EARTHCHECK

BENCHMARKING ASSESSMENT REPORT

AIRPORT BENCHMARKING

AUCKLAND INTERNATIONAL AIRPORT
AUCKLAND, NEW ZEALAND

REPORT DATE: 2 November 2011

Benchmarking Data Collection Period: 1 July 2010 – 30 June 2011

The planet deserves more than half measures

OVERVIEW

This annual assessment of **Auckland International Airport** 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 / Square Metre) Green Power (%)[3] Greenhouse Gas Emissions (Scope 1 and Scope 2) (kg CO_2-e / Square Metre)
3 Water	Potable Water Consumption (L / Passenger) Recycled / Captured Water (%)[3] Water Savings Rating (Points)
4 Waste	Waste Sent to Landfill (L / Passenger) 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)
9 Sector Specific	Water Samples Passed (%) Proven Noise Infringements (%)

[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.

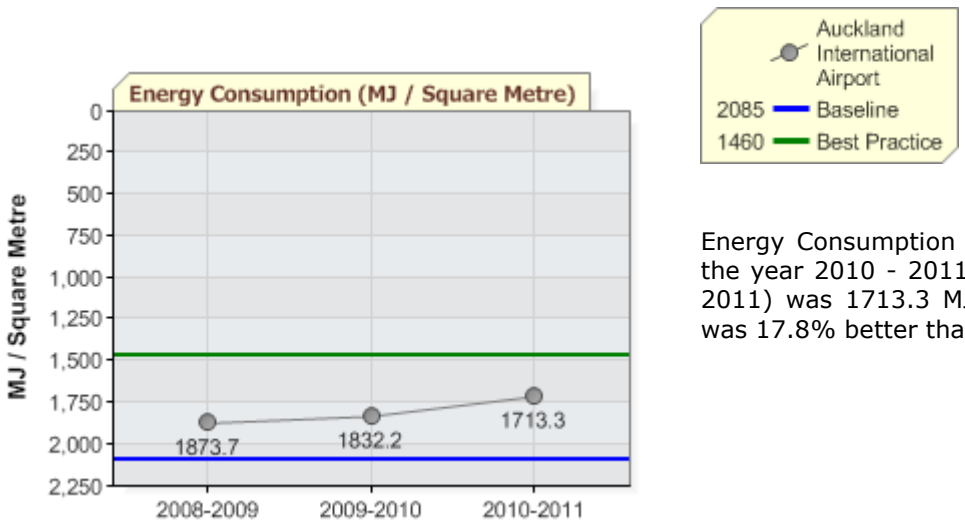
AIRPORT PERFORMANCE BENCHMARKS

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

1. Policy ★

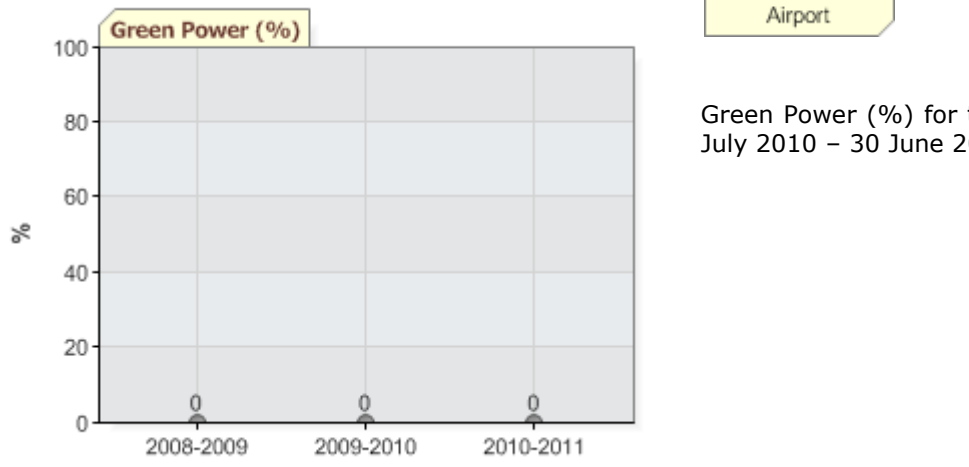
2. Energy

Energy Consumption (MJ / Square Metre) ✓



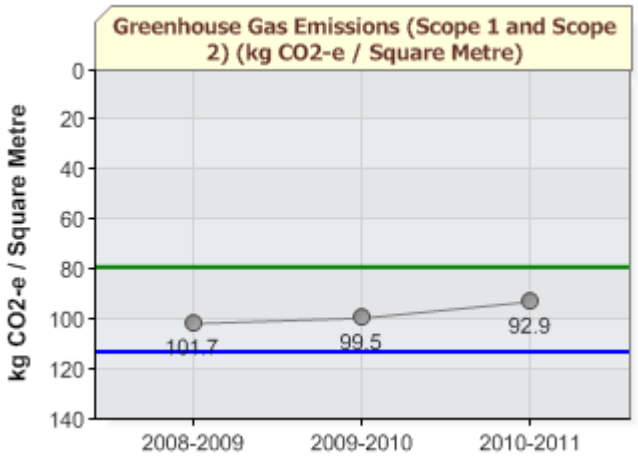
Energy Consumption (MJ / Square Metre) for the year 2010 - 2011 (1 July 2010 – 30 June 2011) was 1713.3 MJ / Square Metre, which was 17.8% better than the Baseline level.

Green Power (%)



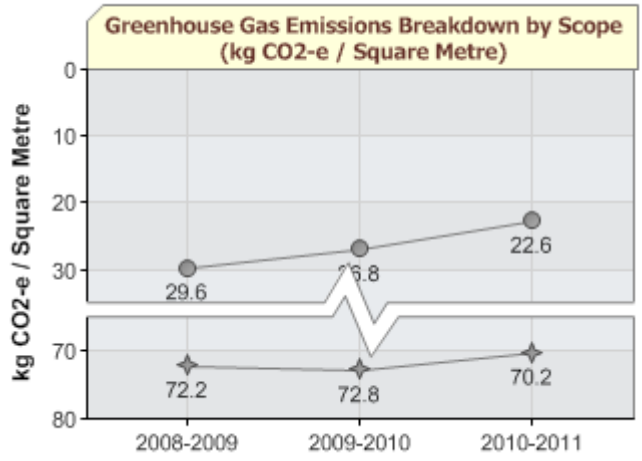
Green Power (%) for the year 2010 - 2011 (1 July 2010 – 30 June 2011) was 0%.

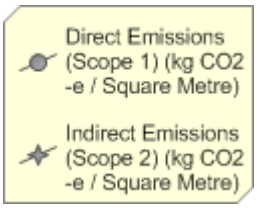
Greenhouse Gas Emissions (Scope 1 and Scope 2) (kg CO_2-e / Square Metre)



Greenhouse Gas Emissions (Scope 1 and Scope 2) (kg CO_2-e / Square Metre) for the year 2010 - 2011 (1 July 2010 – 30 June 2011) was 92.9 kg CO_2-e / Square Metre which was 17.8% better than the Baseline Practice.

Greenhouse Gas Emissions Breakdown by Scope (kg CO_2-e / Square Metre)





Direct Emissions (Scope 1) (kg CO_2-e / Square Metre) for the year 2010 - 2011 (1 July 2010 – 30 June 2011) was 22.6 kg CO_2-e / Square Metre.

Indirect Emissions (Scope 2) (kg CO_2-e / Square Metre) for the year 2010 - 2011 (1 July 2010 – 30 June 2011) was 70.2 kg CO_2-e / Square Metre.

Direct Emissions (Scope 1)

Stationary Fuel Combustion

Type	Quantity	Unit	Energy Consumption (MJ)	CO_2 Emission Estimate (t CO_2-e)	CH4 Emission Estimate (t CO_2-e)	N2O Emission Estimate (t CO_2-e)	Total Emission Estimate (t CO_2-e)
Natural gas	34043584	MJ	34043584.0	1772.6	0.9	0.9	1774.5
Jet Kerosene	34265	litres (L)	1273287.4	86.2	0.05	0.8	87.0
		subtotal	35316871.4	1858.9	1.0	1.7	1861.5

Mobile Fuel Combustion (road)

Diesel	65134	litres (L)	2495283.5	171.4	0.2	2.9	174.5
Motor gasoline	42049	litres (L)	1466248.6	96.3	0.6	0.6	97.6
		subtotal	3961532.2	267.8	0.8	3.5	272.0
		TOTAL	**39278403.6**	**2126.6**	**1.7**	**5.3**	**2133.6**

Indirect Emissions (Scope 2)

Purchased Electricity

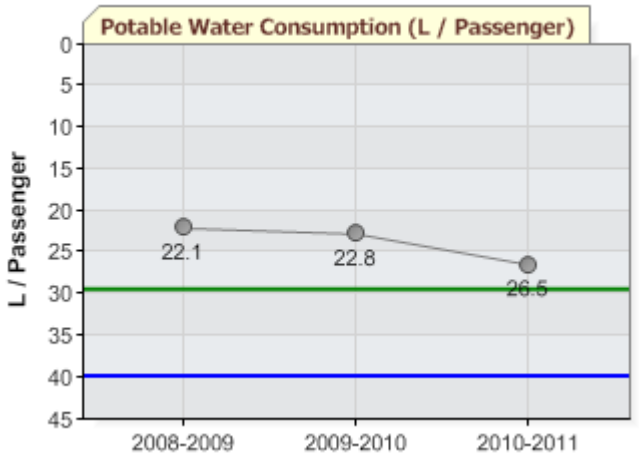
Quantity	Unit	% Green Power	Provider	Energy Consumption (MJ)	CO_2 Emission Estimate (t CO_2-e)	CH4 Emission Estimate (t CO_2-e)	N2O Emission Estimate (t CO_2-e)	Total Emission Estimate (t CO_2-e)
33931046	Kilowatt hour (kWh)	0	New Zealand	122151765.6	-	-	-	6616.6
			subtotal	122151765.6	-	-	-	6616.6
			TOTAL	**122151765.6**	**-**	**-**	**-**	**6616.6**

Greenhouse Gas Emissions (Scope 1 and Scope 2)

GRAND TOTAL	**161430169.2**	**2126.6**	**1.7**	**5.3**	**8750.1**

3. Water

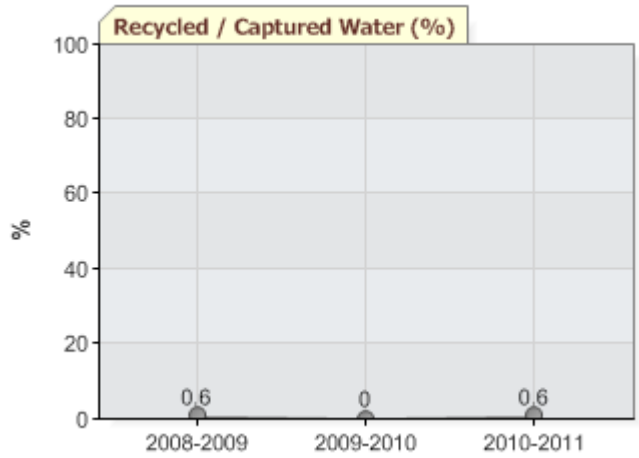
Potable Water Consumption (L / Passenger) ★



Potable Water Consumption (L / Passenger) for the year 2010 - 2011 (1 July 2010 – 30 June 2011) was 26.5 L / Passenger, which was 9.9% better than the Best Practice Level.

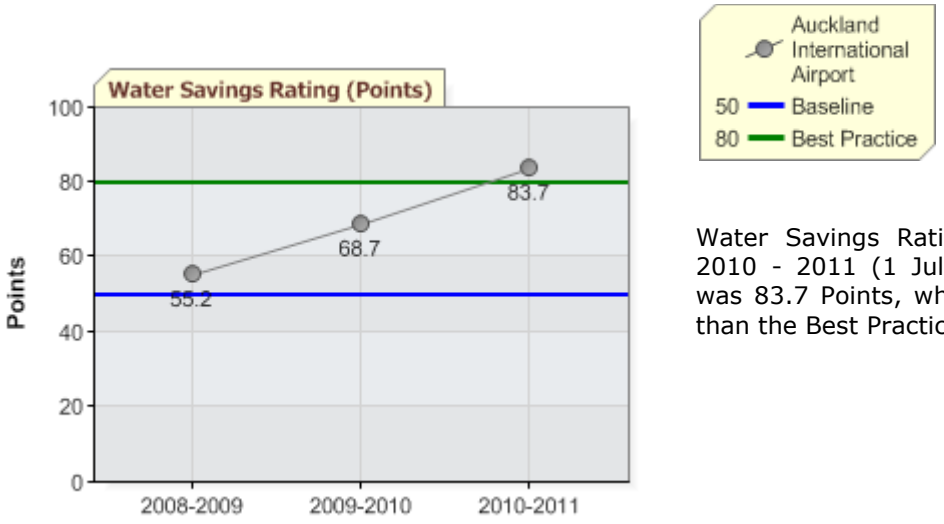
Quantity	Unit	Potable Water Consumption (kL)
205970	cubic metres	205970.0 kL
	Totals:	**205970.0 kL**

Recycled / Captured Water (%)



Recycled / Captured Water (%) for the year 2010 - 2011 (1 July 2010 – 30 June 2011) was 0.6%.

Water Savings Rating (Points) ★

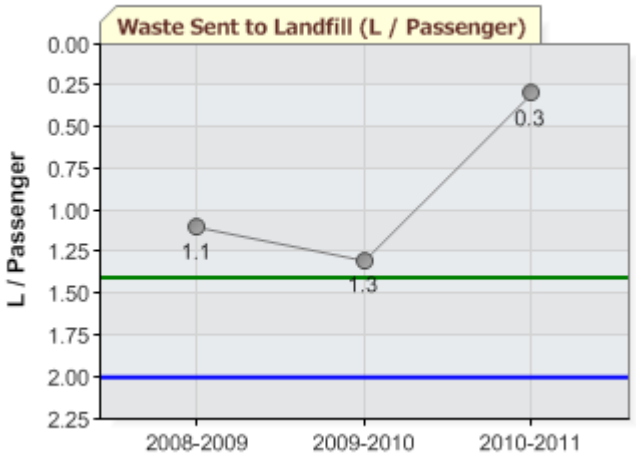


Water Savings Rating (Points) for the year 2010 - 2011 (1 July 2010 – 30 June 2011) was 83.7 Points, which was 3.7 Points better than the Best Practice level.

Water Savings Measures	Frequency / Percentage Rating	Water Savings Rating (Points)
Check for leaks	Once a year	54.0 Points
Low/dual flush toilets	100%	100.0 Points
Low flow tap fittings	100%	100.0 Points
Low flow shower fittings	100%	100.0 Points
Water sprinklers used after dark	80-99%	88.9 Points
Minimal irrigation landscaping	80-99%	88.9 Points
Use of recycle/grey/rain water	1-19%	54.0 Points
	Overall Rating:	**83.7 Points**

4. Waste

Waste Sent to Landfill (L / Passenger)



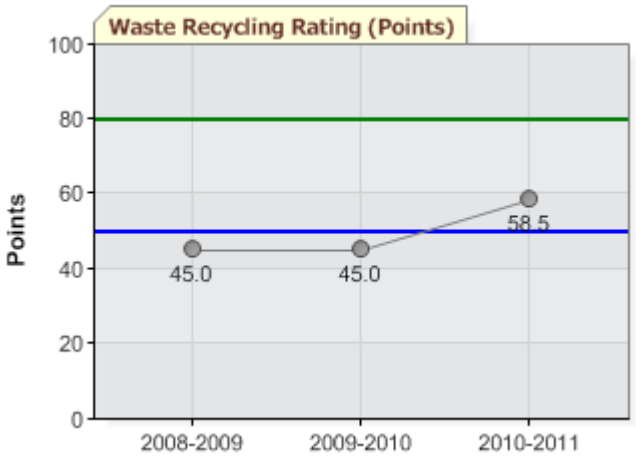
Waste Sent to Landfill (L / Passenger) for the year 2010 - 2011 (1 July 2010 – 30 June 2011) was 0.3 L / Passenger, which was 78.6% better than the Best Practice level.

Quantity	Unit	Waste Sent to Landfill (m^3)
1755.2	tonnes (compacted)	2700.3 m^3
	Totals:	**2700.3 m^3**

Recycled / Reused / Composted Waste (%)

Recycled / Reused / Composted Waste (%) for the year 2010 - 2011 (1 July 2010 – 30 June 2011) was 27.0%.

Waste Recycling Rating (Points)

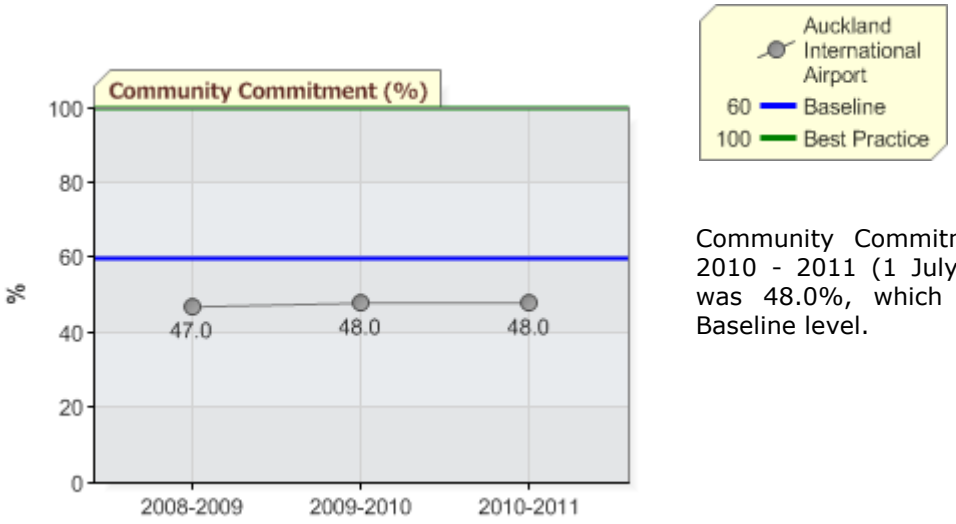


Waste Recycling Rating (Points) for the year 2010 - 2011 (1 July 2010 – 30 June 2011) was 58.5 Points, which was 8.5 Points better than the Baseline level.

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	1-19%	54.0 Points
Rubber	0%	0.0 Points
Green waste	0%	0.0 Points
	Overall Rating:	**58.5 Points**

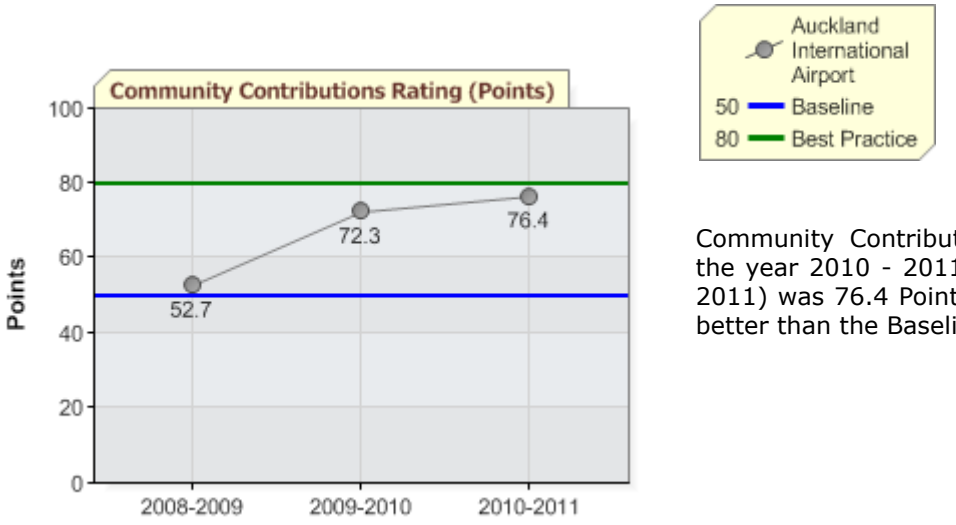
5. Community

Community Commitment (%) ✘



Community Commitment (%) for the year 2010 - 2011 (1 July 2010 – 30 June 2011) was 48.0%, which was 12.0% below the Baseline level.

Community Contributions Rating (Points) ✓

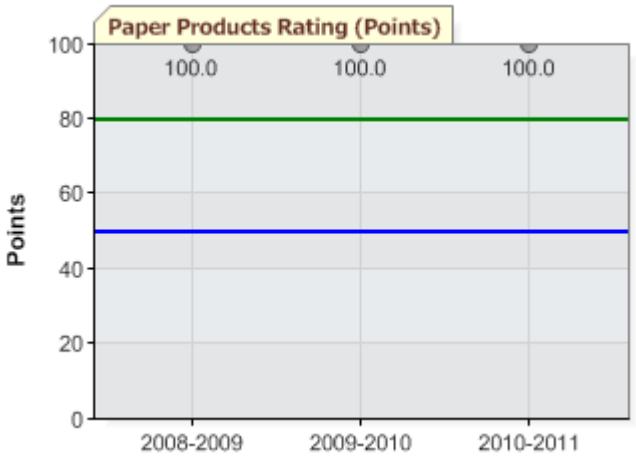


Community Contributions Rating (Points) for the year 2010 - 2011 (1 July 2010 – 30 June 2011) was 76.4 Points, which was 26.4 Points better than the Baseline level.

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	80-99%	88.9 Points
Service contracts given to local contractors	60-79%	73.9 Points
Staff received training on sustainability issues	80-99%	88.9 Points
	Overall Rating:	**76.4 Points**

6. Paper

Paper Products Rating (Points)



Paper Products Rating (Points) for the year 2010 - 2011 (1 July 2010 – 30 June 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	Not Relevant / Not Available	
Tissues	Not Relevant / Not Available	
Toilet tissue	100%	100.0 Points
Paper towels	100%	100.0 Points
	Overall Rating:	**100.0 Points**

7. Cleaning

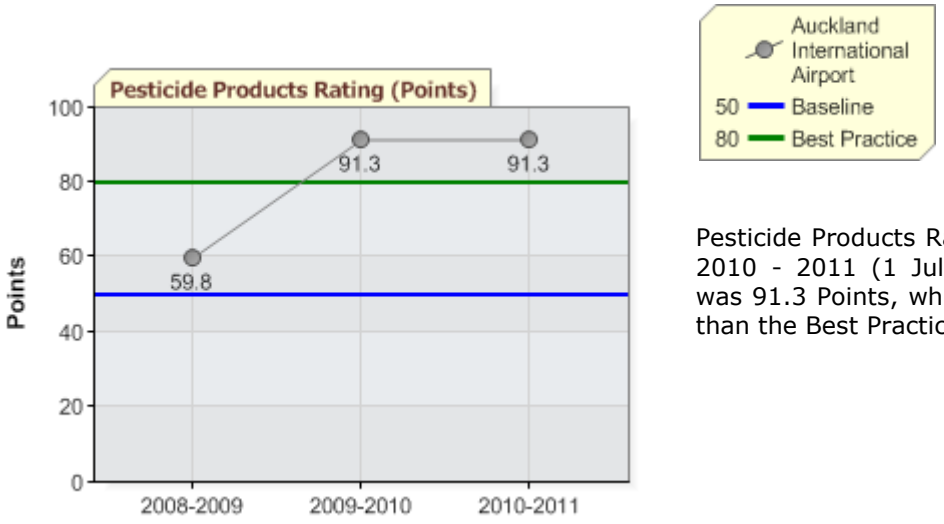
Cleaning Products Rating (Points)

Cleaning Products Rating (Points) for the year 2010 - 2011 (1 July 2010 – 30 June 2011) was 100.0 Points, which was 20.0 Points better than the Best Practice level.

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) ★

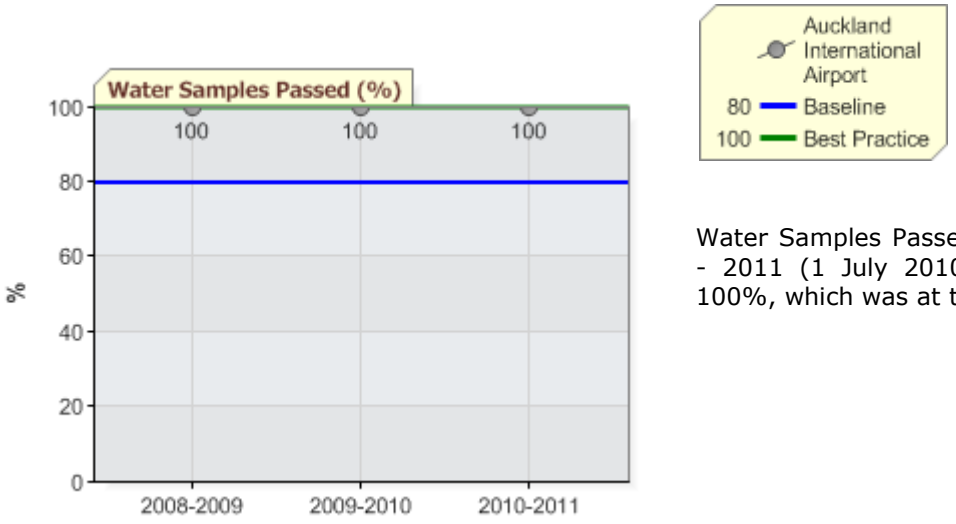


Pesticide Products Rating (Points) for the year 2010 - 2011 (1 July 2010 – 30 June 2011) was 91.3 Points, which was 11.3 Points better than the Best Practice level.

Pesticide Products Measures	Frequency / Percentage Rating	Pesticide Products Rating (Points)
Weed killers	100%	100.0 Points
Fungal killers	100%	100.0 Points
Rodent killers	40-59%	65.1 Points
Insect killers	100%	100.0 Points
	Overall Rating:	**91.3 Points**

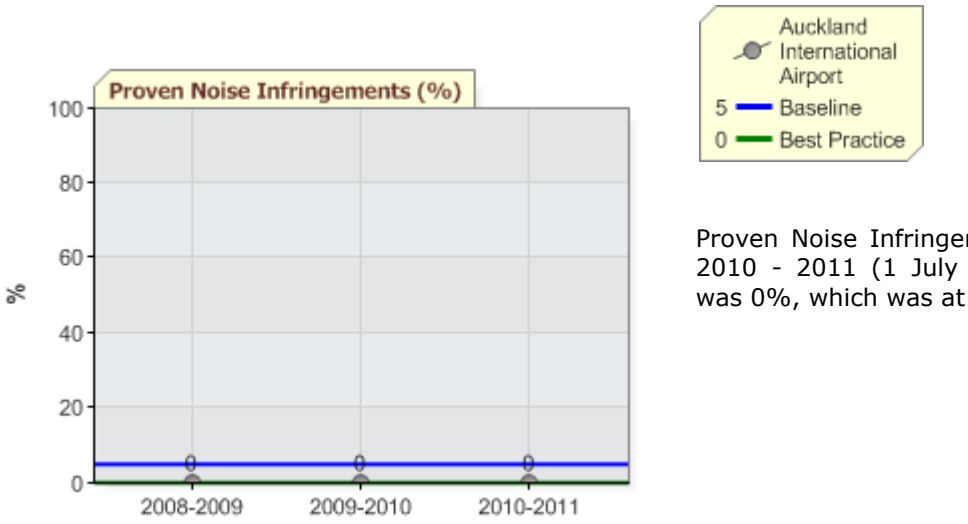
9. Sector Specific

Water Samples Passed (%) ★



Water Samples Passed (%) for the year 2010 - 2011 (1 July 2010 – 30 June 2011) was 100%, which was at the Best Practice level.

Proven Noise Infringements (%) ★



Proven Noise Infringements (%) for the year 2010 - 2011 (1 July 2010 – 30 June 2011) was 0%, which was at the Best Practice level.

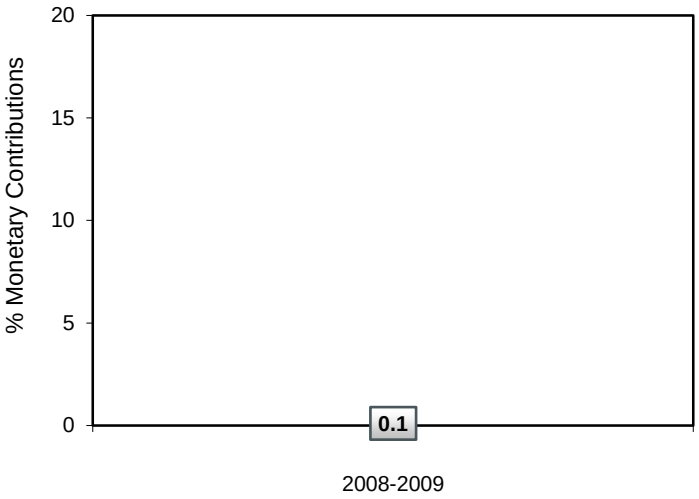
Optional Benchmarking Indicators

The **Auckland International Airport** has also nominated optional Operation Selected and Specified Indicators that they consider relevant to their specific operation and locality. The Operation Selected and Specified Indicators do not form part of the formal annual

1. Selected Indicators

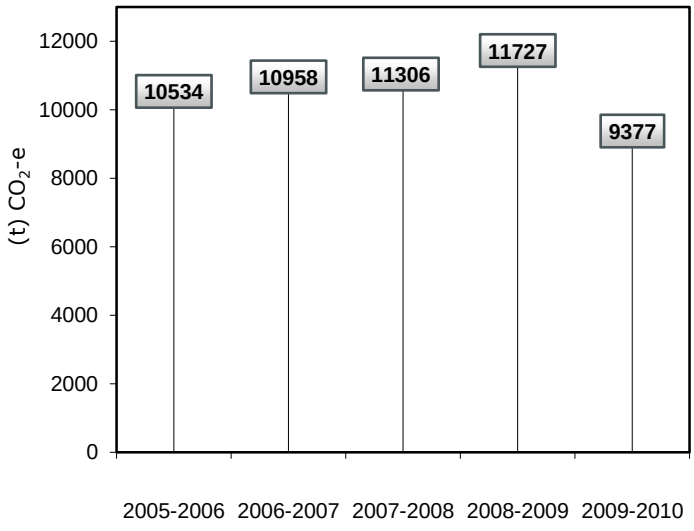
Selected Indicators are from a supplied list of EarthCheck indicators.

Monetary local community activity contributions ($) pa / Net operational turnover ($) pa

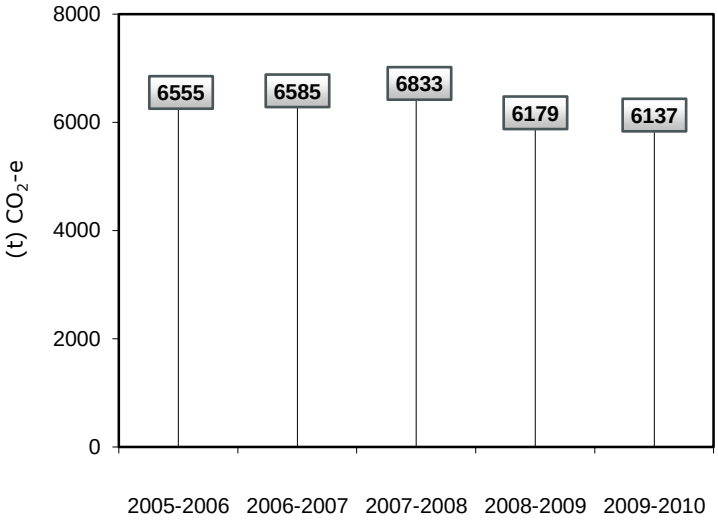


2. Operation Specified

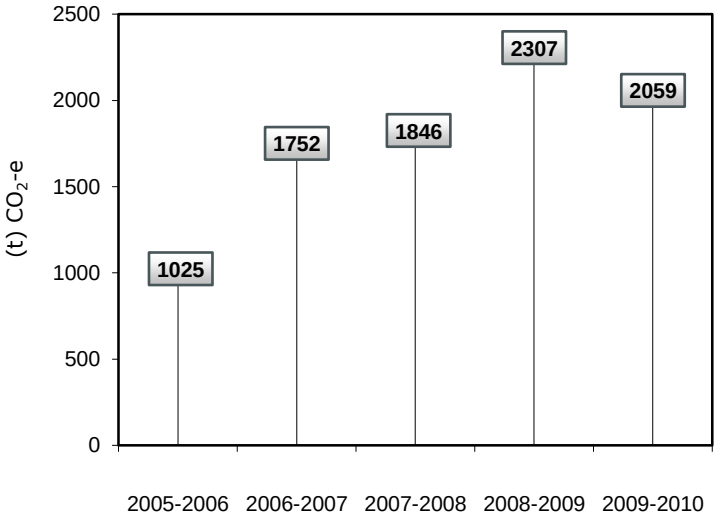
Climate change/energy and fuel efficiency
Total CO_2-e



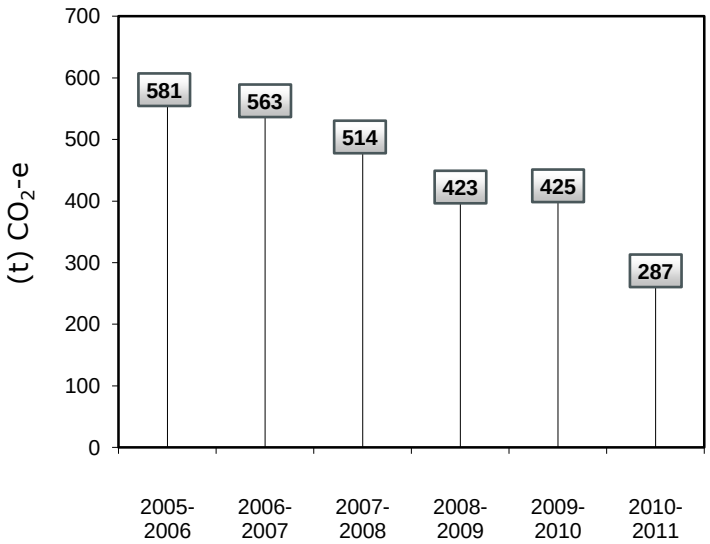
CO_2-e from Electricity



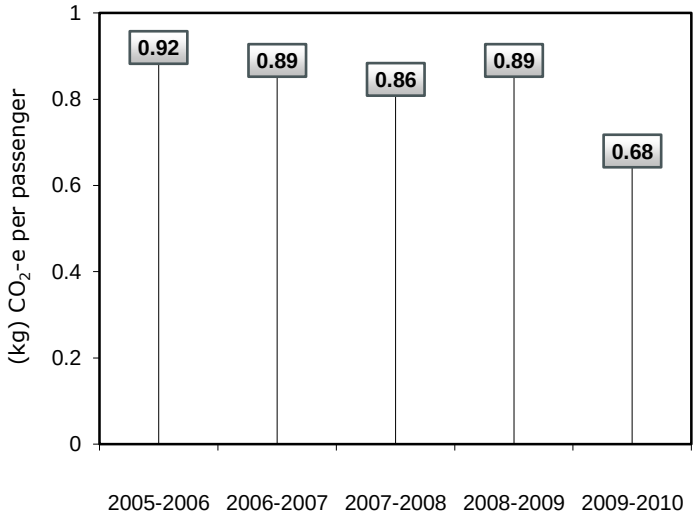
CO_2-e from Gas



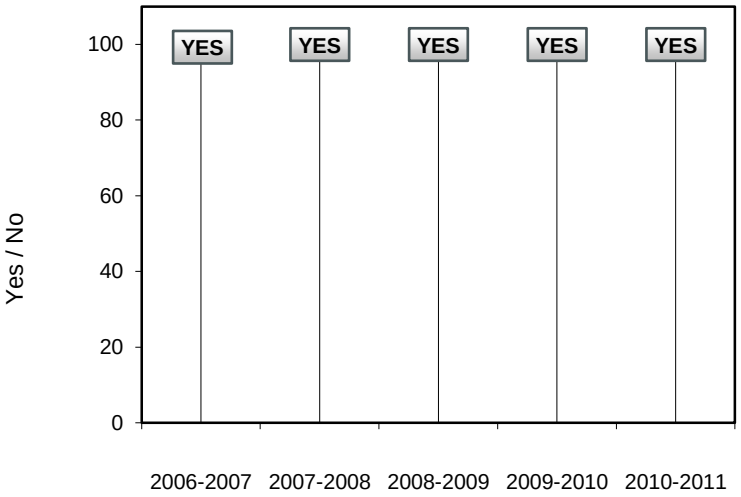
CO_2-e from company fleet



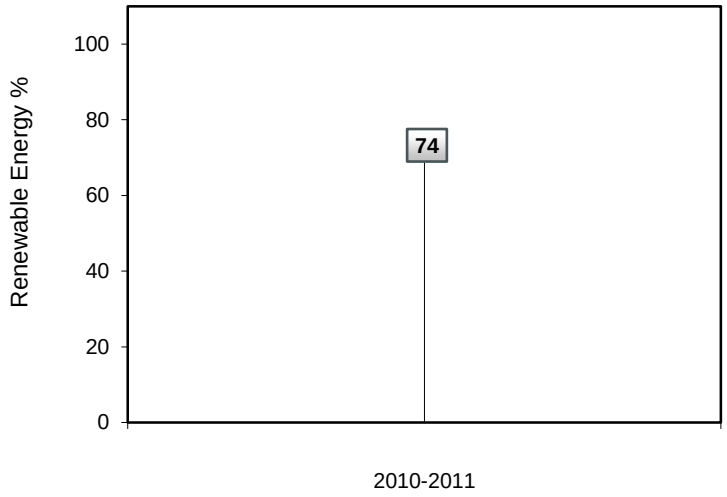
Kg of CO2-e per passenger



Completed and disclosed annual Carbon Disclosure Project return

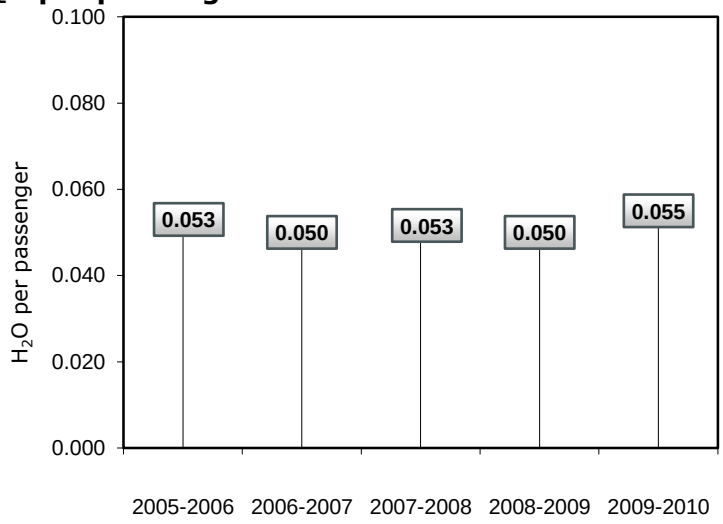


Renewable Energy Consumption
Renewable Energy Consumption (MJ) pa / Total Energy Consumption (MJ) pa

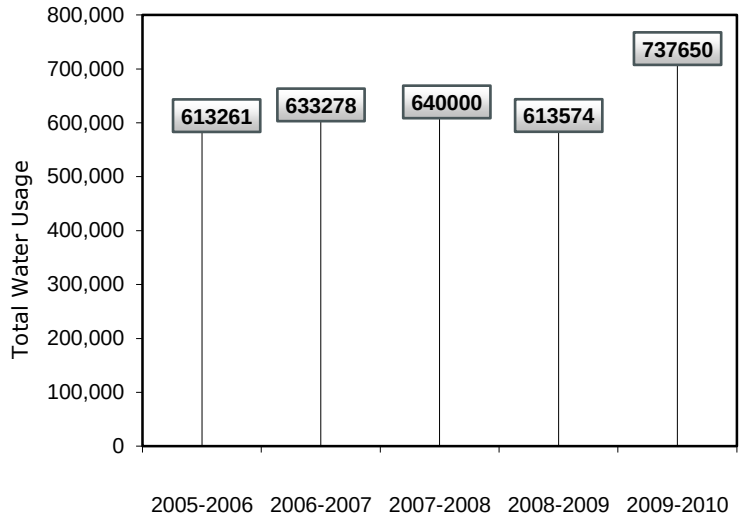


Resource Use

H_2O per passenger

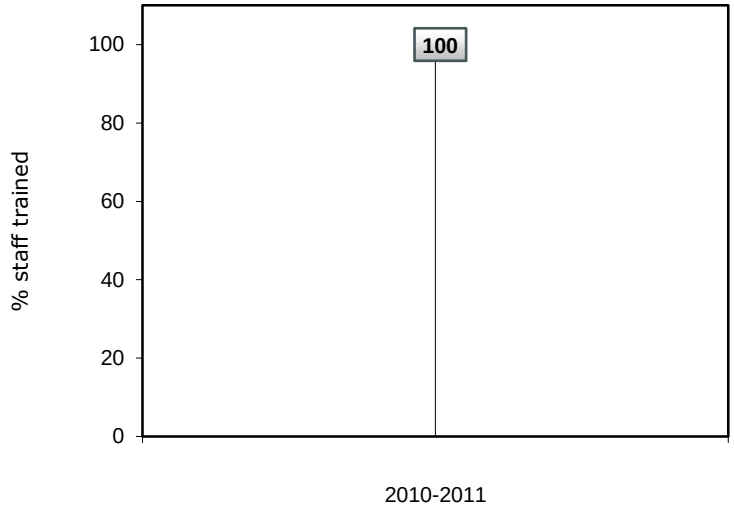


Total Water Usage



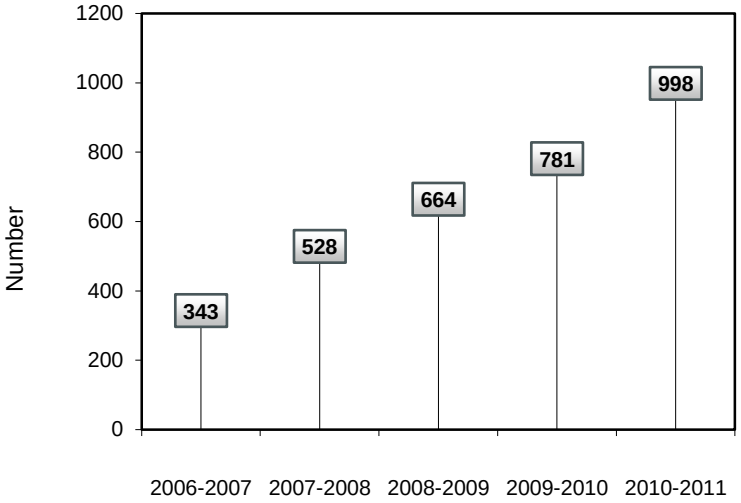
Service Staff Trained

Total number of service staff formally trained / Total number of customer service staff



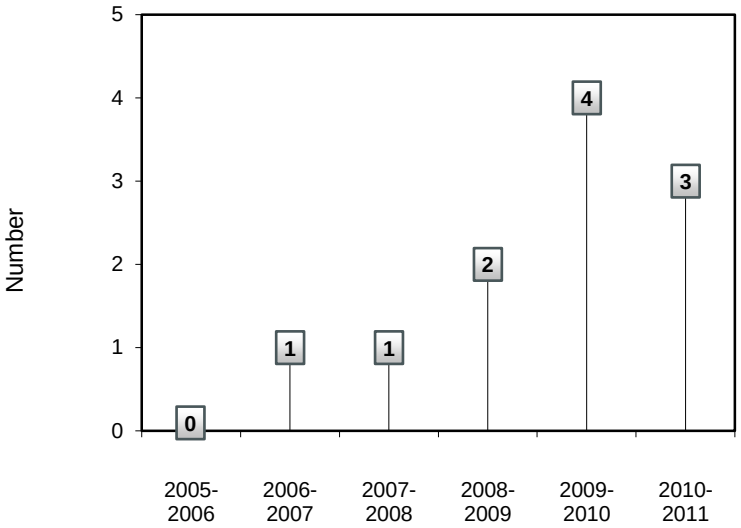
Surface Access

Lift / Registered Carpoolers

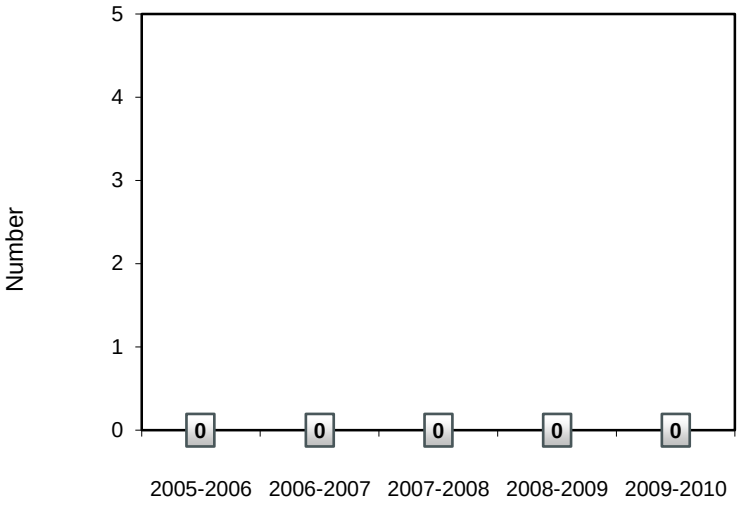


Environmental Sustainability

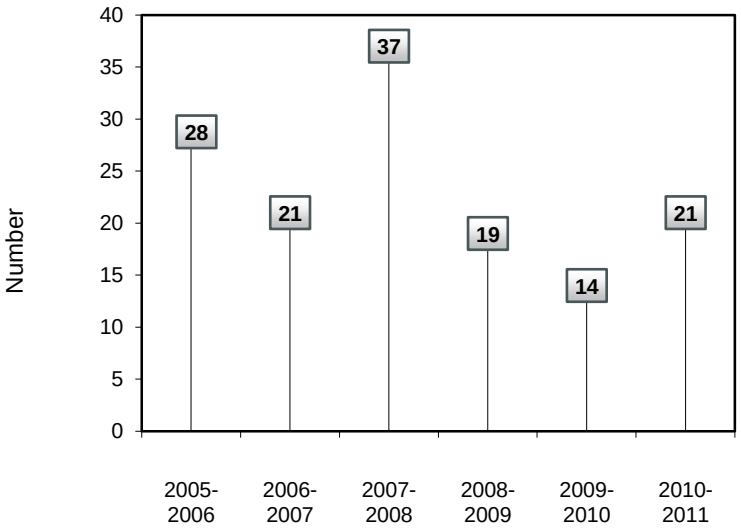
Spills over $2m^2$



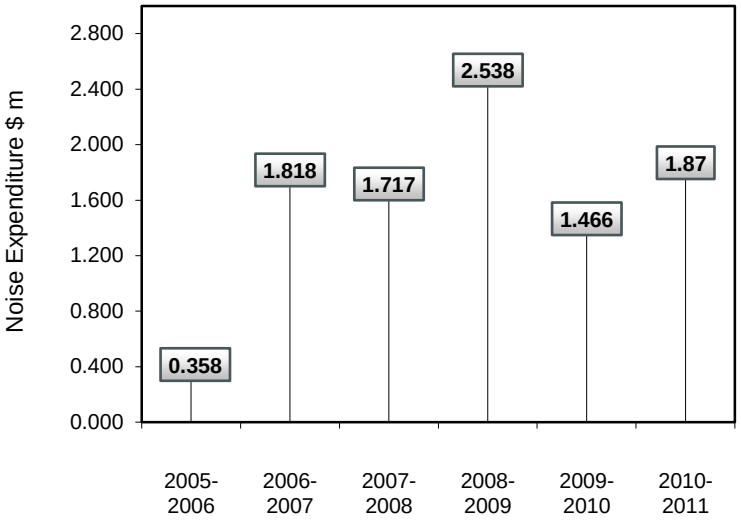
Spills to Environment



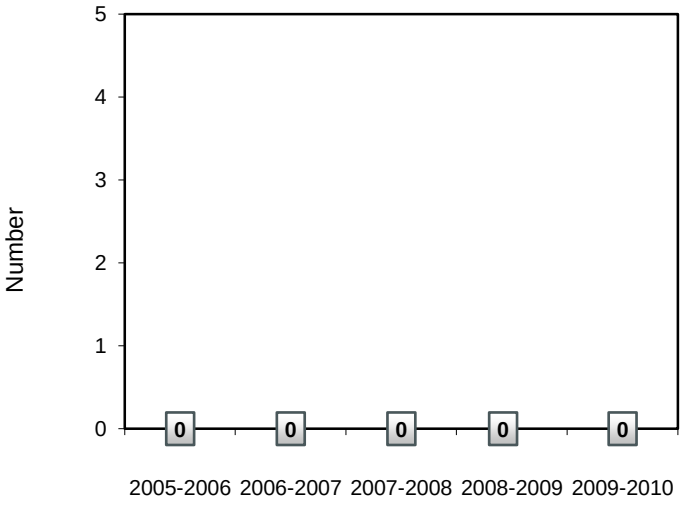
Number of Noise Enquiries



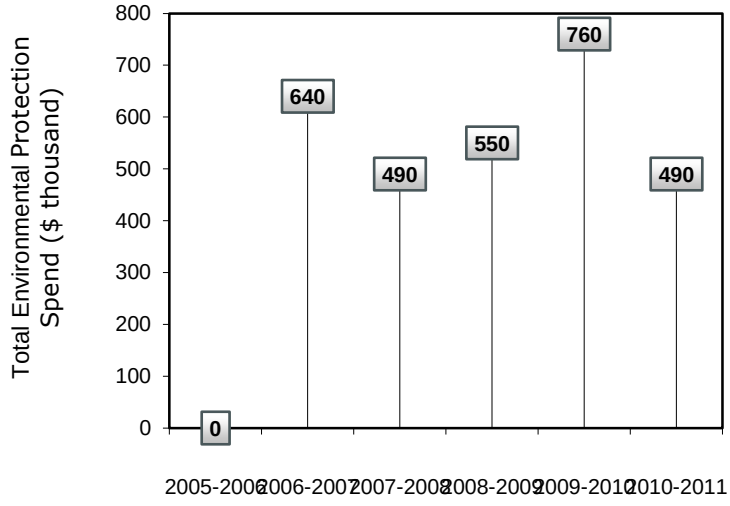
Noise Expenditure ($ million)



Non-Compliant Notices

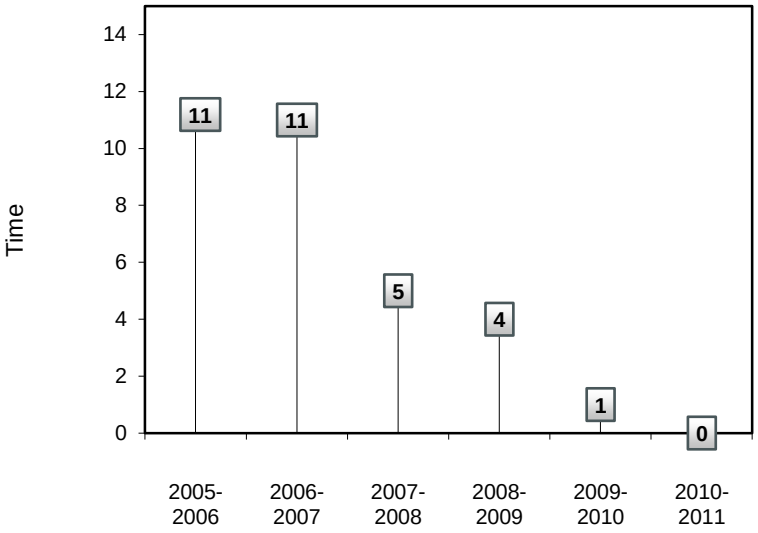


Total Environmental Protection Spend ($ thousand)

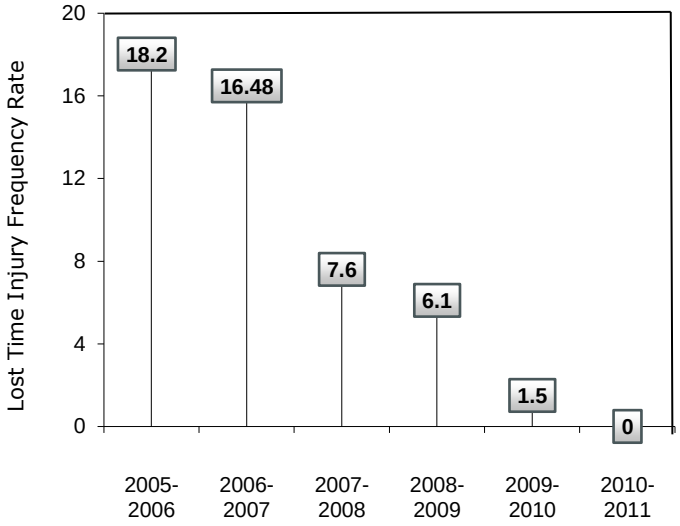


Safety

Lost Time Injury actual

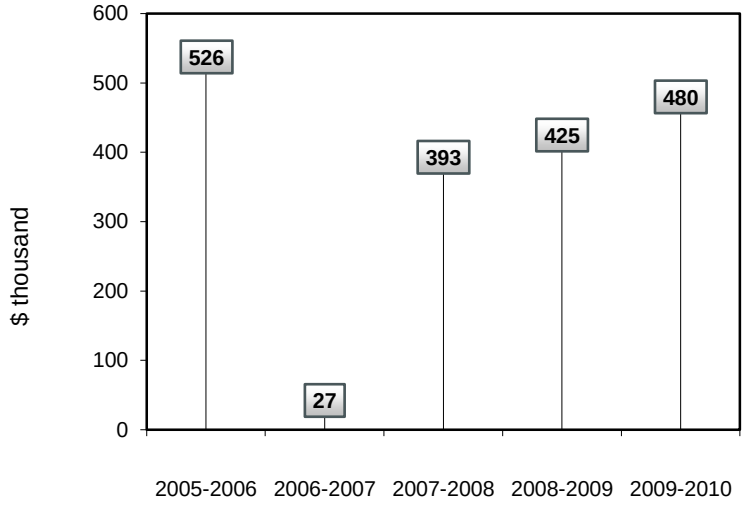


Lost Time Injury Frequency Rate



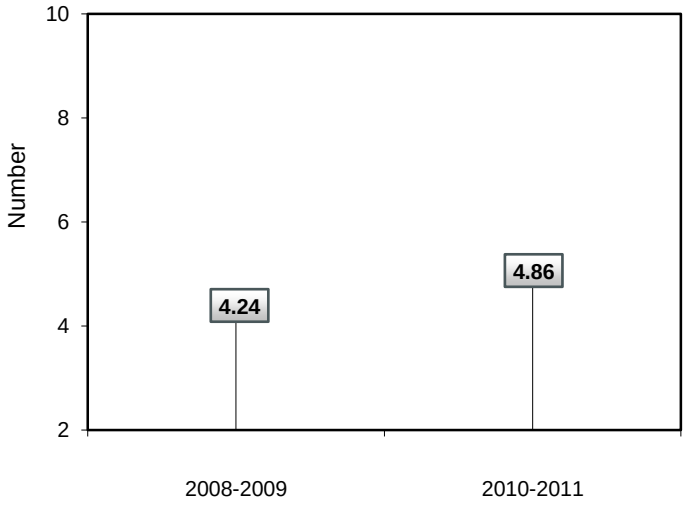
Community

Sponsorship Spend ($ Thousands)



Other

Total Shareholder Return



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

CONCLUSION AND RECOMMENDATIONS

Congratulations, **Auckland International Airport** has passed the requirements to be recognised as an EarthCheck Benchmarked Airport.

In addition to having a Sustainability Policy in place, twelve of the assessed EarthCheck indicators are at or above the Baseline level. From the benchmarking data provided, eight indicators, *Potable Water Consumption, Water Savings Rating, Waste Sent to Landfill, Paper Products Rating, Cleaning Products Rating, Pesticide Products Rating, Water Samples Passed* and *Proven Noise Infringements,* are at or above the Best Practice level.

The one indicator that fell below the Baseline level was *Community Commitment.*

The value for Community Commitment was 12.0% below the Baseline level. The **Auckland International Airport** are, therefore, encouraged to continue to look to local recruitment as much as possible (e.g. through operating in-house training programs) and/or increase the use of on-site or local housing for its staff. This will not only help contribute to the local economy, but also reduce the significant negative environmental impacts related to long-distance travel to and from work.

Under normal circumstances, operations benchmarking for the 3rd time are not permitted to fail any indicators (with one indicator permitted to be within 10% of the Baseline level). However, the results presented will be accepted provided that the **Auckland International Airport** can continue to make improvements in Community Commitment. Please note organisations benchmarking for the 4th time (and subsequent assessments) are not permitted to fail any EarthCheck™ indicators (excluding supplementary EarthCheck™ indicators).

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 **Auckland International Airport** 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 **Auckland International Airport** is encouraged to ensure that Community Commitment is at Baseline performance or better. In line with EarthCheck Policy this would enable the **Auckland International Airport** 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

it was advised at time of submission that;

> *'there has been significant development with the international terminal increasing food court areas and improving passenger experience on both departures and arrivals'.*

ENERGY CONSUMPTION

The Benchmarking Assessors sought clarification with regards to Jet Kerosene to determine if this should be under Stationary Fuel Combustion or Mobile Fuel Combustion (air).

It was later advised that;

> *'This is used in live fire training so is combusted at our fire training school not in an aircraft engine'*

Therefore the fuel source remained unchanged as a stationary fuel.

POTABLE WATER CONSUMPTION

The Benchmarking Assessors sought clarification with regards to *Potable Water Consumption* as the submitted value was greater than the previous assessment. It was later identified by the **Auckland International Airport** that;

> *'I think I have given you the total site water volume as opposed to the international terminal – I'll investigate'*
> *'The water usage for Auckland Airport is 205,970 m3'*

This has been updated accordingly and equates to 26.5 L per passenger.

WASTE SENT TO LANDFILL

The below clarification for *Waste Sent to Landfill* was provided;

Blue Compactor Summary

Month	Weights (tonnes)
Jul-10	19.100
Aug-10	17.950
Sep-10	16.320
Oct-10	16.740
Nov-10	15.530
Dec-10	16.610
Jan-11	18.310

Feb-11	16.620
Mar-11	16.030
Apr-11	20.190
May-11	14.250
Jun-11	14.510
Total	**202.160**

This has been updated accordingly and equates to 0.3 L per passenger.

EARTHCHECK

Benchmarks Assessed by EarthCheck

Summary Of Supplied Benchmarking Data

Activity Measures

Area Under Roof	94220
Total Passengers	7781819

Supplied Benchmarking Data

Energy

Energy Consumption (MJ / Square Metre)

Supplied	161430169.2 MJ
Calculated	1713.3 MJ / Square Metre
Baseline	2085 MJ / Square Metre
Best Practice	1460 MJ / Square Metre
Difference	17.8% better than the Baseline level

Green Power (%)

Supplied	0%
Calculated	0%

Greenhouse Gas Emissions (Scope 1 and Scope 2) (kg CO_2-e / Square Metre)

Supplied	8750147.8 kg CO_2-e
Calculated	92.9 kg CO_2-e / Square Metre
Baseline	113 kg CO_2-e / Square Metre
Best Practice	79 kg CO_2-e / Square Metre
Difference	17.8% better than the Baseline Level

Direct Emissions (Scope 1) (kg CO_2-e / Square Metre)

Supplied	2133593.9 kg CO_2-e
Calculated	22.6 kg CO_2-e / Square Metre

Indirect Emissions (Scope 2) (kg CO_2-e / Square Metre)

Supplied	6616554.0 kg CO_2-e
Calculated	70.2 kg CO_2-e / Square Metre

Water

Potable Water Consumption (L / Passenger)

Supplied	205970000.0 L
Calculated	26.5 L / Passenger
Baseline	39.8 L / Passenger
Best Practice	29.4 L / Passenger
Difference	9.9% better than the Best Practice level

Recycled / Captured Water (%)

Supplied	0.6%
Calculated	0.6%

Water Savings Rating (Points)

Supplied	83.7 Points
Calculated	83.7 Points
Baseline	50 Points
Best Practice	80 Points
Difference	3.7 Points better than the Best Practice level

Waste

Waste Sent to Landfill (L / Passenger)

Supplied	2700307.7 L
Calculated	0.3 L / Passenger
Baseline	2 L / Passenger
Best Practice	1.4 L / Passenger
Difference	78.6% better than the Best Practice level

Recycled / Reused / Composted Waste (%)

Supplied	27.0%
Calculated	27.0%

Waste Recycling Rating (Points)

Supplied	58.5 Points
Calculated	58.5 Points
Baseline	50 Points
Best Practice	80 Points
Difference	8.5 Points better than the Baseline level

Community

Community Commitment (%)

Supplied	48.0%
Calculated	48.0%
Baseline	60 %
Best Practice	100 %
Difference	12.0% below the Baseline level

Community Contributions Rating (Points)

Supplied	76.4 Points
Calculated	76.4 Points
Baseline	50 Points
Best Practice	80 Points
Difference	26.4 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	91.3 Points
Calculated	91.3 Points
Baseline	50 Points
Best Practice	80 Points
Difference	11.3 Points better than the Best Practice level

Sector Specific

Water Samples Passed (%)

Supplied	100%
Calculated	100%
Baseline	80 %
Best Practice	100 %
Difference	at the Best Practice level

Proven Noise Infringements (%)

Supplied	0%
Calculated	0%
Baseline	5 %
Best Practice	0 %
Difference	at 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^3) or litres (L)). These are: 1 kg (uncompacted waste) = 0.00333333 m^3 or 3.33333 L and 1 kg (compacted waste) = 0.00153846 m^3 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).