



EARTHCHECK

BENCHMARKING ASSESSMENT REPORT

ACCOMMODATION - VACATION HOTEL BENCHMARKING

REBAK MARINA RESORT, LANGKAWI
LANGKAWI, MALAYSIA



REPORT DATE: 16 November 2011

Benchmarking Data Collection Period: 1 April 2010 – 31 March 2011

The planet deserves more than half measures

OVERVIEW

This annual assessment of **Rebak Marina Resort, Langkawi** 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 Policy	Policy is produced and in place
2 Energy	Energy Consumption (MJ / Guest Night)
	Green Power (%) ³
	Greenhouse Gas Emissions (Scope 1 and Scope 2) (kg CO ₂ -e / Guest Night)
3 Water	Potable Water Consumption (L / Guest Night)
	Recycled / Captured Water (%) ³
	Water Savings Rating (Points)
4 Waste	Waste Sent to Landfill (L / Guest Night)
	Recycled / Reused / Composted Waste (%) ³
	Waste Recycling Rating (Points)
5 Community	Community Commitment (%)
	Community Contributions Rating (Points)
6 Paper	Paper Products Rating (Points)
7 Cleaning	Cleaning Products Rating (Points)
8 Pesticides	Pesticide Products Rating (Points)

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' 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.

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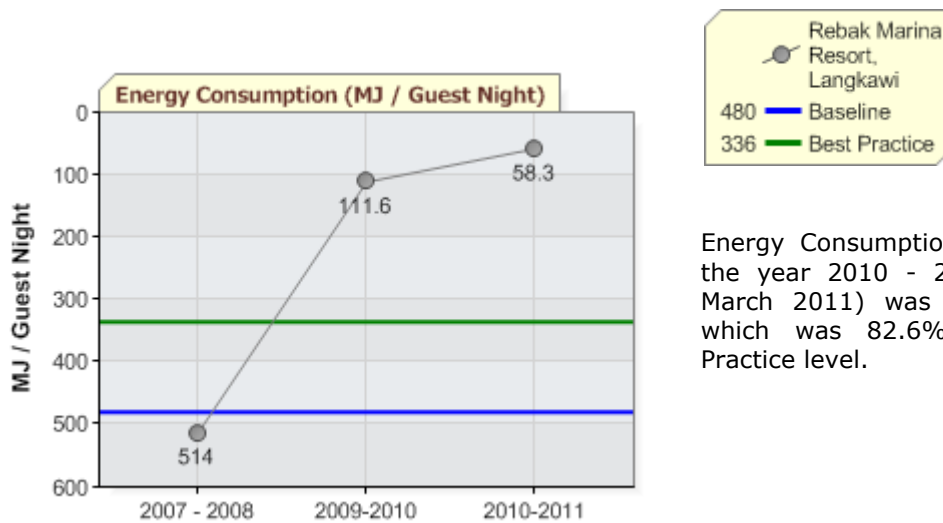
ACCOMMODATION - VACATION HOTEL PERFORMANCE BENCHMARKS

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

1. Policy ★

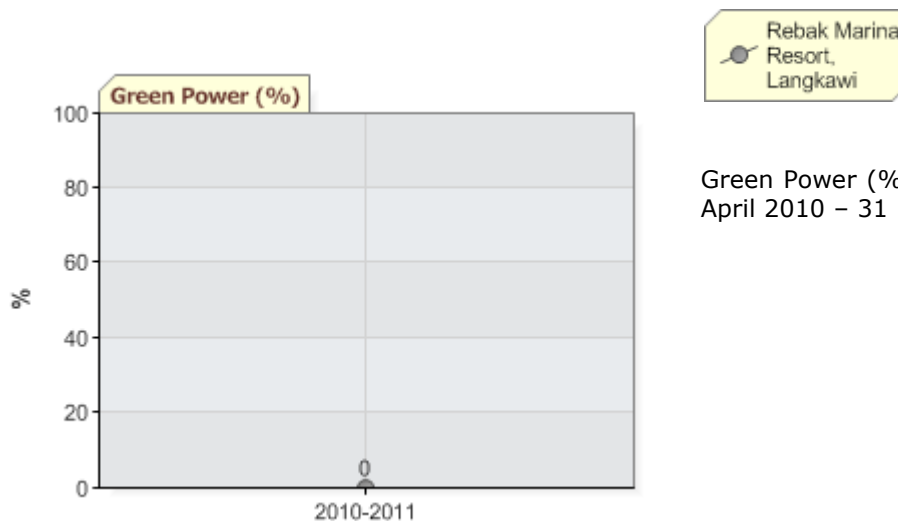
2. Energy

Energy Consumption (MJ / Guest Night) ★



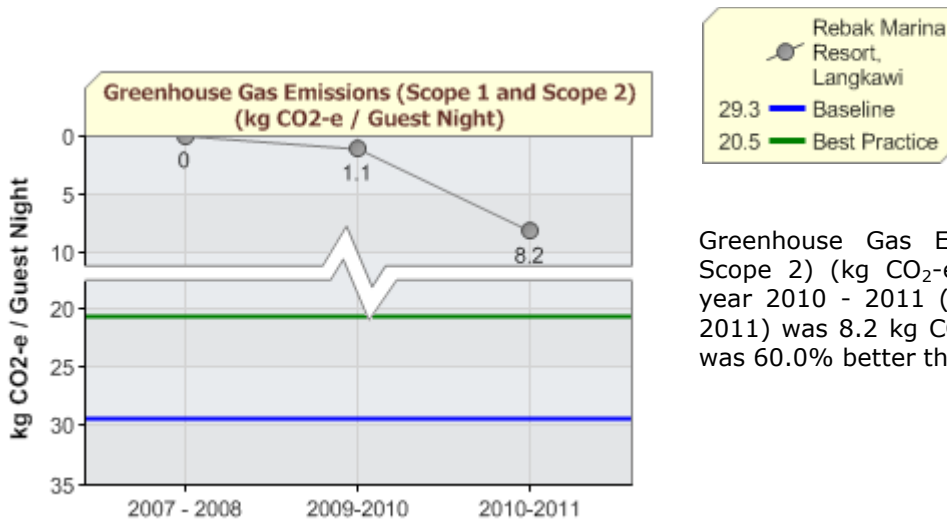
Energy Consumption (MJ / Guest Night) for the year 2010 - 2011 (1 April 2010 - 31 March 2011) was 58.3 MJ / Guest Night, which was 82.6% better than the Best Practice level.

Green Power (%)



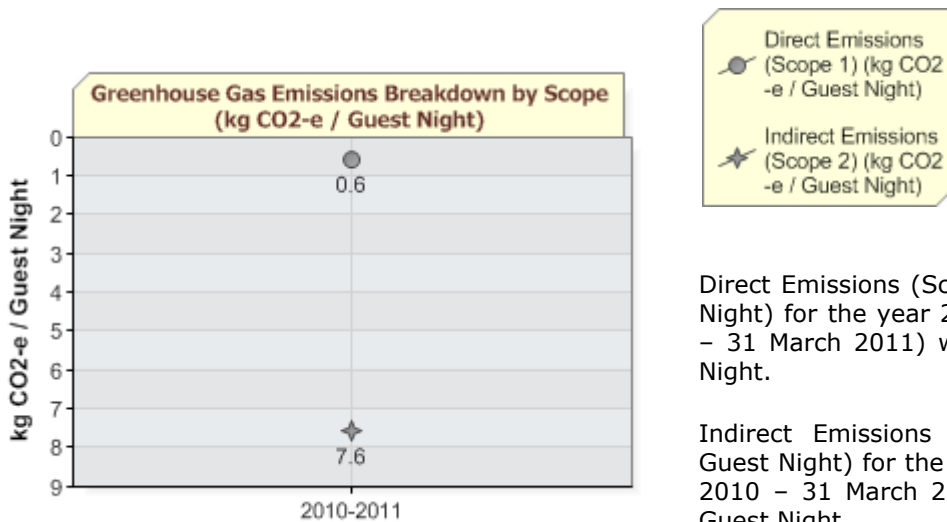
Green Power (%) for the year 2010 - 2011 (1 April 2010 - 31 March 2011) was 0%.

Greenhouse Gas Emissions (Scope 1 and Scope 2) (kg CO₂-e / Guest Night) ★



Greenhouse Gas Emissions (Scope 1 and Scope 2) (kg CO₂-e / Guest Night) for the year 2010 - 2011 (1 April 2010 - 31 March 2011) was 8.2 kg CO₂-e / Guest Night, which was 60.0% better than the Best Practice level.

Greenhouse Gas Emissions Breakdown by Scope (kg CO₂-e / Guest Night)



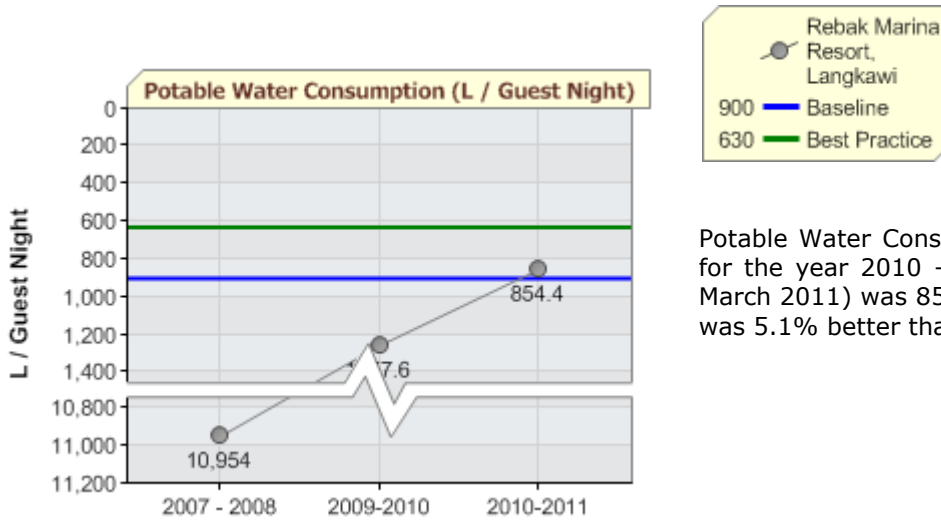
Direct Emissions (Scope 1) (kg CO₂-e / Guest Night) for the year 2010 - 2011 (1 April 2010 - 31 March 2011) was 0.6 kg CO₂-e / Guest Night.

Indirect Emissions (Scope 2) (kg CO₂-e / Guest Night) for the year 2010 - 2011 (1 April 2010 - 31 March 2011) was 7.6 kg CO₂-e / Guest Night.

Direct Emissions (Scope 1)								
Stationary Fuel Combustion								
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)	
LPG	36620	kilograms (kg)	1732126.0	109.3	0.2	0.05	109.5	
subtotal			1732126.0	109.3	0.2	0.05	109.5	
TOTAL			1732126.0	109.3	0.2	0.05	109.5	
Indirect Emissions (Scope 2)								
Purchased Electricity								
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)
2427385	Kilowatt hour (kWh)	0	Malaysia	8738586.0	1352.1	1.0	2.7	1355.8
subtotal				8738586.0	1352.1	1.0	2.7	1355.8
TOTAL				8738586.0	1352.1	1.0	2.7	1355.8
Greenhouse Gas Emissions (Scope 1 and Scope 2)								
GRAND TOTAL				10470712.0	1461.4	1.2	2.8	1465.4

3. Water

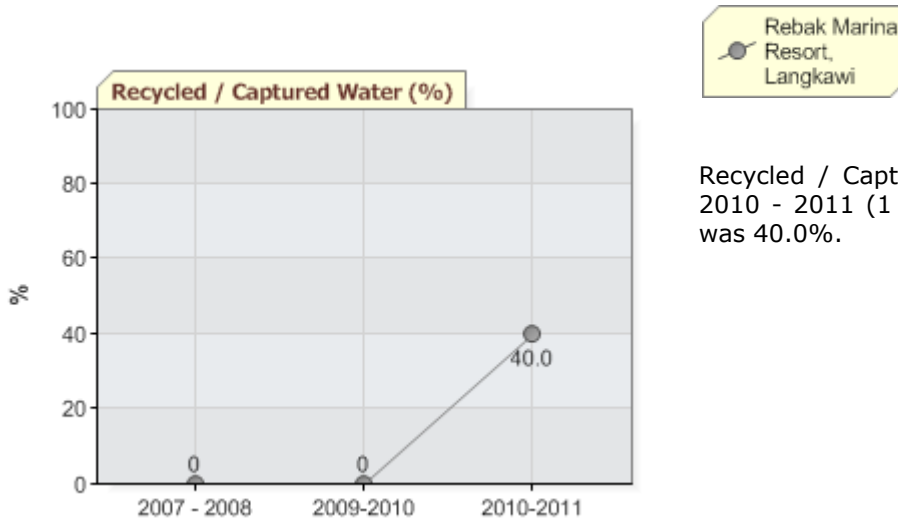
Potable Water Consumption (L / Guest Night) ✓



Potable Water Consumption (L / Guest Night) for the year 2010 - 2011 (1 April 2010 – 31 March 2011) was 854.4 L / Guest Night, which was 5.1% better than the Baseline level.

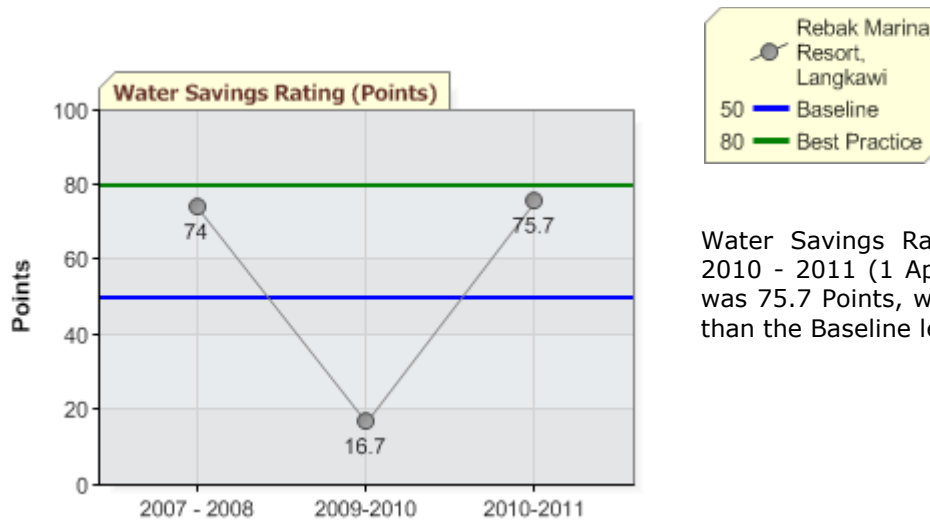
Quantity	Unit	Potable Water Consumption (kL)
153336	cubic metres	153336.0 kL
Totals:		153336.0 kL

Recycled / Captured Water (%)



Recycled / Captured Water (%) for the year 2010 - 2011 (1 April 2010 – 31 March 2011) was 40.0%.

Water Savings Rating (Points) ✓

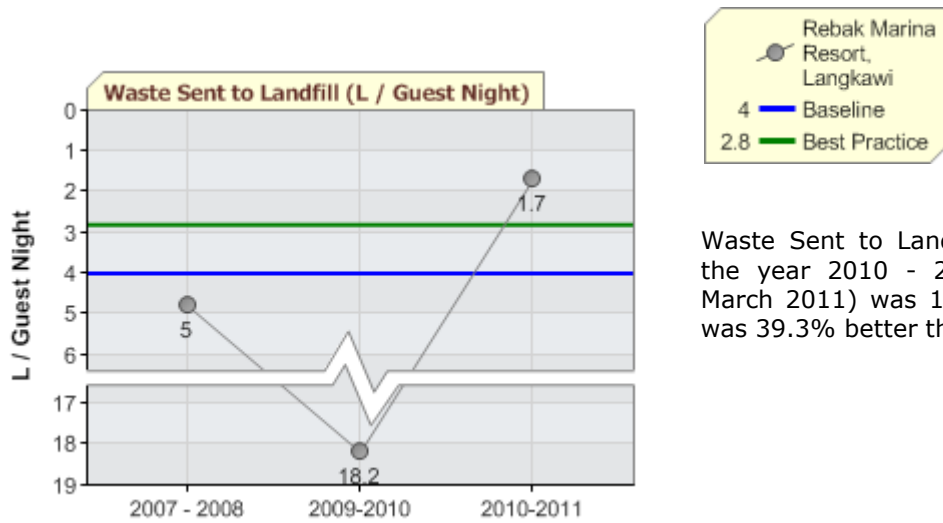


Water Savings Rating (Points) for the year 2010 - 2011 (1 April 2010 - 31 March 2011) was 75.7 Points, which was 25.7 Points better than the Baseline level.

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	40-59%	65.1 Points
Low flow shower fittings	40-59%	65.1 Points
Water sprinklers used after dark	100%	100.0 Points
Minimal irrigation landscaping	Not Relevant / Not Available	
Use of recycle/grey/rain water	20-39%	58.8 Points
	Overall Rating:	75.7 Points

4. Waste

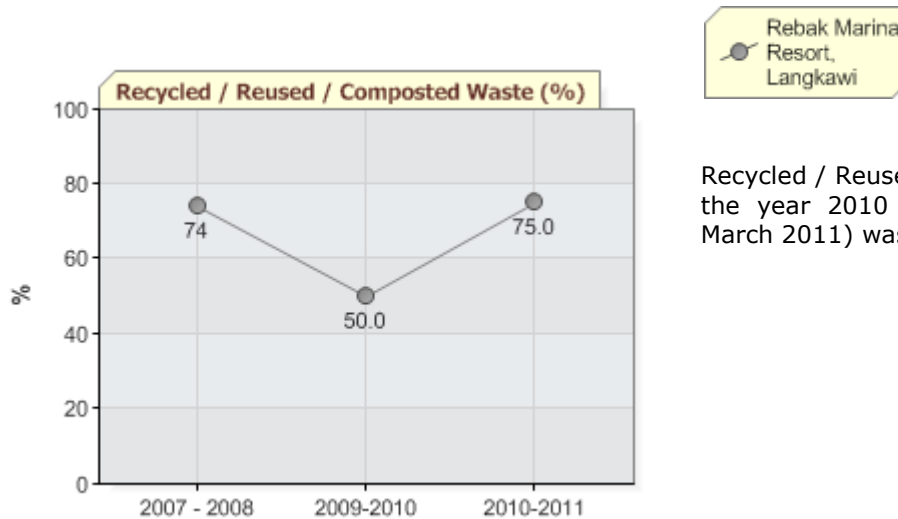
Waste Sent to Landfill (L / Guest Night) ★



Waste Sent to Landfill (L / Guest Night) for the year 2010 - 2011 (1 April 2010 - 31 March 2011) was 1.7 L / Guest Night, which was 39.3% better than the Best Practice level.

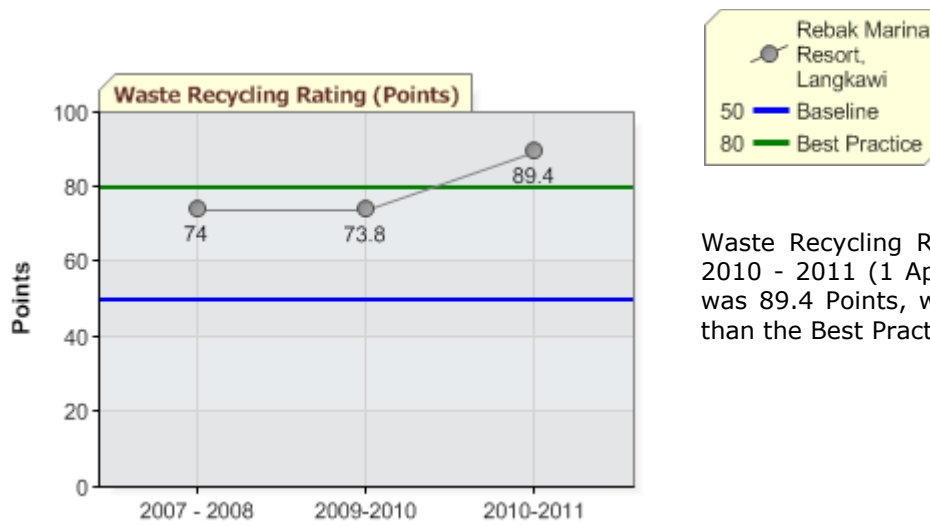
Quantity	Unit	Waste Sent to Landfill (m ³)
90	tonnes (uncompacted)	300.0 m ³
	Totals:	300.0 m³

Recycled / Reused / Composted Waste (%)



Recycled / Reused / Composted Waste (%) for the year 2010 - 2011 (1 April 2010 - 31 March 2011) was 75.0%.

Waste Recycling Rating (Points) ★

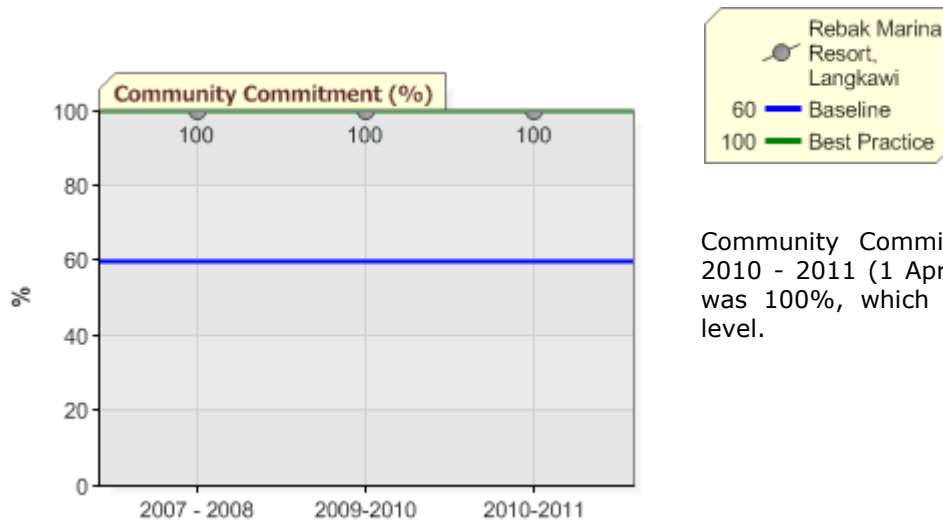


Waste Recycling Rating (Points) for the year 2010 - 2011 (1 April 2010 – 31 March 2011) was 89.4 Points, which was 9.4 Points better than the Best Practice level.

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)	100%	100.0 Points
Other metals (non-ferrous)	100%	100.0 Points
Plastics	60-79%	73.9 Points
Rubber	60-79%	73.9 Points
Green waste	100%	100.0 Points
	Overall Rating:	89.4 Points

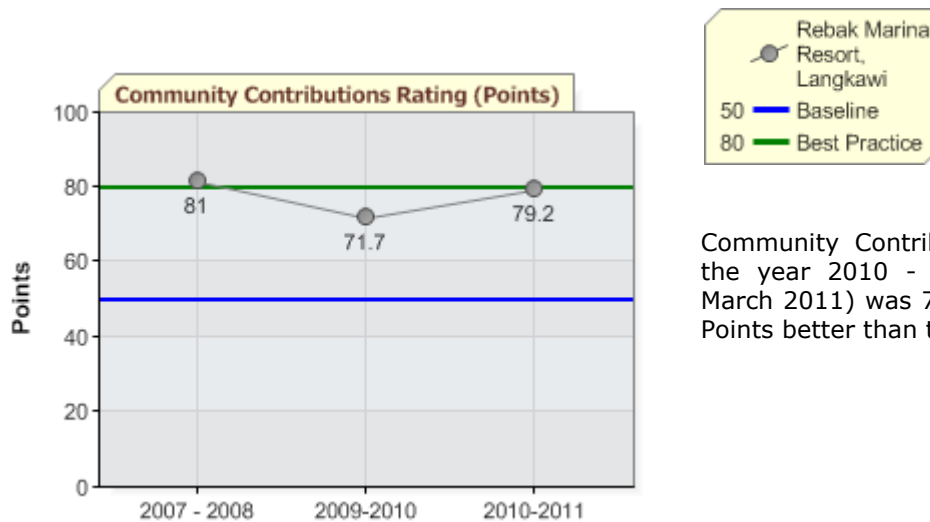
5. Community

Community Commitment (%) ★



Community Commitment (%) for the year 2010 - 2011 (1 April 2010 - 31 March 2011) was 100%, which was at the Best Practice level.

Community Contributions Rating (Points) ✓

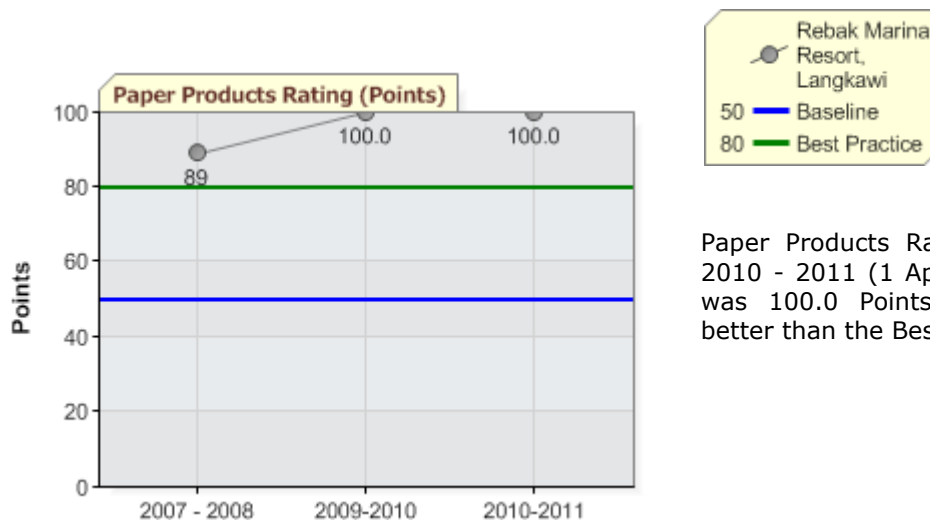


Community Contributions Rating (Points) for the year 2010 - 2011 (1 April 2010 - 31 March 2011) was 79.2 Points, which was 29.2 Points better than the Baseline level.

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	60-79%	73.9 Points
Service contracts given to local contractors	100%	100.0 Points
Staff received training on sustainability issues	80-99%	88.9 Points
	Overall Rating:	79.2 Points

6. Paper

Paper Products Rating (Points) ★

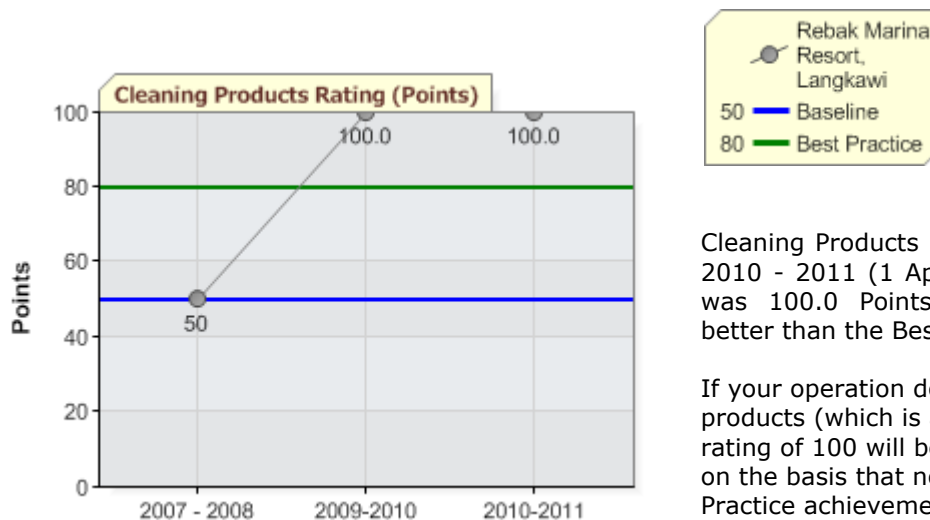


Paper Products Rating (Points) for the year 2010 - 2011 (1 April 2010 – 31 March 2011) was 100.0 Points, which was 20.0 Points better than the Best Practice level.

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

7. Cleaning

Cleaning Products Rating (Points) ★



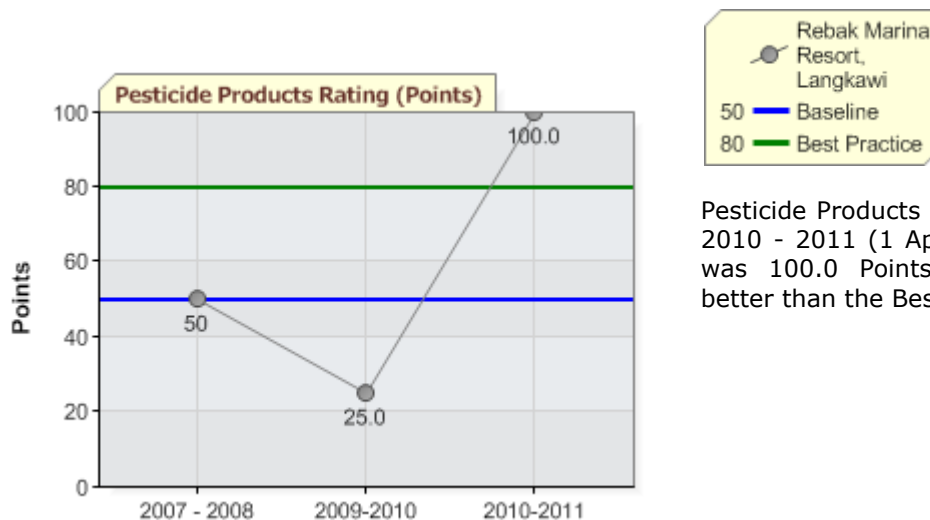
Cleaning Products Rating (Points) for the year 2010 - 2011 (1 April 2010 – 31 March 2011) was 100.0 Points, which was 20.0 Points better than the Best Practice level.

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

Cleaning Products Measures	Frequency / Percentage Rating	Cleaning Products Rating (Points)
Hard floor cleaners	100%	100.0 Points
Carpet cleaners	100%	100.0 Points
Interior surface cleaners	100%	100.0 Points
External surface cleaners	100%	100.0 Points
Glass cleaners	100%	100.0 Points
Detergents	100%	100.0 Points
Personal hygiene	100%	100.0 Points
	Overall Rating:	100.0 Points

8. Pesticides

Pesticide Products Rating (Points) ★



Pesticide Products Rating (Points) for the year 2010 - 2011 (1 April 2010 – 31 March 2011) was 100.0 Points, which was 20.0 Points better than the Best Practice level.

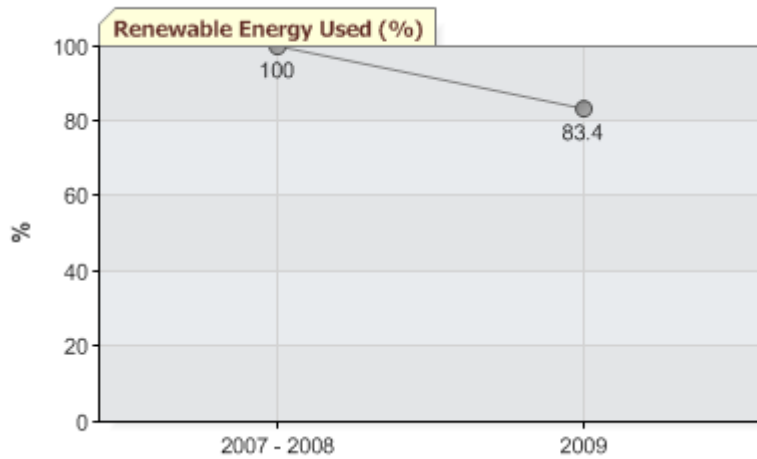
Pesticide Products Measures	Frequency / Percentage Rating	Pesticide Products Rating (Points)
Weed killers	100%	100.0 Points
Fungal killers	Not Relevant / Not Available	100.0 Points
Rodent killers	100%	100.0 Points
Insect killers	100%	100.0 Points
	Overall Rating:	100.0 Points

HISTORIC BENCHMARKING INDICATORS

1. Renewable Energy

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

Renewable Energy Used (%)



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

CONCLUSION AND RECOMMENDATIONS

Congratulations, **Rebak Marina Resort, Langkawi** has passed the requirements to be recognised as an EarthCheck Benchmarked Accommodation - Vacation 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, eight indicators, *Energy Consumption, Greenhouse Gas Emissions (Scope 1 and Scope 2), Waste Sent to Landfill, Waste Recycling Rating, Community Commitment, Paper Products Rating, Cleaning Products Rating* and *Pesticide Products Rating*, are at or above the Best Practice level, which is an excellent 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 **Rebak Marina Resort, Langkawi** has demonstrated to the environment, the assessors are confident that they can maintain their very high standards and remain a leader in environmental performance. In line with EarthCheck Policy this would enable the **Rebak Marina Resort, Langkawi** 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).**

ACTIVITY MEASURE

The Benchmarking Assessors sought clarification with regards to the Guest Night calculation. The **Rebak Marina Resort, Langkawi** advised that;

REBAK MARINA RESORT, LANGKAWI:

ACTIVITY MEASURE:

1. RESORT PAYING GUEST:

Total room occupied	= 15,632 rooms.
Guest night	= 15,632 x 2
	= 31,264

2. RESORT IN HOUSE STAFF:

Total rooms occupied	= 7,300 rooms
Guest night	= 7,300 x 2
	= 14,600

3. STAFF QUARTERS:

Total rooms occupied	= 7,300
Guest night	= 7,300 x 6 (6 pax per room)
	= 43,800

4. YATCHS BERTH IN WET AND DRY DOCK:

Total yachts	= 59,862
Guest night	= 59,862 x 1.5
	= 89,793

TOTAL GUEST NIGHT = 179,457

This remained unchanged.

ENERGY CONSUMPTION

The submitted sources for Energy Consumption are as per below;

Direct Emissions (Scope 1) Stationary Fuel Combustion

Type	Quantity	Unit	Energy Consumption (MJ)
LPG	36620	kilograms (kg)	1732126.0

Indirect Emissions (Scope 2) Purchased Electricity

Quantity	Unit	% Green Power	Provider	Energy Consumption (MJ)
2427385	Kilowatt hour (kWh)	0	Malaysia	8738586.0

These sources produced a total of 8 738 586.0 MJ which equates to 58.3 MJ per Guest Night. Total Greenhouse Gas Emissions (Scope 1 and Scope 2) produced were 1 465.4 kg which equates to 8.2 kg per Guest Night.

As the submitted energy sources were less than expected clarification was sought with the **Rebak Marina Resort, Langkawi**. It was advised that;

'Both figure on LPG consumption and electricity consumption is correct because it was taken from the annual report on total consumption'.

The **Rebak Marina Resort, Langkawi** also verified that no additional energy sources were used. Therefore no changes were made.

WASTE SENT TO LANDFILL

As the submitted value for *Waste Sent to Landfill* was significantly less than the previous assessment clarification was sought. It was later identified that;

'The quantity provided is less than previous year because all green waste was composted on site, all recycle items was sold to recycle collectors and the only wet garbage from kitchen was send out by boat to landfill and the quantity is about 250 Kgs per day'.

Therefore no changes were made

The submitted value of 90 tonnes (90 000 kg) of waste (specified by the operator as uncompacted waste) has been converted into a volume by using the standard conversion of 1 kg (uncompacted waste) = 0.00333333 m³ or 3.33333 L (i.e. 90 000 kg x 0.00333333 = 300 m³ or 300 000 L). (If the waste is compacted, then the standard conversion is: 1 kg = 0.00153846 m³ or 1.53846 L).

This equates to 1.7 L per Guest Night.



EARTHCHECK

Benchmarks Assessed by EarthCheck

SUMMARY OF SUPPLIED BENCHMARKING DATA

Activity Measures

Guest Nights	179457
Area Under Roof	12700

Supplied Benchmarking Data

Energy

Energy Consumption (MJ / Guest Night)

Supplied	10470712.0 MJ
Calculated	58.3 MJ / Guest Night
Baseline	480 MJ / Guest Night
Best Practice	336 MJ / Guest Night
Difference	82.6% better than the Best Practice level

Green Power (%)

Supplied	0%
Calculated	0%

Greenhouse Gas Emissions (Scope 1 and Scope 2) (kg CO₂-e / Guest Night)

Supplied	1465370.7 kg CO ₂ -e
Calculated	8.2 kg CO ₂ -e / Guest Night
Baseline	29.3 kg CO ₂ -e / Guest Night
Best Practice	20.5 kg CO ₂ -e / Guest Night
Difference	60.0% better than the Best Practice level

Direct Emissions (Scope 1) (kg CO₂-e / Guest Night)

Supplied	109532.7 kg CO ₂ -e
Calculated	0.6 kg CO ₂ -e / Guest Night

Indirect Emissions (Scope 2) (kg CO₂-e / Guest Night)

Supplied	1355838.0 kg CO ₂ -e
Calculated	7.6 kg CO ₂ -e / Guest Night

Water

Potable Water Consumption (L / Guest Night)

Supplied	153336000.0 L
Calculated	854.4 L / Guest Night
Baseline	900 L / Guest Night
Best Practice	630 L / Guest Night
Difference	5.1% better than the Baseline level

Recycled / Captured Water (%)

Supplied	40.0%
Calculated	40.0%

Water Savings Rating (Points)

Supplied	75.7 Points
Calculated	75.7 Points
Baseline	50 Points
Best Practice	80 Points
Difference	25.7 Points better than the Baseline level

Waste

Waste Sent to Landfill (L / Guest Night)

Supplied	300000.0 L
Calculated	1.7 L / Guest Night
Baseline	4 L / Guest Night
Best Practice	2.8 L / Guest Night
Difference	39.3% better than the Best Practice level

Recycled / Reused / Composted Waste (%)

Supplied	75.0%
Calculated	75.0%

Waste Recycling Rating (Points)

Supplied	89.4 Points
Calculated	89.4 Points
Baseline	50 Points
Best Practice	80 Points
Difference	9.4 Points better than the Best Practice level

Community

Community Commitment (%)

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

Community Contributions Rating (Points)

Supplied	79.2 Points
Calculated	79.2 Points
Baseline	50 Points
Best Practice	80 Points
Difference	29.2 Points better than 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	100.0 Points
Calculated	100.0 Points
Baseline	50 Points
Best Practice	80 Points
Difference	20.0 Points better than the Best Practice level

Pesticides

Pesticide 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

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).