EARTHCHECK

BENCHMARKING ASSESSMENT REPORT

AIRPORT BENCHMARKING

AUCKLAND INTERNATIONAL AIRPORT
AUCKLAND, NEW ZEALAND

REPORT DATE: 16 January 2013

Benchmarking Data Collection Period: 1 July 2011 – 30 June 2012

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. EarthCheck benchmarking provides an organisation a vehicle for sustainability reporting and is based on the premise of continual improvement. By undertaking a Benchmarking Assessment an organisation meets the requirements of annual benchmarking which includes the collection and submission of benchmarking data to EarthCheck for review and completion of the Benchmarking Assessment Report.[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) Indirect Emissions (Scope 3) (kg CO_2-e / Passenger)
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, organisations are required to collect and submit Benchmarking data against each of the Core Benchmarking Indicators by way of annual Benchmarking Assessment, and have in place a repeatable system for accurately recording Benchmarking data including a methodology for calculating the organisation's Activity Measure for each consecutive year.

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.

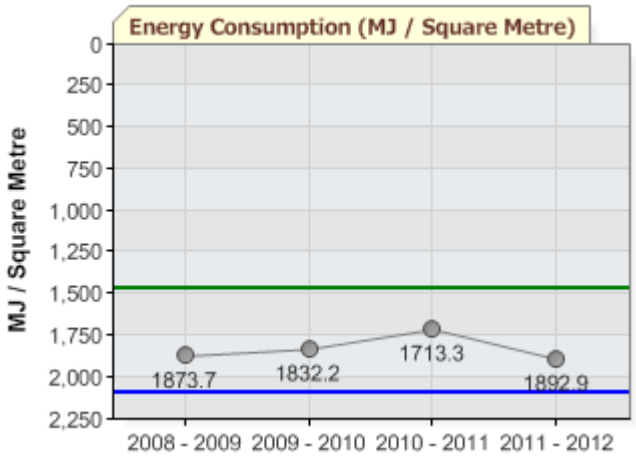
AIRPORT PERFORMANCE BENCHMARKS

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

1. Policy ★

2. Energy

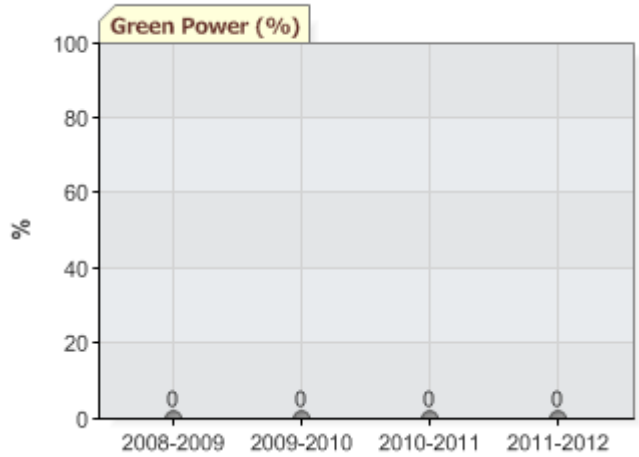
Energy Consumption (MJ / Square Metre) ✓



Energy Consumption (MJ / Square Metre) for the year 2011 - 2012 (1 July 2011 – 30 June 2012) was 1892.9 MJ / Square Metre, which was 9.2% better than the Baseline level.

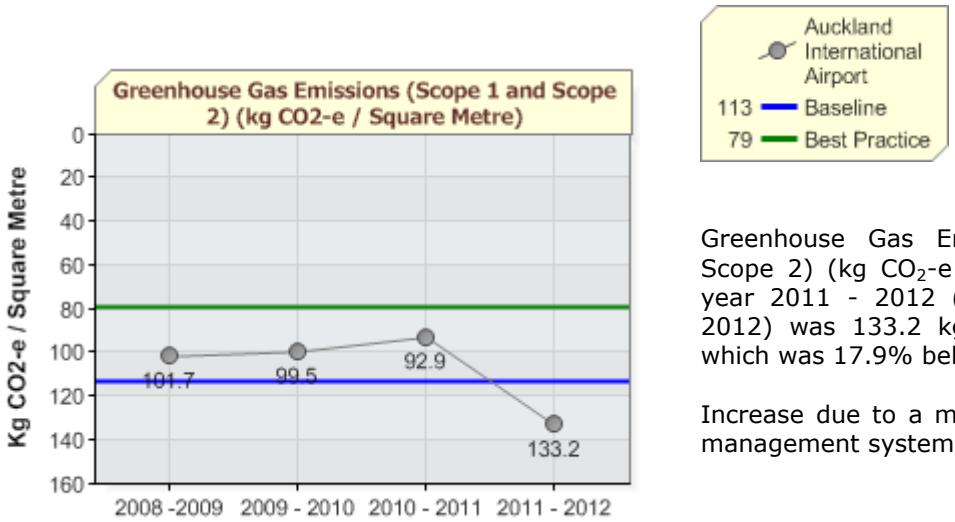
Increase due to a malfunction in the building management systems interface.

Green Power (%)



Green Power (%) for the year 2011 - 2012 (1 July 2011 – 30 June 2012) was 0%.

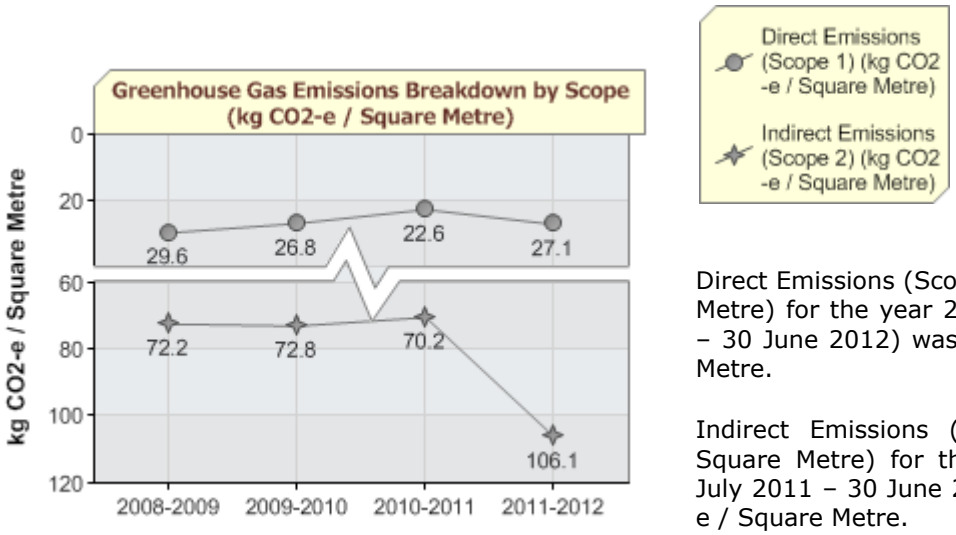
Greenhouse Gas Emissions (Scope 1 and Scope 2) (kg CO_2-e / Square Metre)



Greenhouse Gas Emissions (Scope 1 and Scope 2) (kg CO_2-e / Square Metre) for the year 2011 - 2012 (1 July 2011 – 30 June 2012) was 133.2 kg CO_2-e / Square Metre which was 17.9% below the Baseline level.

Increase due to a malfunction in the building management systems interface.

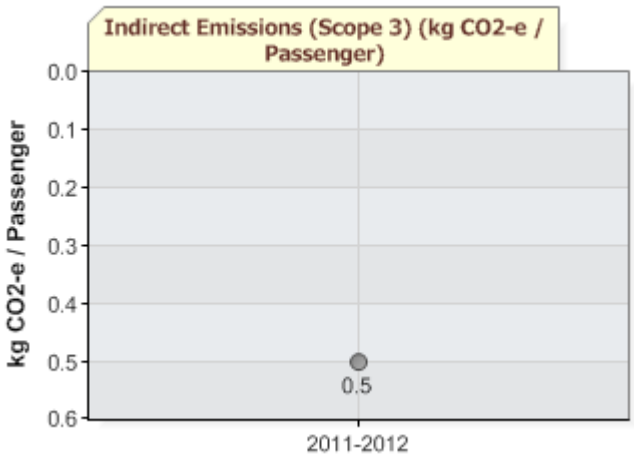
Greenhouse Gas Emissions Breakdown by Scope (kg CO_2-e / Square Metre)



Direct Emissions (Scope 1) (kg CO_2-e / Square Metre) for the year 2011 - 2012 (1 July 2011 – 30 June 2012) was 27.1 kg CO_2-e / Square Metre.

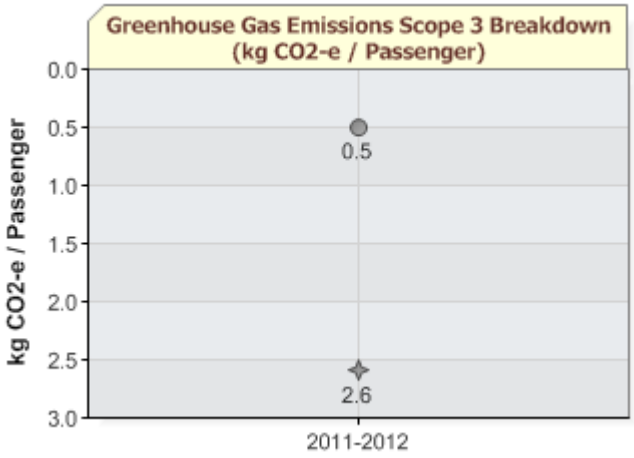
Indirect Emissions (Scope 2) (kg CO_2-e / Square Metre) for the year 2011 - 2012 (1 July 2011 – 30 June 2012) was 106.1 kg CO_2-e / Square Metre.

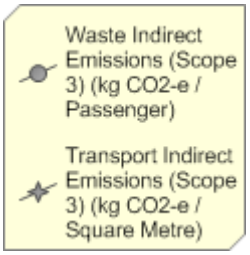
Indirect Emissions (Scope 3) (kg CO_2-e / Passenger)



Indirect Emissions (Scope 3) (kg CO_2-e / Passenger) for the year 2011 - 2012 (1 July 2011 – 30 June 2012) was 0.5 kg CO_2-e / Passenger.

Greenhouse Gas Emissions Scope 3 Breakdown (kg CO_2-e / Passenger)





Transport Indirect Emissions (Scope 3) (kg CO_2-e / Square Metre) for the year 2011 - 2012 (1 July 2011 – 30 June 2012) was 2.6 kg CO_2-e / Square Metre.

Waste Indirect Emissions (Scope 3) (kg CO_2-e / Passenger) for the year 2011 - 2012 (1 July 2011 – 30 June 2012) was 0.5 kg CO_2-e / Passenger.

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	42197000	MJ	42197000.0	2249.1	1.0	27.1	2277.1
		subtotal	42197000.0	2249.1	1.0	27.1	2277.1
Mobile Fuel Combustion (road)							
Motor gasoline	32080	litres (L)	1118629.6	73.6	0.4	0.5	74.5
Diesel	50784	litres (L)	1945535.0	133.6	0.2	2.2	136.0
		subtotal	3064164.6	207.2	0.6	2.7	210.6
Mobile Fuel Combustion (air)							
Jet Kerosene	25244	litres (L)	938067.0	63.5	0.0	0.6	64.1
		subtotal	938067.0	63.5	0.0	0.6	64.1
		TOTAL	**46199231.7**	**2519.8**	**1.6**	**30.4**	**2551.8**

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)**
36707021	Kilowatt hour (kWh)	0	New Zealand	132145275.6	9984.3	-	-	9996.2
			subtotal	132145275.6	9984.3	-	-	9996.2
			TOTAL	**132145275.6**	**9984.3**	**-**	**-**	**9996.2**

Greenhouse Gas Emissions (Scope 1 and Scope 2)				
GRAND TOTAL	**178344507.3**	**12504.2**	**1.6**	**30.4**	**12548.0**

Indirect Emissions (Scope 3)

Employee Transport

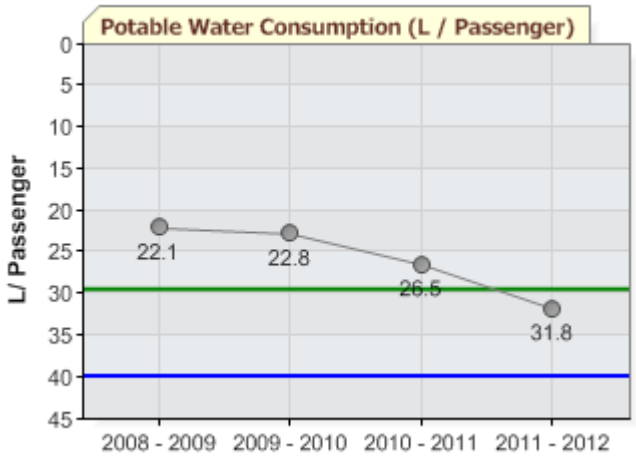
Size of car	Source	Number of Employees	Distance Travelled per Employee	Unit	CO_2 Emission Estimate (t CO_2-e)	CH4 Emission Estimate (t CO_2-e)	N2O Emission Estimate (t CO_2-e)	Total Emission Estimate (t CO_2-e)
Domestic	New Zealand	340	866	kilometres	51.6	-	-	51.6
International Short Haul (500km) (average)	New Zealand	340	1145	kilometres	38.3	-	-	38.3
International Long Haul (6482km) (average)	New Zealand	340	4053	kilometres	152.4	-	-	152.4
				subtotal	242.3	-	-	242.3

Waste Sent to Landfill

Quantity	Unit	Type of Landfill	Type of Waste	Type of Operation	Source	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)
2358.33	tonnes (compacted)	Covered and/or managed waste treatment facility	Unknown	Airports	New Zealand	-	3537.5	-	3537.5
					subtotal	-	3537.5	-	3537.5
					TOTAL	**242.3**	**3537.5**	**-**	**3779.8**

3. Water

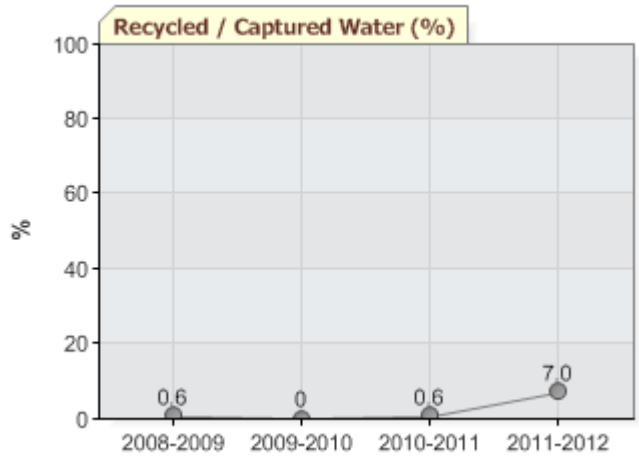
Potable Water Consumption (L / Passenger) ✓



Potable Water Consumption (L / Passenger) for the year 2011 - 2012 (1 July 2011 – 30 June 2012) was 31.8 L / Passenger, which was 20.1% better than the Baseline level.

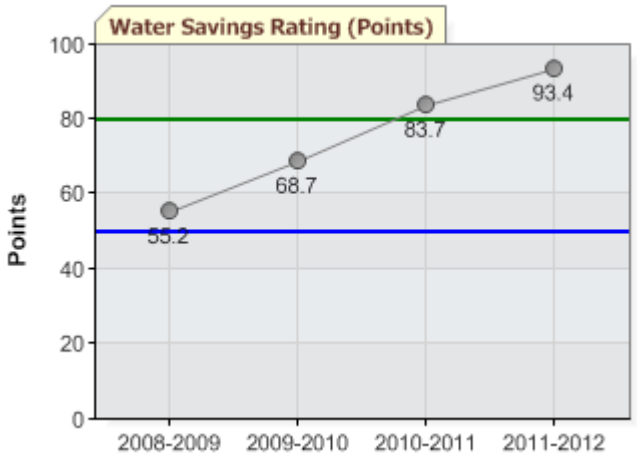
Quantity	Unit	Potable Water Consumption (kL)
228596	cubic metres	228596.0 kL
	Totals:	**228596.0 kL**

Recycled / Captured Water (%)



Recycled / Captured Water (%) for the year 2011 - 2012 (1 July 2011 – 30 June 2012) was 7.0%.

Water Savings Rating (Points) ★

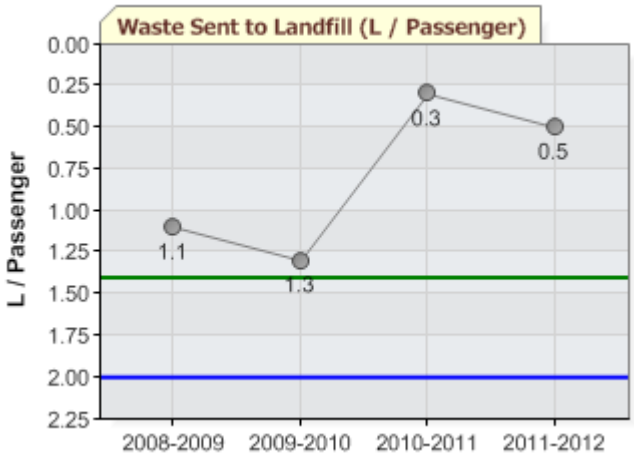


Water Savings Rating (Points) for the year 2011 - 2012 (1 July 2011 – 30 June 2012) was 93.4 Points, which was 13.4 Points better than the Best Practice level.

Water Savings Measures	**Frequency / Percentage Rating**	**Water Savings Rating (Points)**
Check for leaks	Every week	100.0 Points
Low/dual flush toilets	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	100%	100.0 Points
Minimal irrigation landscaping	100%	100.0 Points
Use of recycle/grey/rain water	1-19%	54.0 Points
	Overall Rating:	**93.4 Points**

4. Waste

Waste Sent to Landfill (L / Passenger) ★



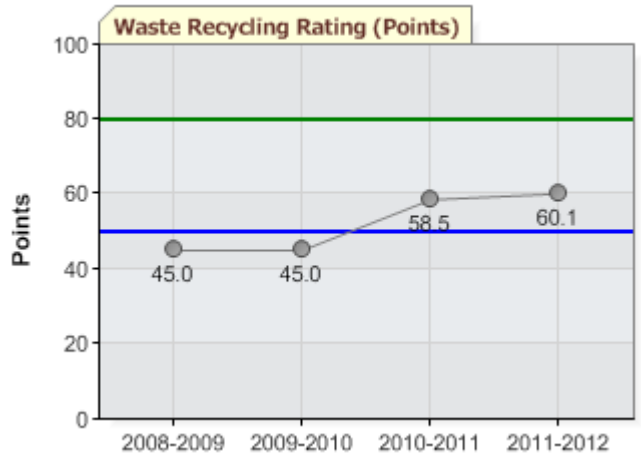
Waste Sent to Landfill (L / Passenger) for the year 2011 - 2012 (1 July 2011 – 30 June 2012) was 0.5 L / Passenger, which was 64.3% better than the Best Practice level.

Quantity	Unit	Type of Landfill	Type of Waste	Type of Operation	Waste Sent to Landfill (m^3)
2358.33	tonnes (compacted)	Covered and/or managed waste treatment facility	Unknown	Airports	3628.2 m^3
				Totals:	**3628.2 m^3**

Recycled / Reused / Composted Waste (%)

Recycled / Reused / Composted Waste (%) for the year 2011 - 2012 (1 July 2011 – 30 June 2012) was 17.0%.

Waste Recycling Rating (Points) ✓



Waste Recycling Rating (Points) for the year 2011 - 2012 (1 July 2011 – 30 June 2012) was 60.1 Points, which was 10.1 Points better than the Baseline level.

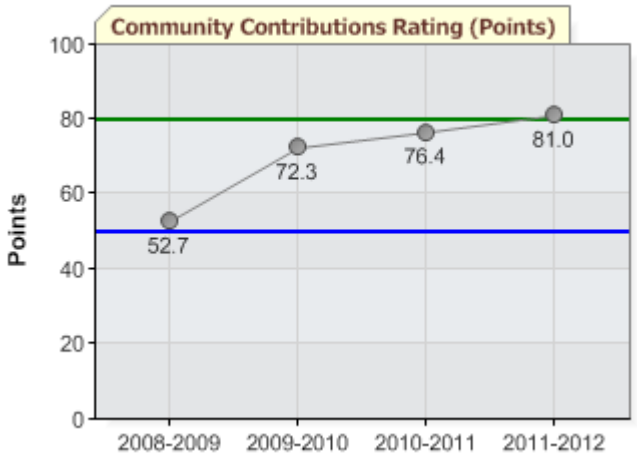
Waste Recycling Measures	**Frequency / Percentage Rating**	**Waste Recycling Rating (Points)**
Glass	20-39%	58.8 Points
Paper/card	20-39%	58.8 Points
Iron & steel (ferrous metals)	40-59%	65.1 Points
Other metals (non-ferrous)	40-59%	65.1 Points
Plastics	20-39%	58.8 Points
Rubber	Not Relevant / Not Available	-
Green waste	1-19%	54.0 Points
	Overall Rating:	**60.1 Points**

5. Community

Community Commitment (%)

Community Commitment (%) for the year 2011 - 2012 (1 July 2011 – 30 June 2012) was 48.0%, which was 12.0% below the Baseline level.

Community Contributions Rating (Points)

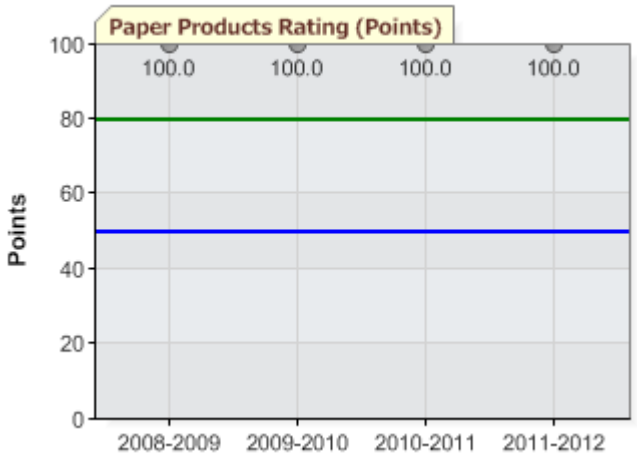


Community Contributions Rating (Points) for the year 2011 - 2012 (1 July 2011 – 30 June 2012) was 81.0 Points, which was 1.0 Points better than the Best Practice level.

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	Not Relevant / Not Available	-
Service contracts given to local contractors	80-99%	88.9 Points
Staff received training on sustainability issues	100%	100.0 Points
	Overall Rating:	**81.0 Points**

6. Paper

Paper Products Rating (Points) ★

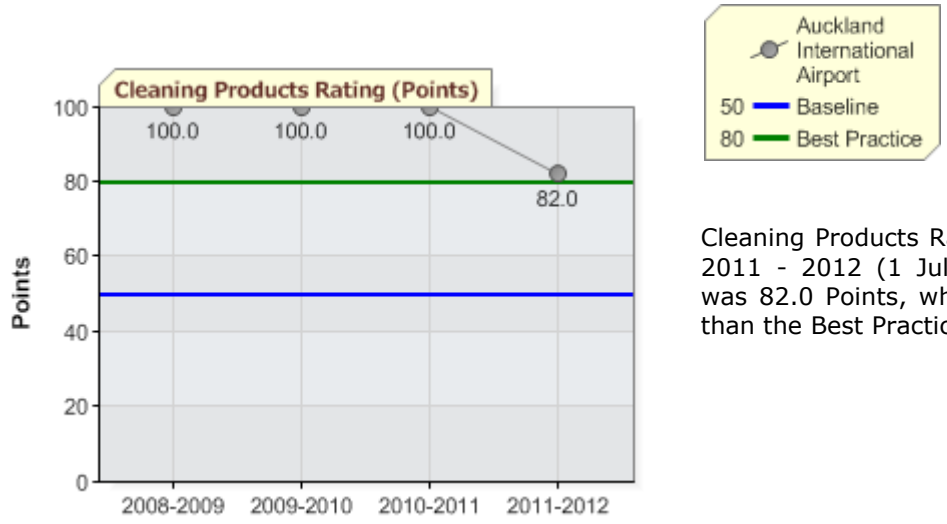


Paper Products Rating (Points) for the year 2011 - 2012 (1 July 2011 – 30 June 2012) was 100.0 Points, which was 20.0 Points better than the Best Practice level.

Paper Products Measures	Frequency / Percentage Rating	Paper Products Rating (Points)
Office paper	100%	100.0 Points
Serviettes	100%	100.0 Points
Tissues	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) ★

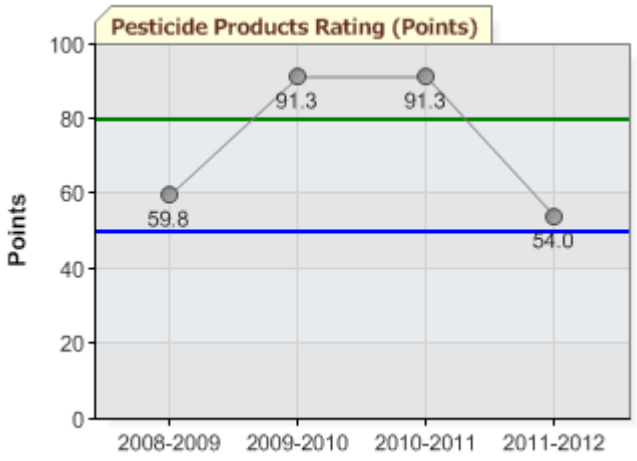


Cleaning Products Rating (Points) for the year 2011 - 2012 (1 July 2011 – 30 June 2012) was 82.0 Points, which was 2.0 Points better than the Best Practice level.

Cleaning Products Measures	Frequency / Percentage Rating	Cleaning Products Rating (Points)
Hard floor cleaners	60-79%	73.9 Points
Carpet cleaners	0%	0.0 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:	**82.0 Points**

8. Pesticides

Pesticide Products Rating (Points) ✓

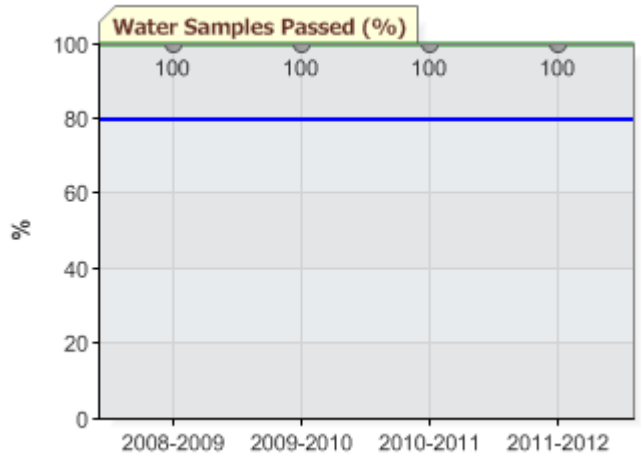


Pesticide Products Rating (Points) for the year 2011 - 2012 (1 July 2011 – 30 June 2012) was 54.0 Points, which was 4.0 Points better than the Baseline level.

Pesticide Products Measures	Frequency / Percentage Rating	Pesticide Products Rating (Points)
Weed killers	1-19%	54.0 Points
Fungal killers	1-19%	54.0 Points
Rodent killers	1-19%	54.0 Points
Insect killers	1-19%	54.0 Points
	Overall Rating:	**54.0 Points**

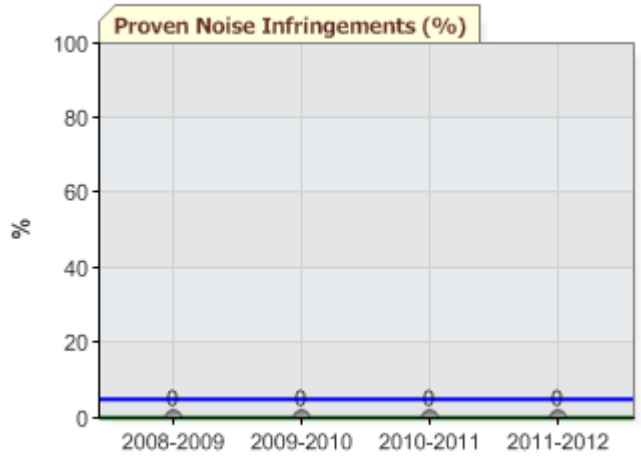
9. Sector Specific

Water Samples Passed (%) ★



Water Samples Passed (%) for the year 2011 - 2012 (1 July 2011 – 30 June 2012) was 100%, which was at the Best Practice level.

Proven Noise Infringements (%) ★



Proven Noise Infringements (%) for the year 2011 - 2012 (1 July 2011 – 30 June 2012) was 0%, which was at the Best Practice level.

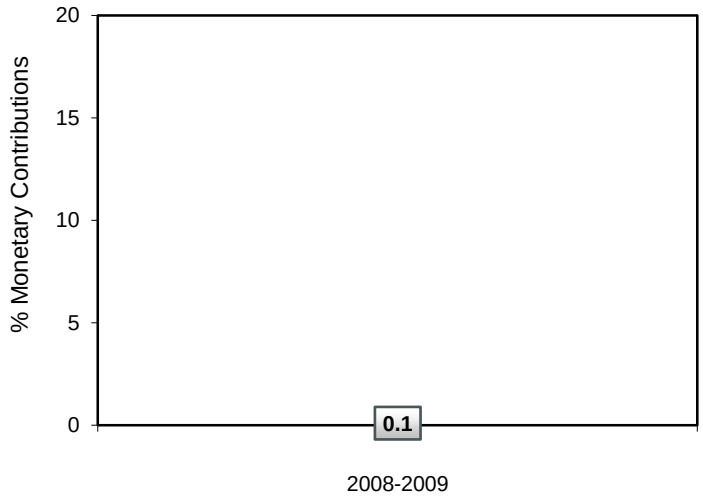
Optional Benchmarking Indicators

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 benchmarking exercise.

1. Selected Indicators

Selected Indicators are from a supplied list of EarthCheck indicators.

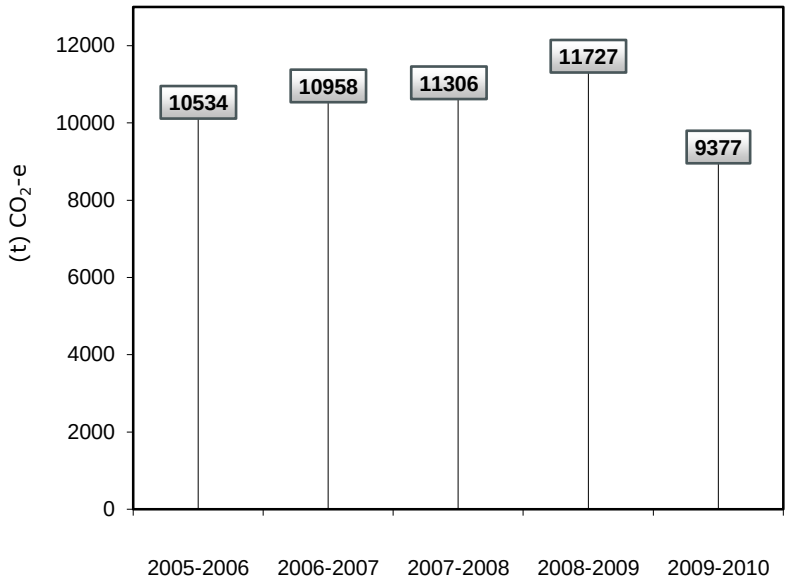
Monetary local community activity contributions ($) pa / Net operational turnover ($) pa



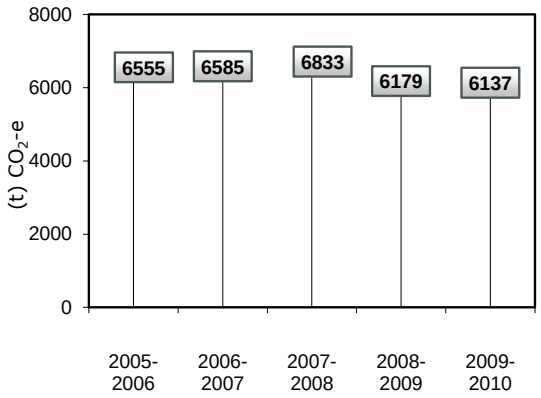
2. Operation Specified

Climate change/energy and fuel efficiency

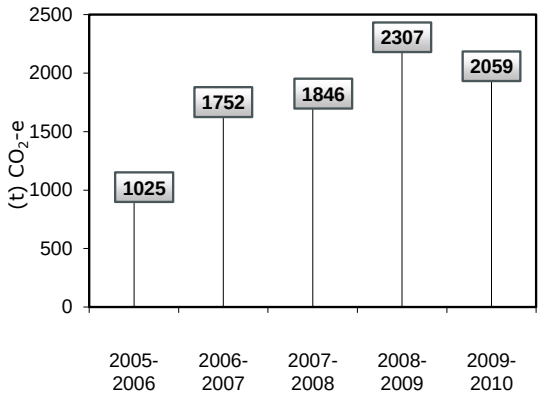
Total CO_2-e



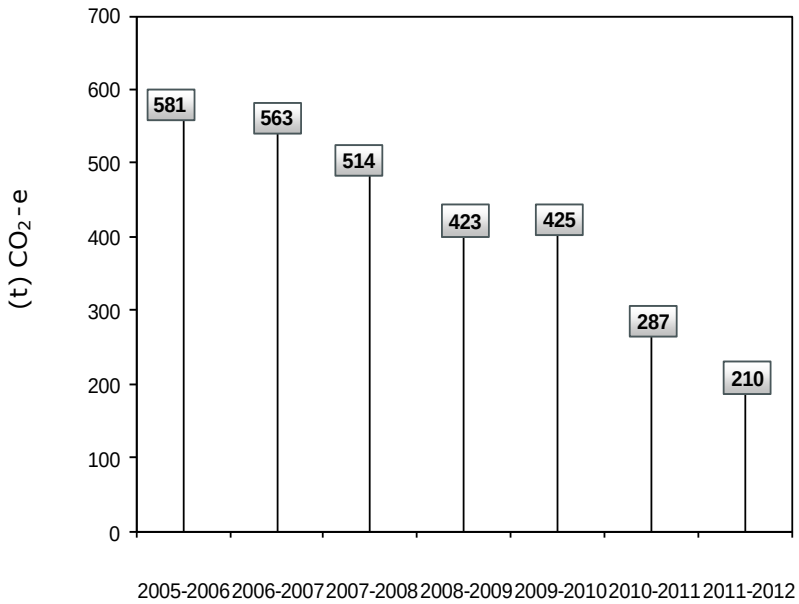
CO_2-e from Electricity



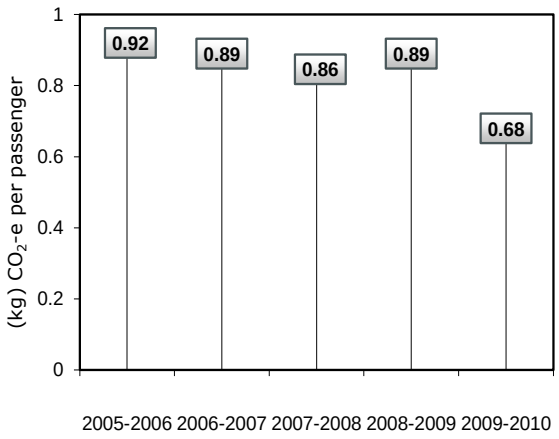
CO_2-e from Gas



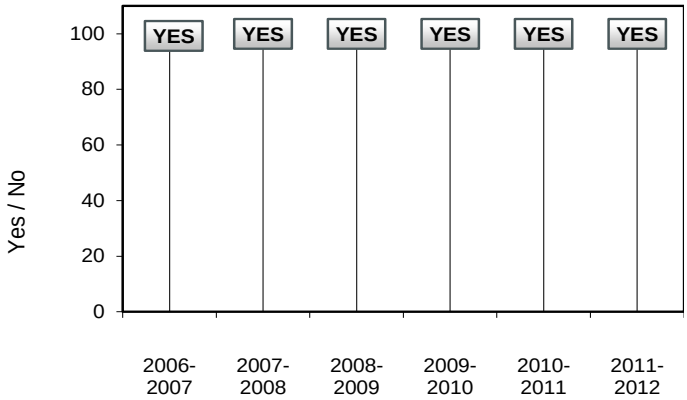
CO_2-e from company fleet



Kg of CO2-e per passenger

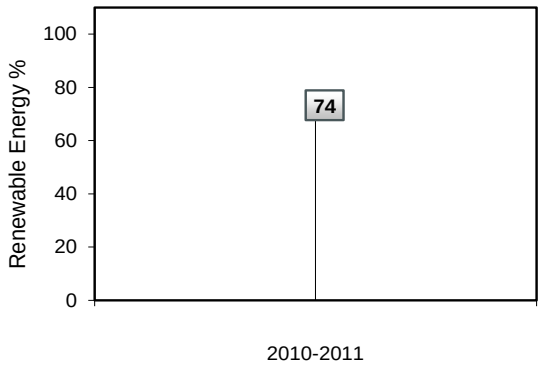


Completed and disclosed annual Carbon Disclosure Project return



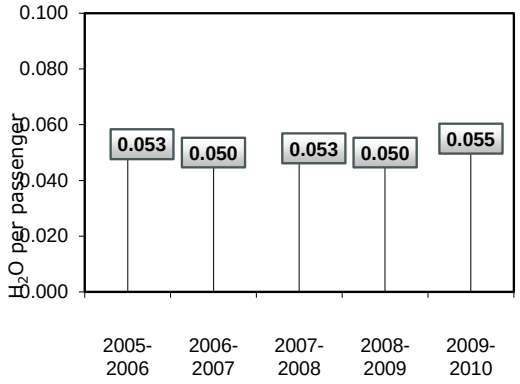
Renewable Energy Consumption

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

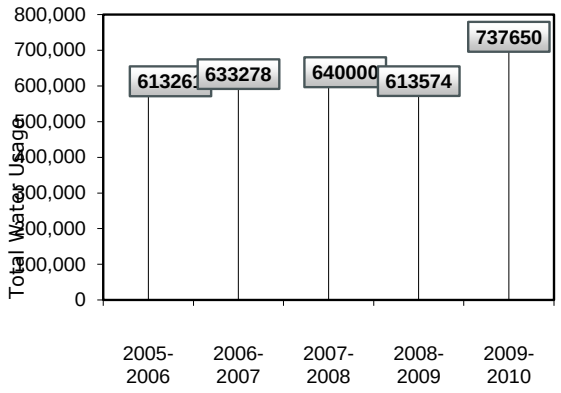


Resource Use

H_2O per passenger

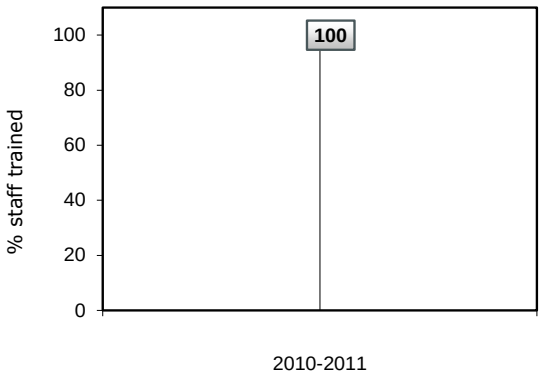


Total Water Usage



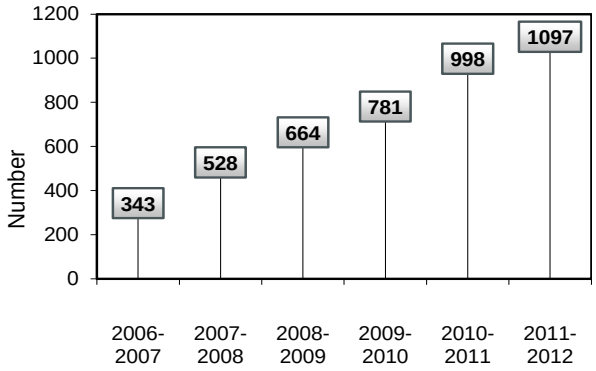
Service Staff Trained

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



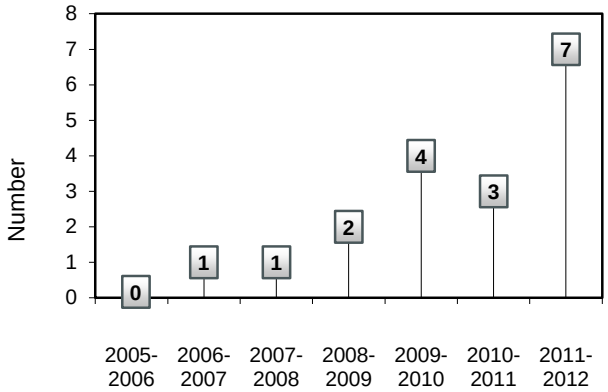
Surface Access

Lift / Registered Carpoolers

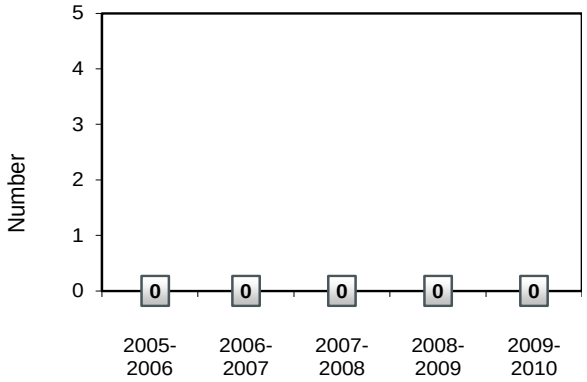


Environmental Sustainability

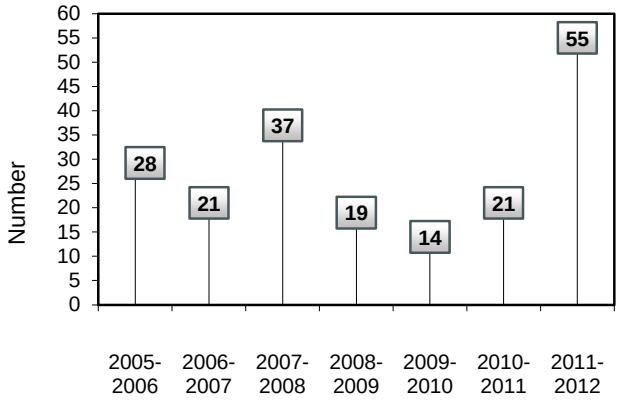
Spills over 2m^2



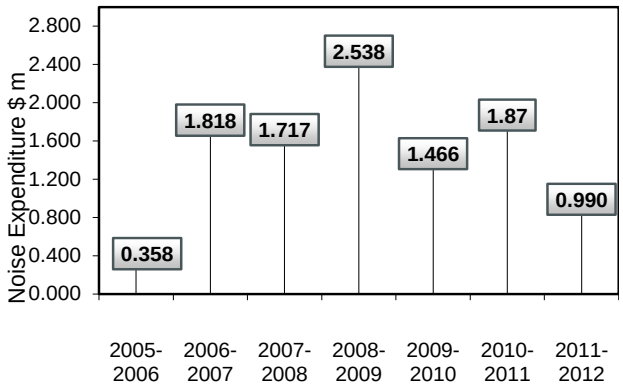
Spills to Environment



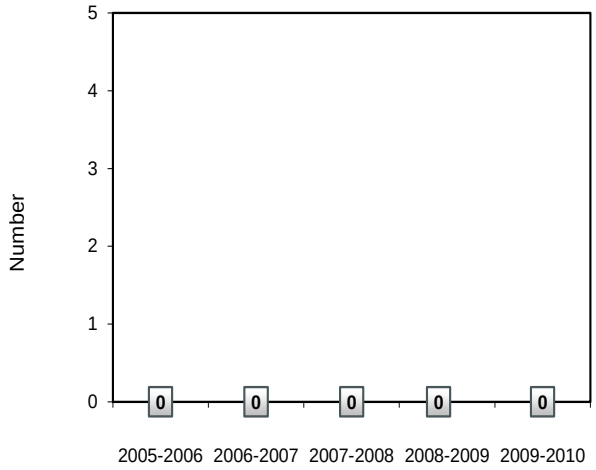
Number of Noise Enquiries



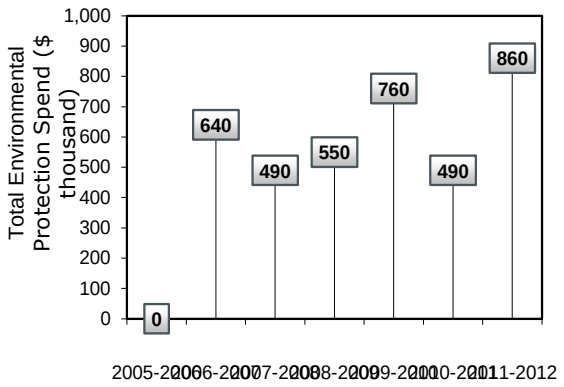
Noise Expenditure ($ million)



Non-Compliant Notices

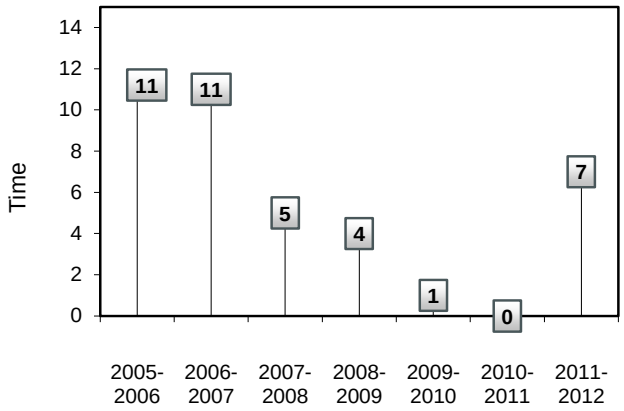


Total Environmental Protection Spend ($ thousand)

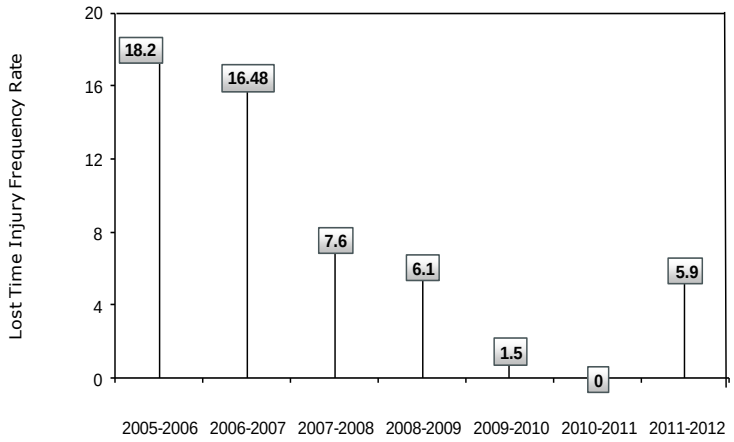


Safety

Lost Time Injury actual

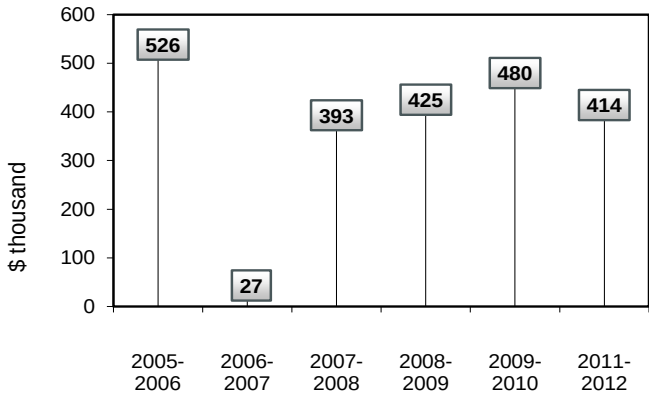


Lost Time Injury Frequency Rate



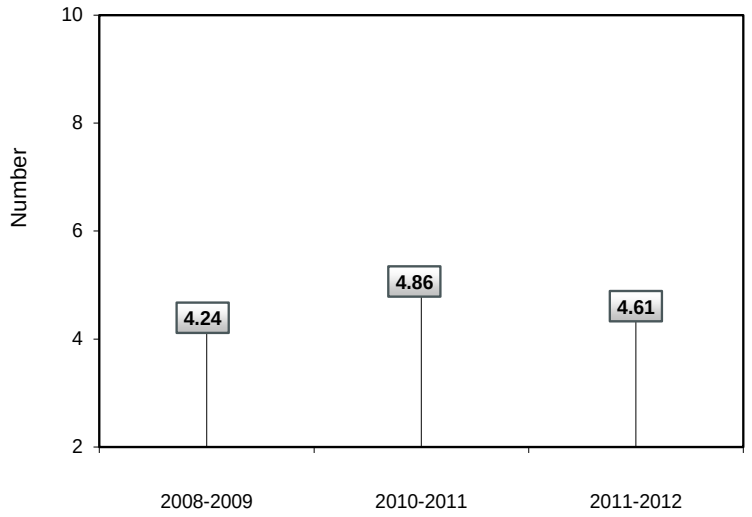
Community

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 met the requirements to be recognised as an EarthCheck Benchmarked Airport.

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, seven indicators, *Water Savings Rating, Waste Sent to Landfill, Community Contributions Rating, Paper Products Rating, Cleaning Products Rating, Water Samples Passed, and Proven Noise Infringements,* are at or above the Best Practice level.

The two indicators that fell below the Baseline level were *Greenhouse Gas Emissions (Scope 1 and Scope 2)* and *Community Commitment*.

The value for Greenhouse Gas Emissions was 17.9% below the Baseline level. **Auckland International Airport** 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). **Auckland International Airport** is encouraged to investigate other renewable energy options such as Hydro, Solar, or Wind.

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.

The **Auckland International Airport** is encouraged to continue to make improvements in the above indicators and to ensure that any indicators below baseline are addressed in the organisation's risk assessment and long term sustainability approach.

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 Greenhouse Gas Emissions and Community Commitment are 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

SUBMISSION COMMENTS

It was advised at the time of submission that;

> *"Energy usage increased over the last twelve months due to a failure of a major control for the HVAC system, this was repaired but it took several weeks, during which time the whole system operated full on 24/7.*
>
> *Water consumption is still a focus area for us.*
>
> *Waste data capture significantly improved this year although recycling rates did not. This is a focus area for the next twelve months.*
>
> *Significant changes have occured to pesticide use due to change of contractor. This has improved transparency of chemicals used but unfortunately has had a negative impact on our performance in this area."*

ENERGY CONSUMPTION

The Benchmarking Assessors sought clarification with regards to *Energy Consumption* as the submitted figure (below) was greater than expected.

Stationary Fuel Combustion

Type	Quantity	Unit	Energy Consumption (MJ)
Natural gas	42197000	MJ	42197000.0

Mobile Fuel Combustion (road)

Motor gasoline	32080	litres (L)	1118629.6
Diesel	50784	litres (L)	1945535.0

Mobile Fuel Combustion (air)

Jet Kerosene	25244	litres (L)	938067.0

Purchased Electricity

Quantity	Unit	% Green Power	Provider	Energy Consumption (MJ)
36707021	Kilowatt hour (kWh)	0	New Zealand	132145275.6

The **Auckland International Airport** confirmed:

> *"The petrol figure is a reduction; however both gas and electricity increased.*
> *This was due to a malfunction of the building management systems interface which effectively meant we had the HVAC running 24/7 for a number of weeks. In addition we had a particularly cold winter so additional gas was used for space heating.*
> *Passenger numbers also increased during the period."*

Therefore the energy consumption figures remained unchanged.

POTABLE WATER CONSUMPTION

The Benchmarking Assessors sought clarification with regards to *Potable Water Consumption* as the submitted figure of 607 526 m^3 was higher than expected. It was advised that the correct figure was 228 596.0 kL.

The **Auckland International Airport** advised:

"Auckland Airport internal usage is 228,596m^3 for FY12."

Therefore this equates to 31.8 L / Passenger.

Community Commitment

The Benchmarking Assessors sought clarification with regards to *Community Commitment* as the submitted figures were lower than expected.

The **Auckland International Airport** verified:

> *"I'll work on the community commitment one but I think we will struggle as airports do not have residential so close!*
>
> *The formula for Auckland Airport looks like this:*
> *162 + 0/340 = 48*
> *As an airport we do not have any staff living on site and we do not encourage residential buildings close to the airport due to reverse sensitivities.*
> *We are also geographically remote as the airport was built on a reclamation in the Manukau Harbour."*

The *Community Commitment* data remained unchanged at 48.0%.

EARTHCHECK

Benchmarks Assessed by EarthCheck

Summary Of Supplied Benchmarking Data

Activity Measures

Area Under Roof	94220
Total Passengers	7193975

Supplied Benchmarking Data

Energy

Energy Consumption (MJ / Square Metre)

Supplied	178344507.3 MJ
Calculated	1892.9 MJ / Square Metre
Baseline	2085 MJ / Square Metre
Best Practice	1460 MJ / Square Metre
Difference	9.2% better than Baseline level

Green Power (%)

Supplied	0%
Calculated	0%

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

Supplied	12548049.7 kg CO_2-e
Calculated	133.2 kg CO_2-e / Square Metre
Baseline	113 kg CO_2-e / Square Metre
Best Practice	79 kg CO_2-e / Square Metre
Difference	17.9% below the Baseline level

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

Supplied	2551815.0 kg CO_2-e
Calculated	27.1 kg CO_2-e / Square Metre

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

Supplied	9996234.7 kg CO_2-e
Calculated	106.1 kg CO_2-e / Square Metre

Indirect Emissions (Scope 3) (kg CO_2-e / Passenger)

Supplied	3779787.5 kg CO_2-e
Calculated	0.5 kg CO_2-e / Passenger

Transport Indirect Emissions (Scope 3) (kg CO_2-e / Square Metre)

Supplied	242292.5 kg CO_2-e
Calculated	2.6 kg CO_2-e / Square Metre

Waste Indirect Emissions (Scope 3) (kg CO_2-e / Passenger)

Supplied	3537495.0 kg CO_2-e
Calculated	0.5 kg CO_2-e / Passenger

Water

Potable Water Consumption (L / Passenger)

Supplied	228596000.0 L
Calculated	31.8 L / Passenger
Baseline	39.8 L / Passenger
Best Practice	29.4 L / Passenger
Difference	20.1% better than Baseline level

Recycled / Captured Water (%)

Supplied	7.0%
Calculated	7.0%

Water Savings Rating (Points)

Supplied	93.4 Points
Calculated	93.4 Points
Baseline	50 Points
Best Practice	80 Points
Difference	13.4 Points better than the Best Practice level

Waste

Waste Sent to Landfill (L / Passenger)

Supplied	3628200.0 L
Calculated	0.5 L / Passenger
Baseline	2 L / Passenger
Best Practice	1.4 L / Passenger
Difference	64.3% better than the Best Practice level

Recycled / Reused / Composted Waste (%)

Supplied	17.0%
Calculated	17.0%

Waste Recycling Rating (Points)

Supplied	60.1 Points
Calculated	60.1 Points
Baseline	50 Points
Best Practice	80 Points
Difference	10.1 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	81.0 Points
Calculated	81.0 Points
Baseline	50 Points
Best Practice	80 Points
Difference	1.0 Points better than the Best Practice 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	82.0 Points
Calculated	82.0 Points
Baseline	50 Points
Best Practice	80 Points
Difference	2.0 Points better than the Best Practice level

Pesticides

Pesticide Products Rating (Points)

Supplied	54.0 Points
Calculated	54.0 Points
Baseline	50 Points
Best Practice	80 Points
Difference	4.0 Points better than the Baseline 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).