

# Carbon footprint & year overview

Financial year 2016-2017



Member of  
**GLOBAL GREEN and  
HEALTHY HOSPITALS**  
[www.greenhospitals.net](http://www.greenhospitals.net)



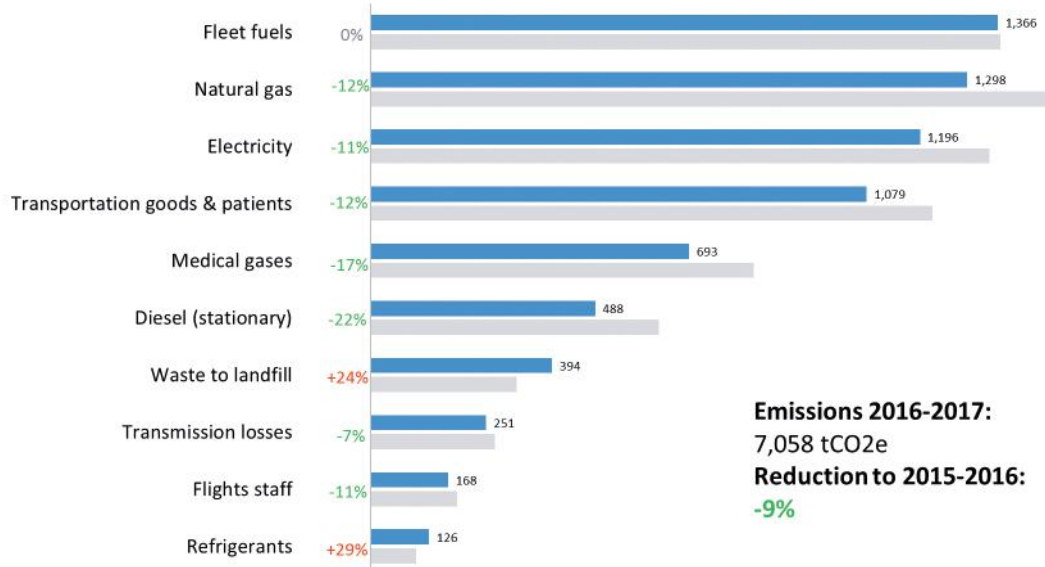
# Our carbon footprint for the financial reporting year July 2016 to June 2017

This footprint has been calculated for the financial reporting year from July 2016 to June 2017.

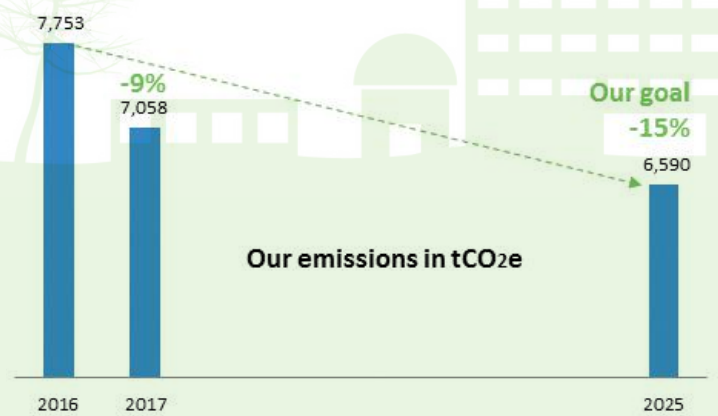
## Results; a reduction of 9 per cent of our CO<sub>2</sub> emissions



CO<sub>2</sub> emissions [tCO<sub>2</sub>e] of Northland DHB 2016-2017 compared to 2015-2016



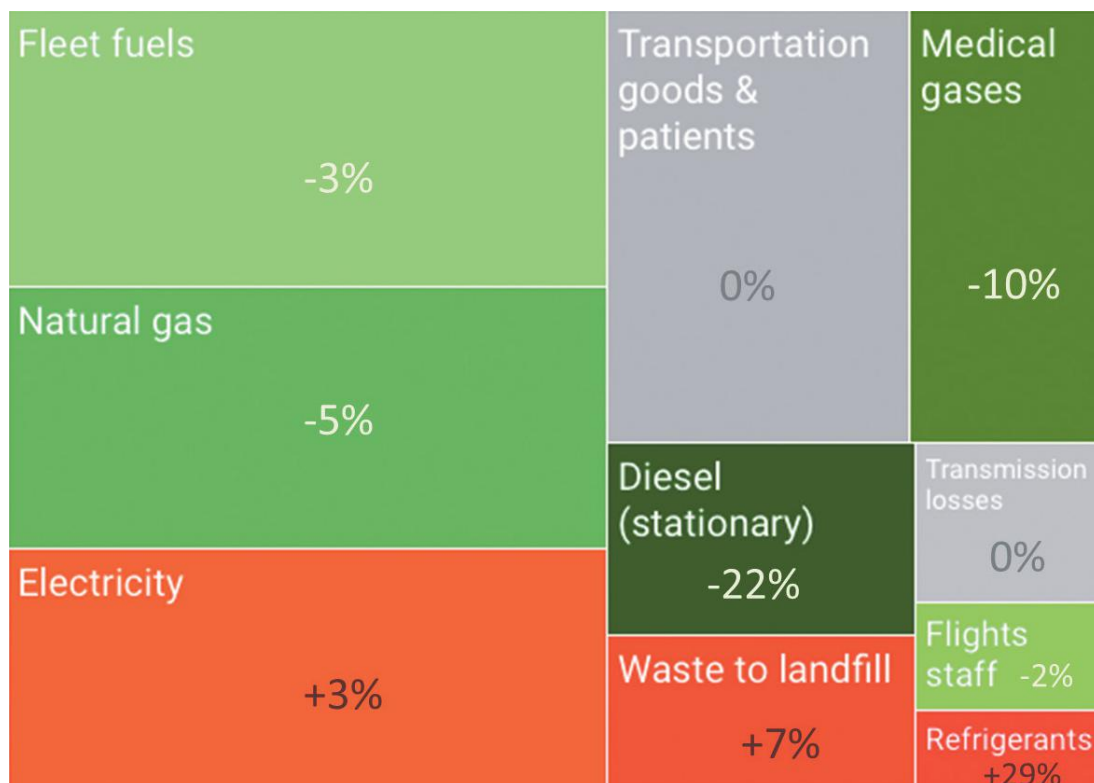
## Well on track to achieve our goal in 2025



Status 2017: above target to reach our 2025 goal of -15% greenhouse gas emission reduction

# What has changed in our consumption

Emission factors of the footprint categories are adjusted every year. The following graph displays the changes in quantities which gives a better understanding of actual change within the Northland DHB.



## Comments on the footprint

- Overall most categories have seen a positive reduction trend which is remarkable considering the growth of the hospital.
- The 22% reduction of stationary diesel is due to the conversion of the diesel boiler in Dargaville to electric heat pumps.
- Although the emissions for electricity have reduced by 11% there was an increase in consumption of 3%
- The methodology to calculate refrigerants has changed from estimates in 2016 to top up data in 2017 resulting in an increase.
- Waste to landfill has seen a significant increase in both quantity and emissions.
- Due to better availability of data for the benchmark year FY2015-2016 the emissions for this year have been adjusted from 7,488 to 7,753 tCO<sub>2</sub>e.

## Some numbers



- 20,000 litre petrol fleet



- 51,000 litre diesel for heating



+ 290,000 kWh electricity

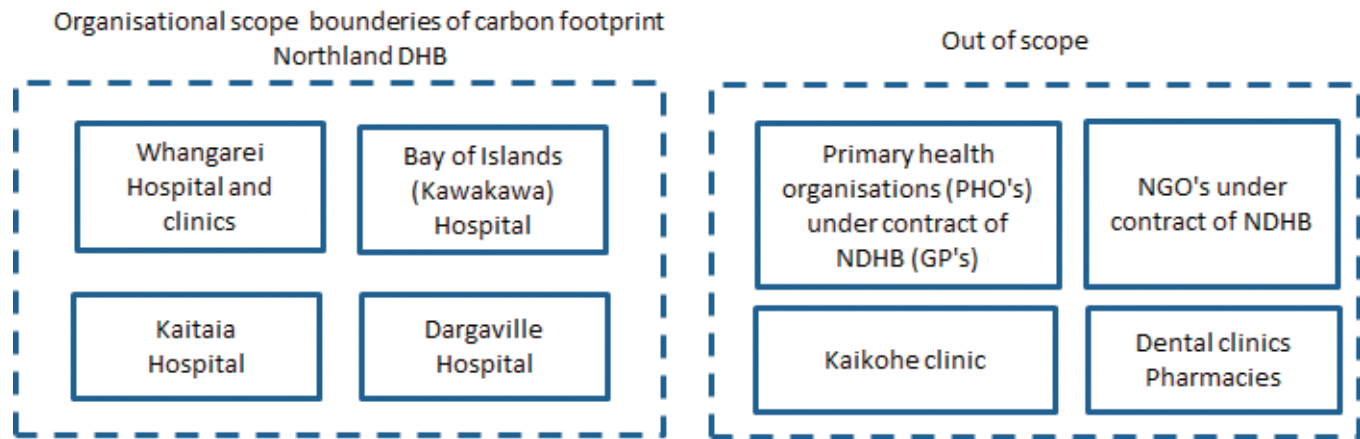


+ 53 tonnes waste



# The organisation and the organisational boundaries

The Northland District Health Board is a Crown Agent and is responsible for providing or funding the provision of health and disability services for the people of Northland. Acute services are provided through the DHB's four hospitals, supplemented by a network of community-based, outpatient and mental health services.



The organisational boundary to calculate the footprint has been set around the hospitals of Whangarei, Bay of Islands (Kawakawa), Dargaville and Kaitiia. Outside the scope of the footprint are general practices, NGO's under contract of the Northland DHB, dental clinics, pharmacies and clinics outside the 4 main hospital towns.

## Audit, verification and accuracy

The carbon footprint has been third party verified by Enviro-Mark Solutions according to ISO 14064-1:2006 Verification and assurance level: reasonable (a higher level of assurance compared to limited assurance). From the analysis conducted the quality of the inventory checked against completeness and uncertainty is classified as: High.

## Information and contact



**Margriet Geesink**

Sustainability Development Manager NDHB  
Margriet.geesink@northlanddhb.org.nz



# 2016-2017 Highlights success drivers



Commitment



Communication



Change Management



Collaboration



Certification



Sustainability manager role approved



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**Sustainability Triple aim Northland DHB**

Reduce Environmental Impact

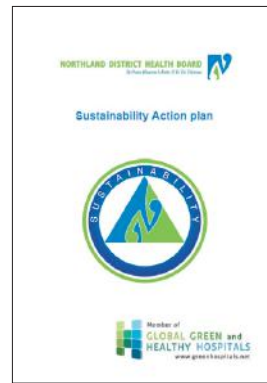


Cost Savings

Improve Public Health

**Our 5 success drivers were key to start our sustainability journey**

Action plan & strategy completed

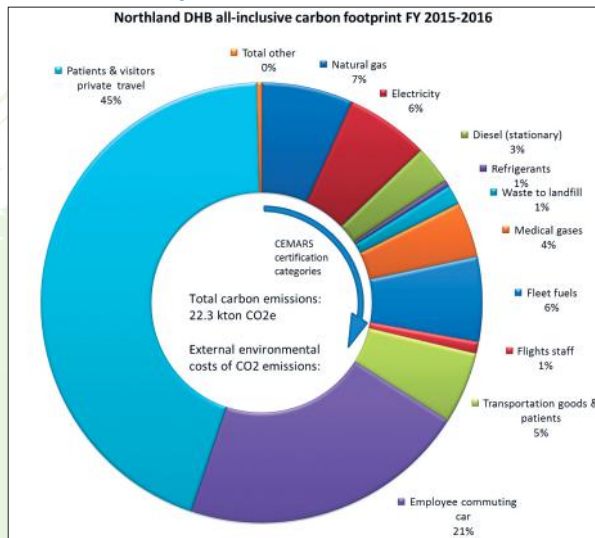


How to get started guide for departments



**Goal set: -15% emission reduction in 2025 compared to 2016**

Carbon footprint calculated



Branding Internet & intranet

Sustainability team created

Created Northland Sustainability network

Sustainability sessions at departments



# 2016-2017

## Highlights key areas



Energy



Waste



Transport



Waste



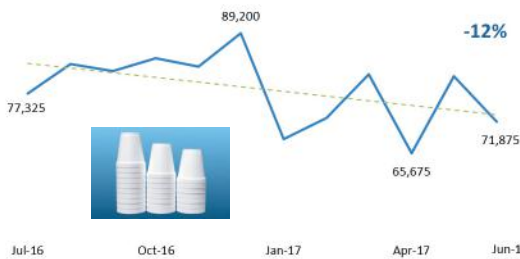
Buildings

### Energy Efficiency and Conservation Authority and Northland District Health Board Collaboration Agreement

### Waste audit Recycling cages

### \$94,000 in EECA funding

Foam cup reduction 12%



### 6 Electric vehicles on order



### PVC recycling



### Diesel boiler conversion

You are here: Media releases > Northland DHB to replicate Bay of Islands Hospital energy savings

### Northland DHB to replicate Bay of Islands Hospital energy savings

10 March 2017

A project to save energy at Northland District Health Board's Bay of Islands hospital has been so successful it has been replicated at the DHB's Dargaville hospital, and Kaitiaki hospital will shortly follow suit.

The Kawakawa project, funded by the DHB, installed modern heat-pumps to replace a centralised boiler that provided hot water and heating. For the latter two projects, Northland

### BYO cup discount



### EV shuttle bug



# Appendix: Category summary and benchmark data

## Data Carbon Footprint Year 2016-2017

Target:  
6,590 tCO<sub>2</sub>e in 2025

**NORTHLAND DISTRICT HEALTH BOARD**  
Te Poari Hauora Ā Rohe O Te Tai Tokerau



	Qty			UOM	Emission tCO <sub>2</sub> e		
	2015-2016	2016-2017			2015-2016	2016-2017	
<b>Energy use</b>							
Natural gas	7,057,930	6,691,961	-5%	kWh	1,482	1,298	-12%
Electricity	9,758,364	10,047,797	3%	kWh	1,347	1,196	-11%
Diesel (stationary)	233,633	182,181	-22%	Litre	626	488	-22%
Transmission losses	16,816,294	16,739,758	0%	kWh	269	251	-7%
Refrigerants				kg	98	126	29%
<b>Transportation</b>							
Fleet fuels	568,249	548,697	-3%	Litre	1,370	1,366	0%
Transportation goods & patients	4,044,822	4,056,038	0%	km	1,222	1,079	-12%
Flights staff	1,343,961	1,321,684	-2%	km	188	168	-11%
<b>Waste generation</b>							
Waste to landfill	738	791	7%	Tonne	318	394	24%
<b>Other</b>							
Medical gases	3,747	3,367	-10%	kg	834	693	-17%
				Total tCO <sub>2</sub> e	7,753	7,058	-9%
<b>Benchmark data, emissions per</b>							
Funding (m\$)	23.49	20.34	13%	tCO <sub>2</sub> e/ M\$			
FTE	3.74	3.33	-11%	tCO <sub>2</sub> e/ FTE			
Patient activity	69.42	62.55	-10%	kgCO <sub>2</sub> e / PA			
Building area (m <sup>2</sup> )	114.99	104.69	-9%	kg CO <sub>2</sub> e / m <sup>2</sup> building			





# Appendix: detailed dataset of carbon footprint

Detailed Carbon Footprint Year 2016-2017 per scope																																																																																																																																																																																																																																																																																																																												
Description	QTY		Δ	Unit	CO2e emission factor		Unit	Emission tCO2e		Δ	Datasource	Accuracy	Comments																																																																																																																																																																																																																																																																																																															
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<b>Scope 1</b>																																																																																																																																																																																																																																																																																																																												
Gas heating	7,057,930	6,691,961	-5%	kWh	0.21	0.194	kg CO2e/kWh	1,482	1,298	-12%	Genesis supplier	High, supplier meter readings	Whangarei only connected to gas.																																																																																																																																																																																																																																																																																																															
Diesel heating	233,633	182,181	-22%	Litre	2.68	2.68	kg CO2e/L	626	488	-22%	Allied petroleum supplier	High, supplier data delivered litres and costs	Diesel boilers conversions at Kaitaia & Dargaville hospital																																																																																																																																																																																																																																																																																																															
Fleet fuels petrol	486,725	437,571	-10%	Litre	2.36	2.43	kg CO2e/L	1,149	1,063	-7%	BP and Mobil fuel card report.	High, fuel card reports BP and Mobil																																																																																																																																																																																																																																																																																																																
Fleet fuels diesel	81,524	111,126	36%	Litre	2.72	2.72	kg CO2e/L	222	302	36%	BP and Mobil fuel card report.	High, fuel card reports BP and Mobil																																																																																																																																																																																																																																																																																																																
Medical gases	3,747	3,367	-10%	kg	varies	varies	kgCO2e/kg	834	693	-17%	BOC supplier data	Medium High, based on delivered goods not empty bottles	Entonox, N2O and CO2 use																																																																																																																																																																																																																																																																																																															
Refrigerants	-	-	-	kg	varies	varies	kg CO2e/kg	98	126	29%	Airzone contractor	Medium high. Based on top up data.	Change in methodology from estimated leakage rates to top up data.																																																																																																																																																																																																																																																																																																															
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Electricity	9,758,364	10,047,797	3%	kWh	0.138	0.119	kg CO2e/kWh	1,347	1,196	-11%	Contact, Genesis supplier	High, meter readings	Large meters and small NDHB related meters																																																																																																																																																																																																																																																																																																															
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Puvera landfill general waste VHA, DAR, BOI</td> </tr> <tr> <td>Waste to landfill without landfill gas recovery</td> <td>66,600</td> <td>61,600</td> <td>-8%</td> <td>kg</td> <td>1.13</td> <td>1.13</td> <td>kg CO2e/kg</td> <td>75</td> <td>70</td> <td>-8%</td> <td>Northlandwaste</td> <td>Medium high. Predefined weight per pick up</td> <td>Kaitaia hospital waste to Ahipara landfill. No gas collection.</td> </tr> <tr> <td>Transportation and distribution, truck run</td> <td>100,228</td> <td>100,228</td> <td>0%</td> <td>km</td> <td>0.6664</td> <td>0.6664</td> <td>kg CO2e/km</td> <td>67</td> <td>67</td> <td>0%</td> <td>Health Alliance</td> <td>Medium -high. Daily truck run included, other couriers excluded</td> <td>Mangonui Haulage truck. Mitsubishi FUSO FM280-m1 2015 4km/l. Same as last year. 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New calculation compared to last year on truck instead of patients</td> </tr> <tr> <td>Transportation- Serviced patient travel helicopter</td> <td>485</td> <td>311</td> <td>-36%</td> <td>hrs</td> <td>400.9</td> <td>400.9</td> <td>kg CO2e/hr</td> <td>194</td> <td>125</td> <td>-36%</td> <td>Finance department</td> <td>High based on flight data</td> <td></td> </tr> <tr> <td>Transportation - Fixed wing flights patients to other hospitals</td> <td>15,234</td> <td>44,596</td> <td>193%</td> <td>km</td> <td>0.16</td> <td>0.147</td> <td>kg CO2e/km</td> <td>2</td> <td>7</td> <td>169%</td> <td>Finance department</td> <td>High based actual flights</td> <td>More long haul flights compared to last year</td> </tr> <tr> <td>Transportation NTA claims patients</td> <td>3,432,971</td> <td>3,207,378</td> <td>-7%</td> <td>km</td> <td>0.231</td> <td>0.209</td> <td>kg CO2e/km</td> <td>793</td> <td>670</td> <td>-15%</td> <td>Finance department, NTA claims</td> <td>High based on reimbursements</td> <td></td> </tr> </tbody> </table> </td> </tr> </tbody> </table>														2015-2016	2016-2017			2015-2016	2016-2017			2015-2016	2016-2017			Flights- domestic	653,534	642,403	-2%	km	0.16	0.147	kg CO2e/km	105	94	-10%	FCm travel agency	High, ISO GHGP extract of database	FCM CO2 emission factors from last year so only km total used	Flights- int. short haul (<3700km)	312,919	274,065	-12%	km	0.0942	0.0891	kg CO2e/km	28	24	-14%	FCm travel agency	High, ISO GHGP extract of database	FCM CO2 emission factors from last year so only km total used	Flights - int. long haul (>3700km)	189,840	197,072	4%	km	0.111	0.0946	kg CO2e/km	25	19	-25%	FCm travel agency	High, ISO GHGP extract of database	FCM CO2 emission factors from last year so only km total used	Flights Doctors plane VHA-Kaitaia	187,668	208,143	11%	km	0.16	0.147	kg CO2e/km	30	31	2%	Finance department	High, based on booked passengers.	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Transportation and distribution, truck run	100,228	100,228	0%	km	0.6664	0.6664	kg CO2e/km	67	67	0%	Health Alliance	Medium -high. Daily truck run included, other couriers excluded	Mangonui Haulage truck. Mitsubishi FUSO FM280-m1 2015 4km/l. Same as last year. Dargaville courier excluded based on minimas	Business travel in private cars	163,410	-	-	km	0.231	0.209	kg CO2e/km	38	-				Excluded based on minimas	Rental cars	5,719	-	-	km	0.231	0.209	kg CO2e/km	1	-				Excluded based on minimas	Taxis	108,257	-	-	\$	0.102	0.067	kg CO2e/\$	11	-				Excluded based on minimas									841	879					<b>Scope 3 down</b>													<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>2015-2016</th> <th>2016-2017</th> <th></th> <th></th> <th>2015-2016</th> <th>2016-2017</th> <th></th> <th></th> <th>2015-2016</th> <th>2016-2017</th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td>Transportation Serviced patient travel ambulance</td> <td>418,579</td> <td>626,026</td> <td>50%</td> <td>km</td> <td>0.307</td> <td>0.278</td> <td>kg CO2e/km</td> <td>129</td> <td>174</td> <td>35%</td> <td>Finance department, st John</td> <td>High based on invoices</td> <td></td> </tr> <tr> <td>Transportation Serviced external patient Kaitaia bus</td> <td>77,810</td> <td>77,810</td> <td>0%</td> <td>km</td> <td>0.4722</td> <td>0.4722</td> <td>kg CO2e/km</td> <td>37</td> <td>37</td> <td>0%</td> <td>Finance department, Harrison Cape runner</td> <td>Medium based on amount of runs and estimate van versus bus use</td> <td>no new distance data. 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Flights- domestic	653,534	642,403	-2%	km	0.16	0.147	kg CO2e/km	105	94	-10%	FCm travel agency	High, ISO GHGP extract of database	FCM CO2 emission factors from last year so only km total used																																																																																																																																																																																																																																																																																																															
Flights- int. short haul (<3700km)	312,919	274,065	-12%	km	0.0942	0.0891	kg CO2e/km	28	24	-14%	FCm travel agency	High, ISO GHGP extract of database	FCM CO2 emission factors from last year so only km total used																																																																																																																																																																																																																																																																																																															
Flights - int. long haul (>3700km)	189,840	197,072	4%	km	0.111	0.0946	kg CO2e/km	25	19	-25%	FCm travel agency	High, ISO GHGP extract of database	FCM CO2 emission factors from last year so only km total used																																																																																																																																																																																																																																																																																																															
Flights Doctors plane VHA-Kaitaia	187,668	208,143	11%	km	0.16	0.147	kg CO2e/km	30	31	2%	Finance department	High, based on booked passengers.	GBA and Sunair																																																																																																																																																																																																																																																																																																															
Transmission and distribution losses, gas	7,057,930	6,691,961	-5%	kWh	0.0225	0.0229	kg CO2e/kWh	159	153	-3%	Report Voluntary GHG reporting	Medium, unknown if losses are included in energy usage	Possibly included in gas use. Unknown.																																																																																																																																																																																																																																																																																																															
Transmission and distribution losses, electricity	9,758,364	10,047,797	3%	kWh	0.0113	0.0097	kg CO2e/kWh	110	97	-12%	Report Voluntary GHG reporting	Medium, unknown if losses are included in energy usage	Possibly included in electricity use. Unknown.																																																																																																																																																																																																																																																																																																															
Waste to landfill with landfill gas recovery	671,252	729,583	9%	kg	0.361	0.444	kg CO2e/kg	242	324	34%	Waste Management, Northlandwaste	Medium high. A few container with predefined weights	Medical waste to Redvale landfill. Puvera landfill general waste VHA, DAR, BOI																																																																																																																																																																																																																																																																																																															
Waste to landfill without landfill gas recovery	66,600	61,600	-8%	kg	1.13	1.13	kg CO2e/kg	75	70	-8%	Northlandwaste	Medium high. Predefined weight per pick up	Kaitaia hospital waste to Ahipara landfill. No gas collection.																																																																																																																																																																																																																																																																																																															
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