthCheck and listed below.<sup>1</sup> They have been carefully selected to track performance in key areas of environmental and social performance impact. 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.<sup>2</sup>

Indicator Measure (Benchmark)	
<b>1</b> Policy	Policy is produced and in place
<b>2</b> Energy	Energy Consumption (MJ / Guest Night)
	Greenhouse Gas Emissions (Scope 1 and Scope 2) (t CO <sub>2</sub> -e / Guest Night)
	Green Power (%) <sup>3</sup>
<b>3</b> Water	Potable Water Consumption (kL / Guest Night)
	Water Savings Rating (Points)
	Recycled / Captured Water (%) <sup>3</sup>
<b>4</b> Waste	Waste Sent to Landfill (m <sup>3</sup> / Guest Night)
	Waste Recycling Rating (Points)
	Recycled / Reused / Composted Waste (%) <sup>3</sup>
<b>5</b> Community	Community Commitment (%)
	Community Contributions Rating (Points)
<b>6</b> Paper	Paper Products Rating (Points)
<b>7</b> Cleaning	Cleaning Products Rating (Points)
<b>8</b> Pesticides	Pesticide Products Rating (Points)

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

<sup>2</sup> To meet the requirements stipulated in the EarthCheck Company Standard, 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.

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

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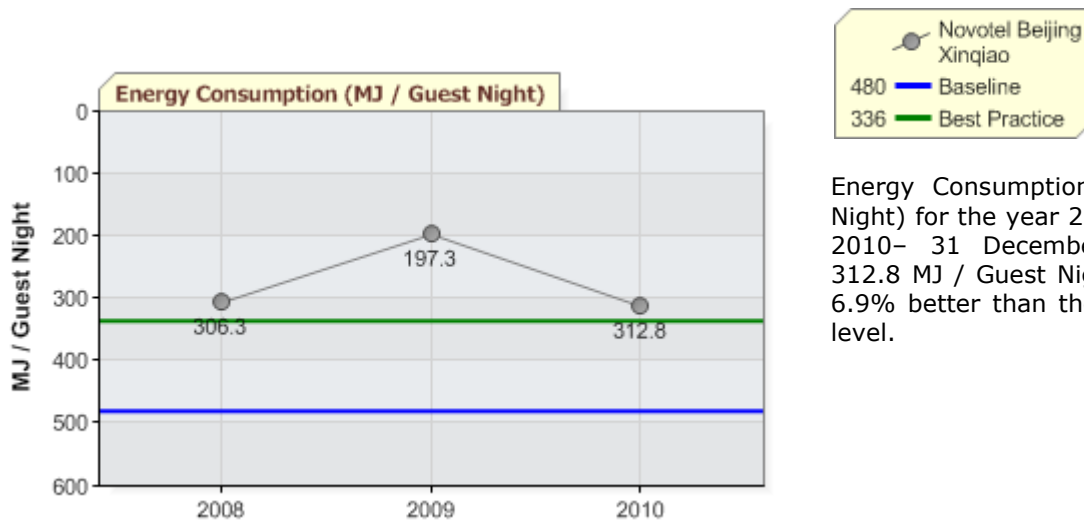
## ACCOMMODATION - BUSINESS HOTEL PERFORMANCE BENCHMARKS

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

### 1. Policy ★

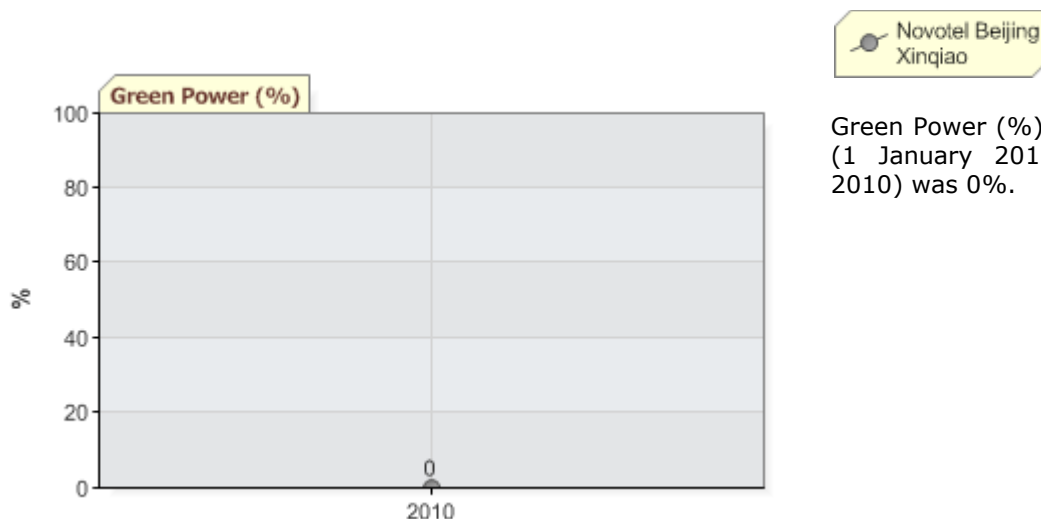
### 2. Energy

#### Energy Consumption (MJ / Guest Night) ★



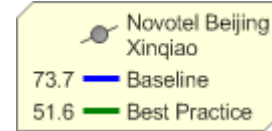
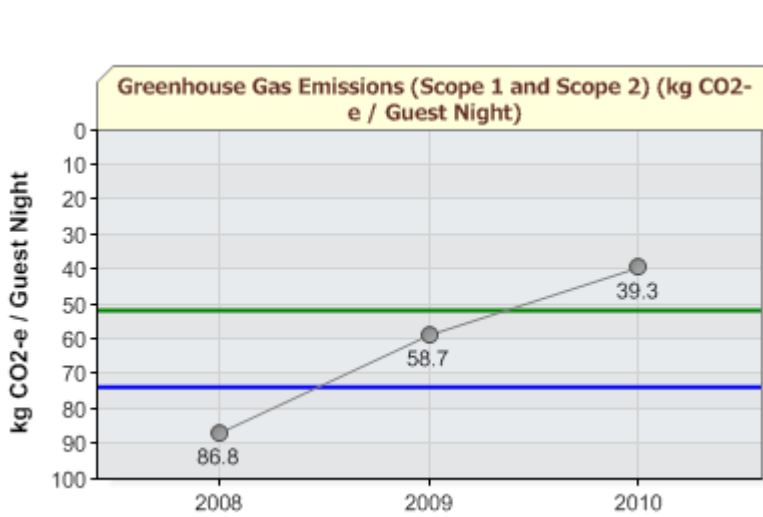
Energy Consumption (MJ / Guest Night) for the year 2010 (1 January 2010– 31 December 2010) was 312.8 MJ / Guest Night, which was 6.9% better than the Best Practice level.

#### Green Power (%)



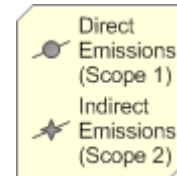
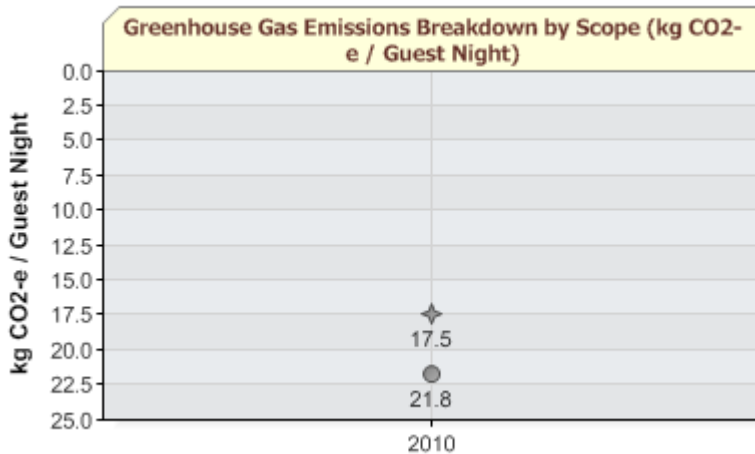
Green Power (%) for the year 2010 (1 January 2010– 31 December 2010) was 0%.

**Greenhouse Gas Emissions (Scope 1 and Scope 2) (kg CO<sub>2</sub>-e / Guest Night) ★**



Greenhouse Gas Emissions (Scope 1 and Scope 2) (kg CO<sub>2</sub>-e / Guest Night) for the year 2010 (1 January 2010– 31 December 2010) was 39.3 kg CO<sub>2</sub>-e / Guest Night, which was 23.9% better than the Best Practice level.

**Greenhouse Gas Emissions Breakdown by Scope (kg CO<sub>2</sub>-e / Guest Night)**



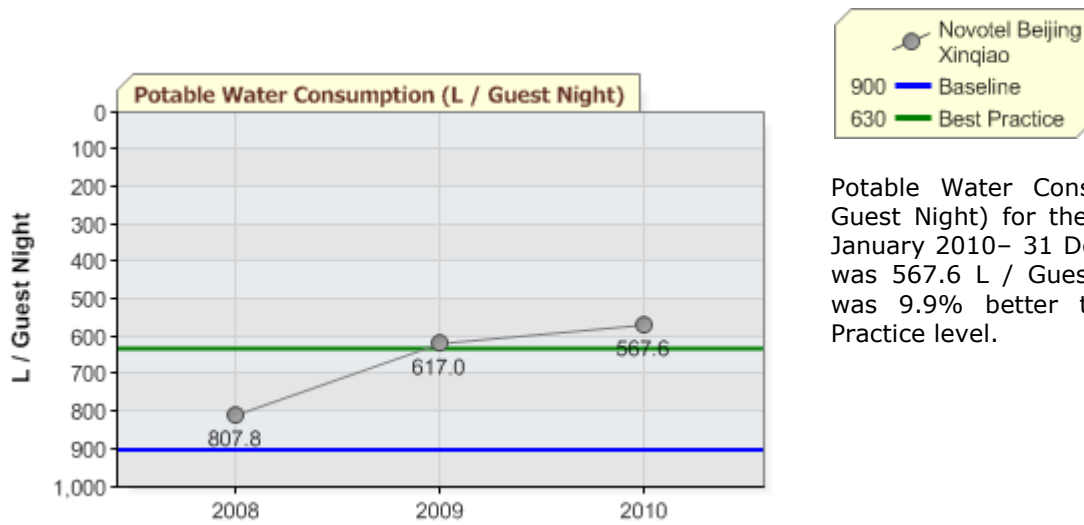
Direct Emissions (Scope 1) (kg CO<sub>2</sub>-e / Guest Night) for the year 2010 (1 January 2010– 31 December 2010) was 21.8 kg CO<sub>2</sub>-e / Guest Night.

Indirect Emissions (Scope 2) (kg CO<sub>2</sub>-e / Guest Night) for the year 2010 (1 January 2010– 31 December 2010) was 17.5 kg CO<sub>2</sub>-e / Guest Night.

<b>Direct Emissions (Scope 1)</b>								
<b>Stationary Fuel Combustion</b>								
Type	Quantity	Unit	Energy Consumption (MJ)	CO <sub>2</sub> Emission Estimate (t CO <sub>2</sub> -e)	CH <sub>4</sub> Emission Estimate (t CO <sub>2</sub> -e)	N <sub>2</sub> O Emission Estimate (t CO <sub>2</sub> -e)	Total Emission Estimate (t CO <sub>2</sub> -e)	
Natural gas	294163	cubic metres (m <sup>3</sup> )	10614718.9	595.5	1.1	0.3	596.9	
Black coal	2304	tonne	61516800.0	6047.1	12.9	28.6	6088.6	
subtotal			72131518.9	6642.6	14.0	28.9	6685.6	
<b>Mobile Fuel Combustion (road)</b>								
Motor gasoline	21810	litres (L)	710434.4	49.2	0.4	1.8	51.4	
Diesel	13904	litres (L)	505799.7	37.5	0.04	0.6	38.1	
subtotal			1216234.1	86.7	0.4	2.4	89.5	
<b>Onsite Wastewater Treatment</b>								
Type	Number of people serviced by system per day	Number of days in use	Fraction removed as sludge	CH <sub>4</sub> recovered or flared (kg)	CO <sub>2</sub> Emission Estimate (t CO <sub>2</sub> -e)	CH <sub>4</sub> Emission Estimate (t CO <sub>2</sub> -e)	N <sub>2</sub> O Emission Estimate (t CO <sub>2</sub> -e)	Total Emission Estimate (t CO <sub>2</sub> -e)
Anaerobic (BOD Unknown)	498	365	0	0		73.3		73.3
subtotal						73.3		73.3
<b>TOTAL</b>			<b>73347753.0</b>	<b>6729.3</b>	<b>87.7</b>	<b>31.3</b>	<b>6848.3</b>	
<b>Indirect Emissions (Scope 2)</b>								
<b>Purchased Electricity</b>								
Quantity	Unit	% Green Power	Provider	Energy Consumption (MJ)	CO <sub>2</sub> Emission Estimate (t CO <sub>2</sub> -e)	CH <sub>4</sub> Emission Estimate (t CO <sub>2</sub> -e)	N <sub>2</sub> O Emission Estimate (t CO <sub>2</sub> -e)	Total Emission Estimate (t CO <sub>2</sub> -e)
6914400	Kilowatt hour (kWh)	0	China	24891840.0	5447.8	2.1	39.5	5489.4
subtotal				24891840.0	5447.8	2.1	39.5	5489.4
<b>TOTAL</b>			<b>24891840.0</b>	<b>5447.8</b>	<b>2.1</b>	<b>39.5</b>	<b>5489.4</b>	
<b>Greenhouse Gas Emissions (Scope 1 and Scope 2)</b>								
<b>GRAND TOTAL</b>			<b>98239593.0</b>	<b>12177.1</b>	<b>89.9</b>	<b>70.8</b>	<b>12337.7</b>	

### 3. Water

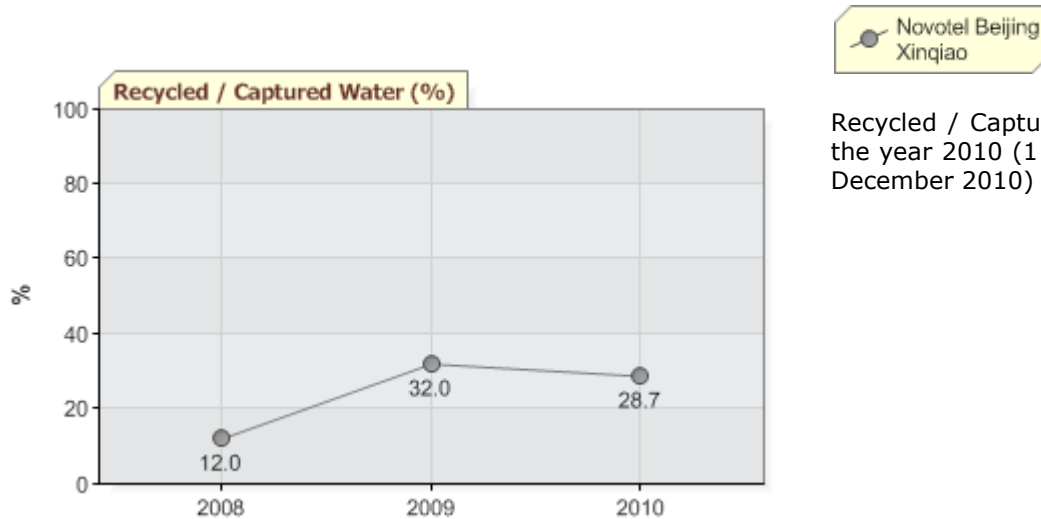
#### Potable Water Consumption (L / Guest Night) ★



Potable Water Consumption (L / Guest Night) for the year 2010 (1 January 2010– 31 December 2010) was 567.6 L / Guest Night, which was 9.9% better than the Best Practice level.

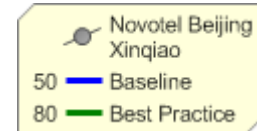
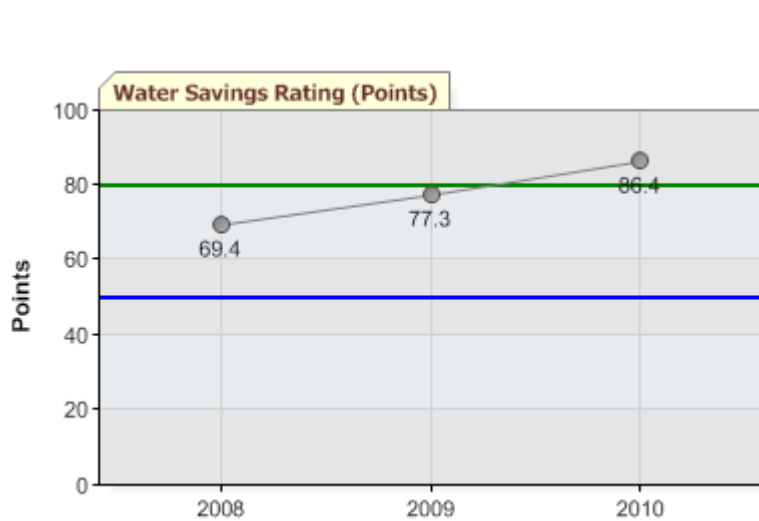
Quantity	Unit	Potable Water Consumption (kL)
178249	cubic metres	178249.0 kL
	<b>Totals:</b>	<b>178249.0 kL</b>

#### Recycled / Captured Water (%)



Recycled / Captured Water (%) for the year 2010 (1 January 2010– 31 December 2010) was 28.7%.

## Water Savings Rating (Points) ★

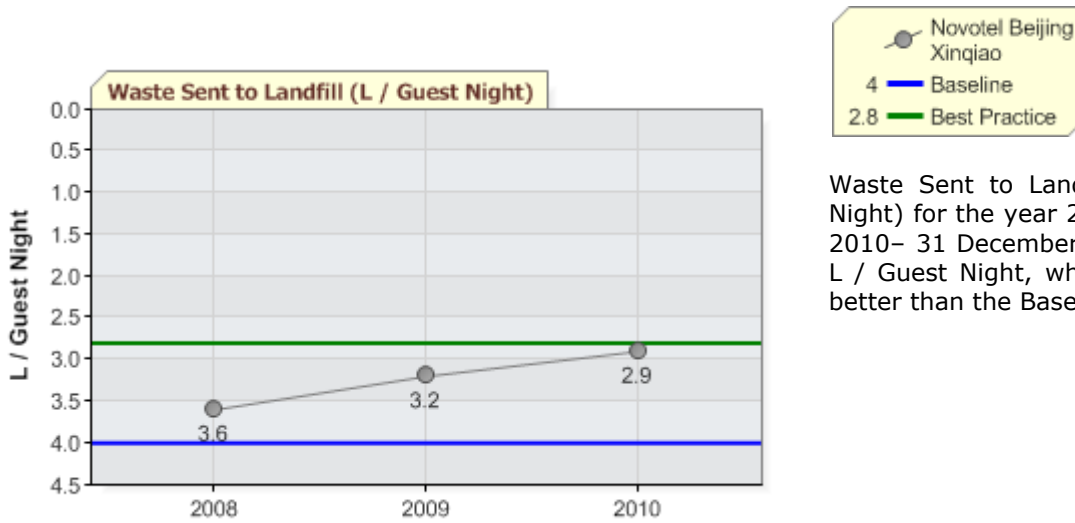


Water Savings Rating (Points) for the year 2010 (1 January 2010– 31 December 2010) was 86.4 Points, which was 6.4 Points better than the Best Practice level.

Water Savings Measures	Frequency / Percentage Rating	Water Savings Rating (Points)
Check for leaks	Every week	100.0 Points
Low/dual flush toilets	40-59%	65.1 Points
Low flow tap fittings	80-99%	88.9 Points
Low flow shower fittings	80-99%	88.9 Points
Water sprinklers used after dark	80-99%	88.9 Points
Minimal irrigation landscaping	Not Relevant / Not Available	-
Use of recycle/grey/rain water	Not Relevant / Not Available	-
	<b>Overall Rating:</b>	<b>86.4 Points</b>

## 4. Waste

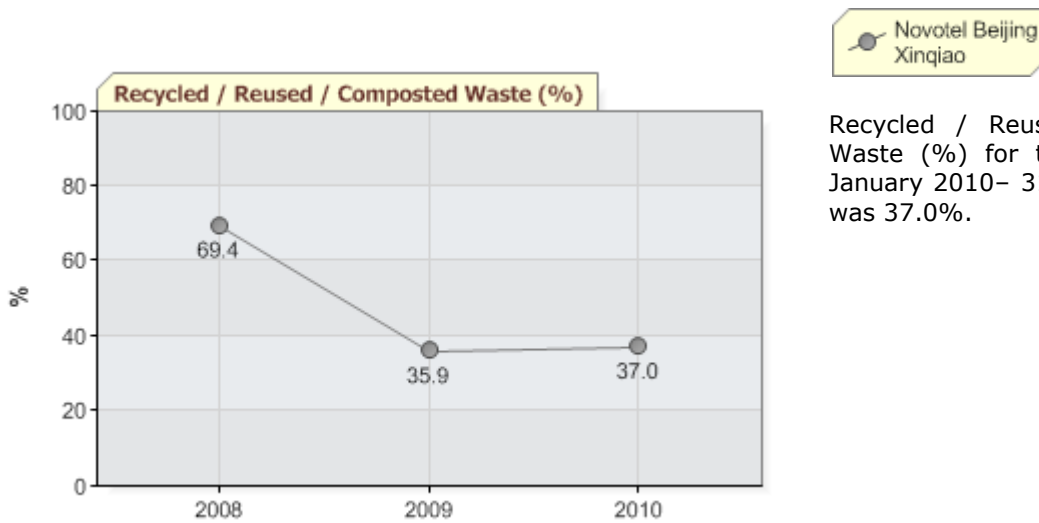
### Waste Sent to Landfill (L / Guest Night) ✓



Waste Sent to Landfill (L / Guest Night) for the year 2010 (1 January 2010– 31 December 2010) was 2.9 L / Guest Night, which was 26.8% better than the Baseline level.

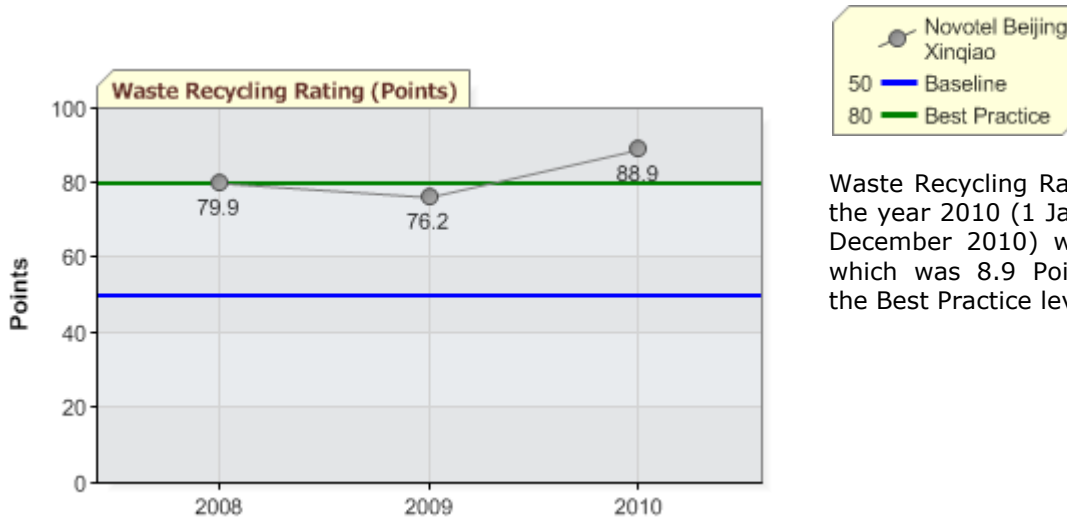
Quantity	Unit	Waste Sent to Landfill (m <sup>3</sup> )
275.91	tonnes (uncompacted)	919.7 m <sup>3</sup>
	<b>Totals:</b>	<b>919.7 m<sup>3</sup></b>

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



Recycled / Reused / Composted Waste (%) for the year 2010 (1 January 2010– 31 December 2010) was 37.0%.

## Waste Recycling Rating (Points) ★

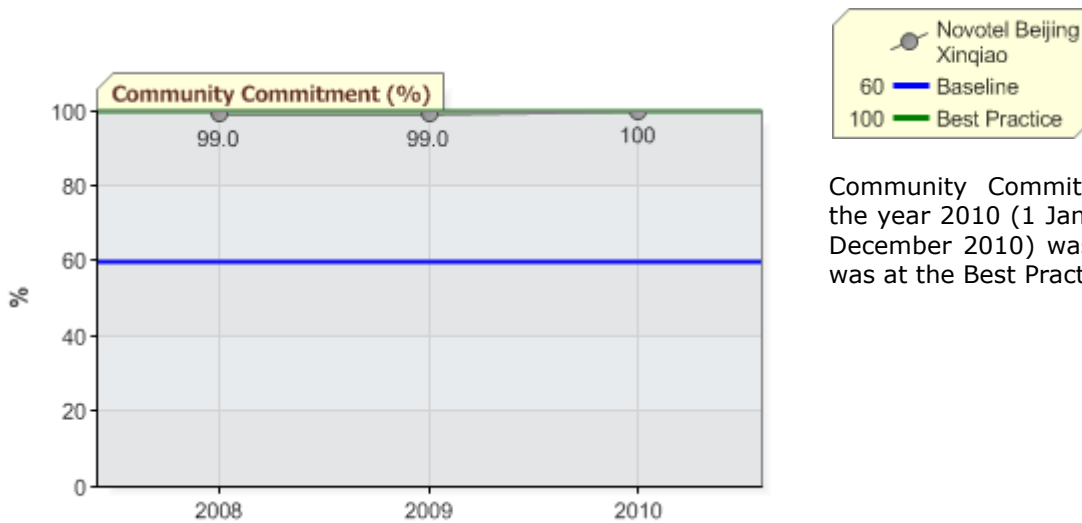


Waste Recycling Rating (Points) for the year 2010 (1 January 2010– 31 December 2010) was 88.9 Points, which was 8.9 Points better than the Best Practice level.

Waste Recycling Measures	Frequency / Percentage Rating	Waste Recycling Rating (Points)
Glass	80-99%	88.9 Points
Paper/card	80-99%	88.9 Points
Iron & steel (ferrous metals)	80-99%	88.9 Points
Other metals (non-ferrous)	80-99%	88.9 Points
Plastics	80-99%	88.9 Points
Rubber	80-99%	88.9 Points
Green waste	Not Relevant / Not Available	-
	<b>Overall Rating:</b>	<b>88.9 Points</b>

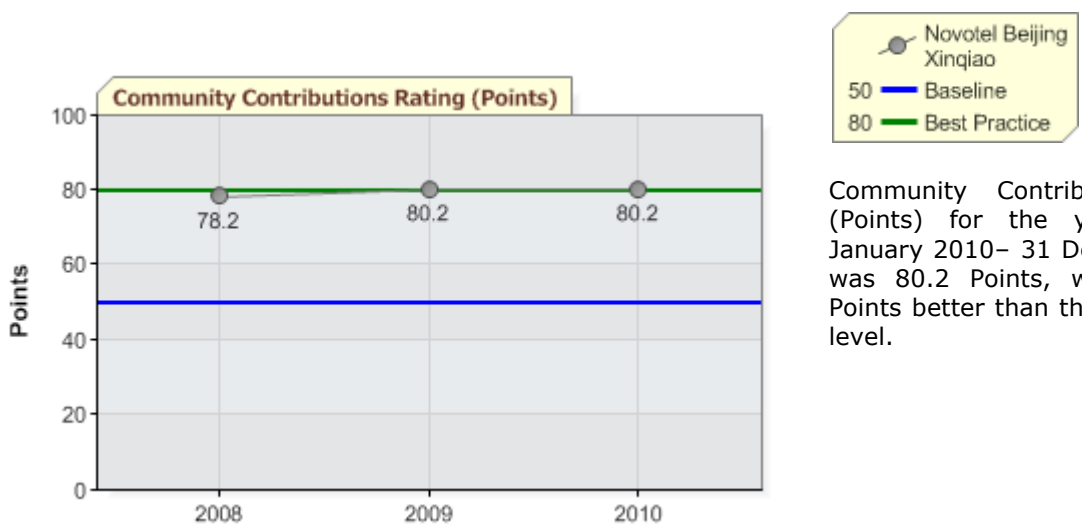
## 5. Community

### Community Commitment (%) ★



Community Commitment (%) for the year 2010 (1 January 2010– 31 December 2010) was 100%, which was at the Best Practice level.

### Community Contributions Rating (Points) ★

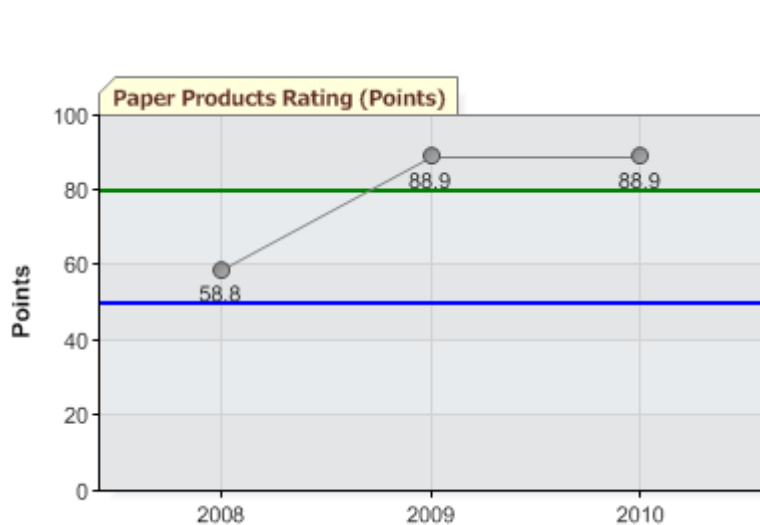


Community Contributions Rating (Points) for the year 2010 (1 January 2010– 31 December 2010) was 80.2 Points, which was 0.2 Points better than the Best Practice level.

Community Contributions Measures	Frequency / Percentage Rating	Community Contributions Rating (Points)
Net income spent on sustainability programs	0.1% - 1.9%	54.0 Points
Perishable purchased goods that are of local origin	80-99%	88.9 Points
Service contracts given to local contractors	80-99%	88.9 Points
Staff received training on sustainability issues	80-99%	88.9 Points
	<b>Overall Rating:</b>	<b>80.2 Points</b>

## 6. Paper

### Paper Products Rating (Points) ★



Paper Products Rating (Points) for the year 2010 (1 January 2010– 31 December 2010) was 88.9 Points, which was 8.9 Points better than the Best Practice level.

Paper Products Measures	Frequency / Percentage Rating	Paper Products Rating (Points)
Office paper	80-99%	88.9 Points
Serviettes	80-99%	88.9 Points
Tissues	80-99%	88.9 Points
Toilet tissue	80-99%	88.9 Points
Paper towels	80-99%	88.9 Points
	<b>Overall Rating:</b>	<b>88.9 Points</b>

## 7. Cleaning

### Cleaning Products Rating (Points) ★

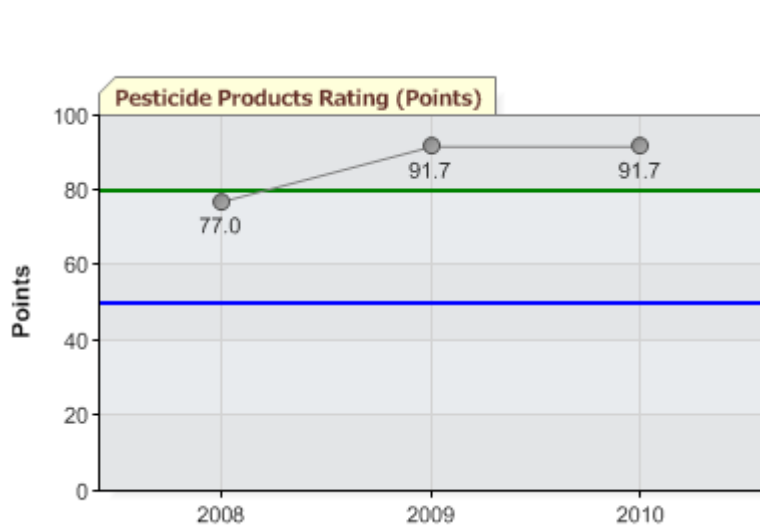


Cleaning Products Rating (Points) for the year 2010 (1 January 2010–31 December 2010) was 90.5 Points, which was 10.5 Points better than the Best Practice level.

Cleaning Products Measures	Frequency / Percentage Rating	Cleaning Products Rating (Points)
Hard floor cleaners	80-99%	88.9 Points
Carpet cleaners	80-99%	88.9 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	Not Relevant / Not Available	100.0 Points
Personal hygiene	80-99%	88.9 Points
	<b>Overall Rating:</b>	<b>90.5 Points</b>

## 8. Pesticides

### Pesticide Products Rating (Points) ★



Pesticide Products Rating (Points) for the year 2010 (1 January 2010–31 December 2010) was 91.7 Points, which was 11.7 Points better than the Best Practice level.

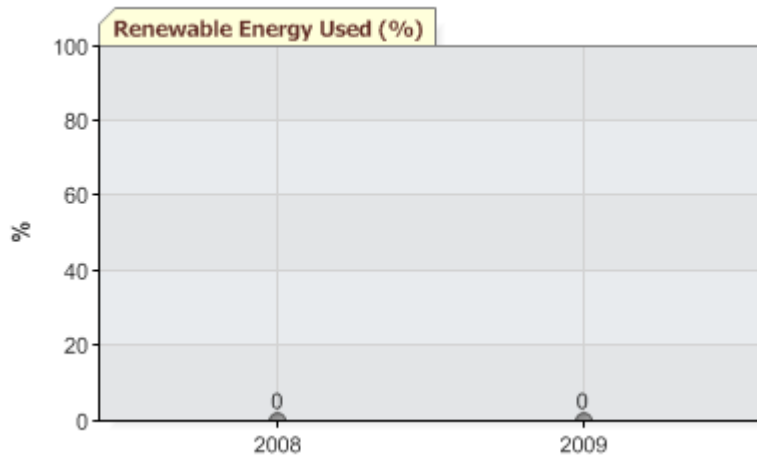
Pesticide Products Measures	Frequency / Percentage Rating	Pesticide Products Rating (Points)
Weed killers	Not Relevant / Not Available	100.0 Points
Fungal killers	80-99%	88.9 Points
Rodent killers	80-99%	88.9 Points
Insect killers	80-99%	88.9 Points
	<b>Overall Rating:</b>	<b>91.7 Points</b>

# HISTORIC BENCHMARKING INDICATORS

## 1. Renewable Energy

Renewable Energy % is no longer a supplementary indicator; it is included here for historical reference.

### Renewable Energy Used (%)



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

## CONCLUSION AND RECOMMENDATIONS

Congratulations, **Novotel Beijing Xinqiao** has passed the requirements to be recognised as an EarthCheck Benchmarked Accommodation - Business Hotel.

In addition to having a Sustainability Policy in place, eleven of the assessed EarthCheck indicators are at or above the Baseline level. From the benchmarking data provided, ten indicators, *Energy Consumption, Greenhouse Gas Emissions (Scope 1 and Scope 2), Potable Water Consumption, Water Savings Rating, Waste Recycling Rating, Community Commitment, Community Contributions Rating, Paper Products Rating, Cleaning Products Rating* and *Pesticide Products Rating*, are at or above the Best Practice level, which is an achievement to be very highly 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 **Novotel Beijing Xinqiao** has demonstrated to the environment, the assessors are confident that they can maintain or improve performance, where appropriate and practical, in all indicators. In line with EarthCheck Policy this would enable the **Novotel Beijing Xinqiao** to continue to meet the benchmarking requirements of the EarthCheck program.

## APPENDIX

### BENCHMARKING POLICY

A member benchmarking for the 3rd time is not permitted to fall below Baseline in any EarthCheck™ indicators (excluding supplementary EarthCheck™ indicators), however, one (1) EarthCheck™ indicator may be within 10% of the Baseline level. **A member benchmarking for the 4th time (and subsequent assessments) is not permitted to fail any EarthCheck™ indicators (excluding supplementary EarthCheck™ indicators).**

### SUBMISSION COMMENTS

The following comments were provided at time of submission:

*"The energy and water consumption had been controlled very well. The Engineering department had taken some action to use more energy saving bulbs in public area and monitoring the leakage of water in all guest rooms (WC tanks). The Novotel Team is committed to the EarthCheck policy and a sustainable environment."*

### ENERGY CONSUMPTION

The Benchmarking Assessors sought clarification regarding *Energy Consumption* as the sources submitted (below) were different from those of the previous assessment.

#### Stationary Fuel Combustion

Fuel Type	Quantity	Unit	Energy Consumption (MJ)	Total Emission Estimate (t)
Natural Gas	294 163	Cubic metres	1 0614 718.9	596.9

#### Mobile Fuel Combustion (road)

Fuel Type	Quantity	Unit	Energy Consumption (MJ)	Total Emission Estimate (t)
Motor Gasoline	21 810	Litres	710 434.4	51.4
Diesel	13 904	Litres	505 799.7	38.1

#### Onsite Wastewater Treatment

Type	Number of people serviced by system per day	Number of days in use	Fraction removed as sludge	CH4 recovered or flared (kg)	Total Emission Estimate (t)
Anaerobic (BOD Unknown)	498	365	0	0	73.3

#### Purchased Electricity

Quantity	Unit	% Green Power	Provider	Energy Consumption (MJ)	Total Emission Estimate (t)
6 914 400	kWh	0	China	24 891 840.0	5 489.4

These sources produced a total of 36 722 793 MJ which equates to 116.9 MJ per Guest Night.

Total *Greenhouse Gas Emissions (Scope 1 and Scope 2)* was 6 249 081.8 kg which equates to 19.9 kg per Guest Night.

The **Novotel Beijing Xinqiao** advised:

*"Thanks for your support, I checked and find there is error in data, Please find as below data for 2010"*

*"Coal: 2304 Tone, we are using for staff dormitory."*

Therefore the Benchmarking Assessors have updated the total *Energy Consumption* to:

#### Stationary Fuel Combustion

Fuel Type	Quantity	Unit	Energy Consumption (MJ)	Total Emission Estimate (t)
Natural Gas	294 163	Cubic metres	1 0614 718.9	596.9
Black Coal	2 304	Tone	6 1516 800.0	6 047.1

#### Mobile Fuel Combustion (road)

Fuel Type	Quantity	Unit	Energy Consumption (MJ)	Total Emission Estimate (t)
Motor Gasoline	21 810	Litres	710 434.4	51.4
Diesel	13 904	Litres	505 799.7	38.1

#### Onsite Wastewater Treatment

Type	Number of people serviced by system per day	Number of days in use	Fraction removed as sludge	CH4 recovered or flared (kg)	Total Emission Estimate (t)
Anaerobic (BOD Unknown)	498	365	0	0	73.3

#### Purchased Electricity

Quantity	Unit	% Green Power	Provider	Energy Consumption (MJ)	Total Emission Estimate (t)
6 914 400	kWh	0	China	24 891 840.0	5 489.4

These sources produced a total of 98 239 593.0 MJ which equates to 312.8 MJ per Guest Night. Total *Greenhouse Gas Emissions (Scope 1 and Scope 2)* was 12 337 707.1 kg which equates to 39.3 kg per Guest Night.

### POTABLE WATER CONSUMPTION

The Benchmarking Assessors sought clarification regarding *Potable Water Consumption* as the submitted figure (below) was significantly less than the previous assessment.

Quantity	Unit	Potable Water Consumption (kL)
89 896	cubic metres	89 896.0 kL
	<b>Totals:</b>	<b>89 896.0 kL</b>

This equated to 286.2 L per Guest Night.

The **Novotel Beijing Xinqiao** advised:

*"Thanks for your support, I checked and find there is error in data, Please find as below data for 2010"*

*"Portable Water:  
Cold Water: 89896 Cubic meters  
Hot Water: 88353 Cubic meters  
Total: 178249 Cubic meters"*

The Benchmarking Assessors have updated the total *Potable Water Consumption* to:

Quantity	Unit	Potable Water Consumption (kL)
178 249	cubic metres	178 249.0 kL
	<b>Totals:</b>	<b>178 249.0 kL</b>

This equates to 567.6 L per Guest Night.

### WATER SAVING RATING

It has been noted by the Benchmarking Assessors that '*recycled / grey / rain water*' has been selected as 'Not Relevant / Not Available'. To minimize potable water consumption, it is recommended that recycled, grey or captured water is used for purposes where appropriate (for example; watering of gardens and / or landscapes and using non-hazardous rain water and/or grey water for washing exterior surfaces).

It is recommended that for future assessments, where possible, the **Novotel Beijing Xinqiao** incorporate measures to collate this data.

### WASTE SENT TO LANDFILL

The submitted value of 275.91 tonnes (275 910 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 m<sup>3</sup> or 3.33333 L (i.e. 275 910 kg x 0.00333333 = 919.7 m<sup>3</sup> or 919 700 L). (If the waste is compacted, then the standard conversion is: 1 kg = 0.00153846 m<sup>3</sup> or 1.53846 L).

This equates to 2.9 L per Guest Night.

### WASTE RECYCLING RATING

It has been noted by the Benchmarking Assessors that '*Green Waste*' has been selected as 'Not Relevant / Not Available' as majority of accommodation providers generate green waste either in the form of food waste or garden waste it is recommended that this be verified at time of Certification.



EARTHCHECK

**Benchmarks Assessed by EarthCheck**

# SUMMARY OF SUPPLIED BENCHMARKING DATA

## Activity Measures

Guest Nights	314061
Area Under Roof	61000

## Supplied Benchmarking Data

### Energy

#### Energy Consumption (MJ / Guest Night)

Supplied	98239593.0 MJ
Calculated	312.8 MJ / Guest Night
Baseline	480 MJ / Guest Night
Best Practice	336 MJ / Guest Night
Difference	6.9% better than the Best Practice level

#### Green Power (%)

Supplied	0%
Calculated	0%

#### Greenhouse Gas Emissions (Scope 1 and Scope 2) (kg CO<sub>2</sub>-e / Guest Night)

Supplied	12337707.1 kg CO <sub>2</sub> -e
Calculated	39.3 kg CO <sub>2</sub> -e / Guest Night
Baseline	73.7 kg CO <sub>2</sub> -e / Guest Night
Best Practice	51.59 kg CO <sub>2</sub> -e / Guest Night
Difference	23.9% better than the Best Practice level

#### Direct Emissions (Scope 1) (kg CO<sub>2</sub>-e / Guest Night)

Supplied	6848344.9 kg CO <sub>2</sub> -e
Calculated	21.8 kg CO <sub>2</sub> -e / Guest Night

#### Indirect Emissions (Scope 2) (kg CO<sub>2</sub>-e / Guest Night)

Supplied	5489362.2 kg CO <sub>2</sub> -e
Calculated	17.5 kg CO <sub>2</sub> -e / Guest Night

### Water

#### Potable Water Consumption (L / Guest Night)

Supplied	178249000.0 L
Calculated	567.6 L / Guest Night
Baseline	900 L / Guest Night
Best Practice	630 L / Guest Night
Difference	9.9% better than the Best Practice level

### Water Savings Rating (Points)

Supplied	86.4 Points
Calculated	86.4 Points
Baseline	50 Points
Best Practice	80 Points
Difference	6.4 Points better than the Best Practice level

### Recycled / Captured Water (%)

Supplied	28.7%
Calculated	28.7%

### Waste

#### Waste Sent to Landfill (L / Guest Night)

Supplied	919700.0 L
Calculated	2.9 L / Guest Night
Baseline	4 L / Guest Night
Best Practice	2.8 L / Guest Night
Difference	26.8% better than the Baseline level

#### Waste Recycling Rating (Points)

Supplied	88.9 Points
Calculated	88.9 Points
Baseline	50 Points
Best Practice	80 Points
Difference	8.9 Points better than the Best Practice level

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

Supplied	37.0%
Calculated	37.0%

### Community

#### Community Commitment (%)

Supplied	100%
Calculated	100%
Baseline	60 %
Best Practice	100 %
Difference	at the Best Practice level

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## **Community Contributions Rating (Points)**

Supplied	80.2 Points
Calculated	80.2 Points
Baseline	50 Points
Best Practice	80 Points
Difference	0.2 Points better than the Best Practice level

## **Paper**

### **Paper Products Rating (Points)**

Supplied	88.9 Points
Calculated	88.9 Points
Baseline	50 Points
Best Practice	80 Points
Difference	8.9 Points better than the Best Practice level

## **Cleaning**

### **Cleaning Products Rating (Points)**

Supplied	90.5 Points
Calculated	90.5 Points
Baseline	50 Points
Best Practice	80 Points
Difference	10.5 Points better than the Best Practice level

## **Pesticides**

### **Pesticide Products Rating (Points)**

Supplied	91.7 Points
Calculated	91.7 Points
Baseline	50 Points
Best Practice	80 Points
Difference	11.7 Points 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 (m<sup>3</sup>) or litres (L)). These are: 1 kg (uncompacted waste) = 0.00333333 m<sup>3</sup> or 3.33333 L and 1 kg (compacted waste) = 0.00153846 m<sup>3</sup> or 1.53846 L.

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

### Review of Performance Levels

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

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

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