

**NORTHLAND DISTRICT HEALTH BOARD**

*Te Poari Hauora Ā Rohe O Te Tai Tokerau*



# Carbon footprint

Financial year 2015-2016



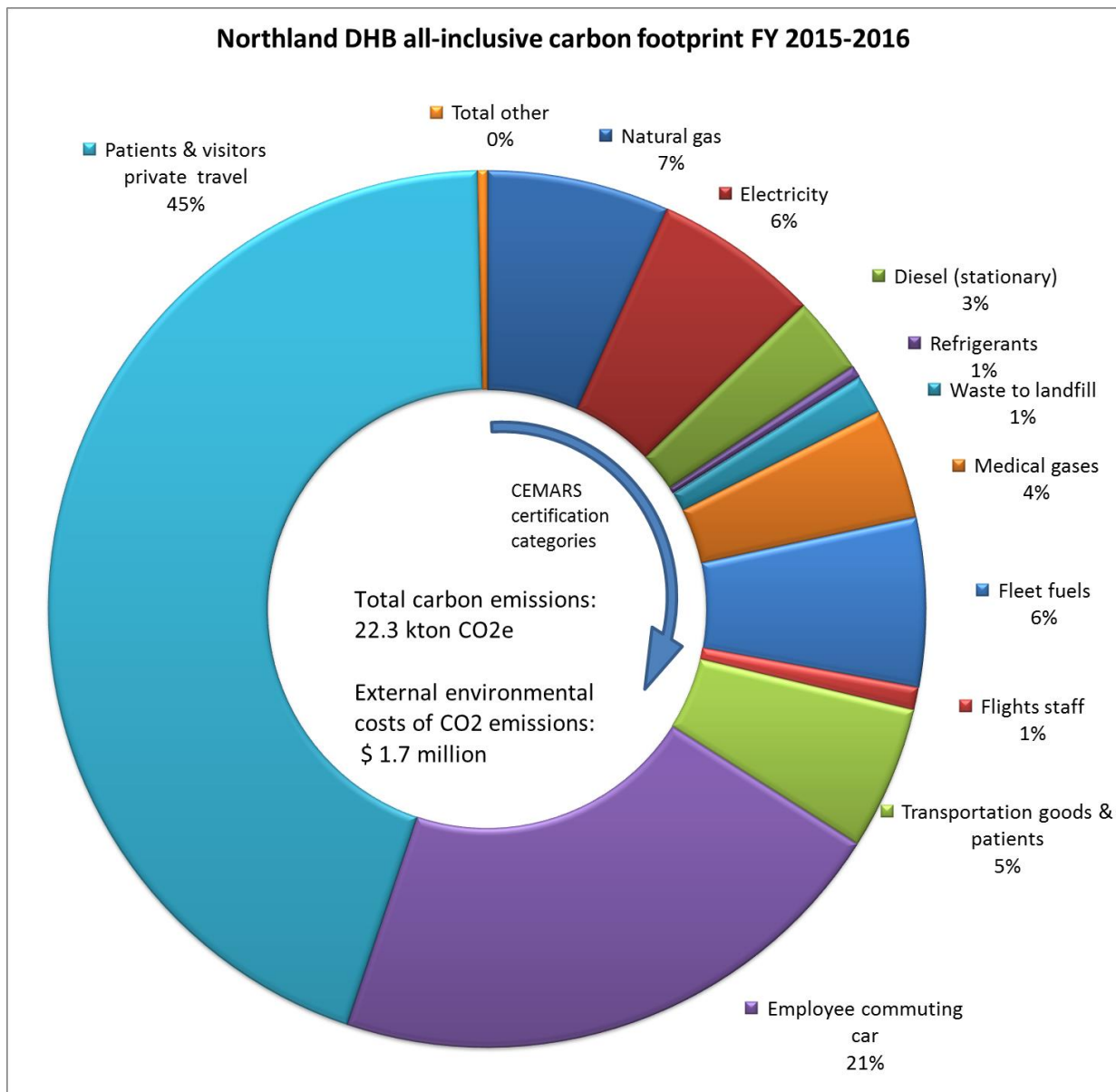
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## OUR ALL-INCLUSIVE CARBON FOOTPRINT

Two footprints have been calculated for the Northland DHB. One all-inclusive is including all transport movements from patients and employees to and from the hospitals. The other footprint includes only categories which are part of the mandatory CEMARS certification.



**>75% dominated by transport movements of patients, commuting and our fleet**

**Total emissions: 22,3 ktonne CO<sub>2</sub>e**

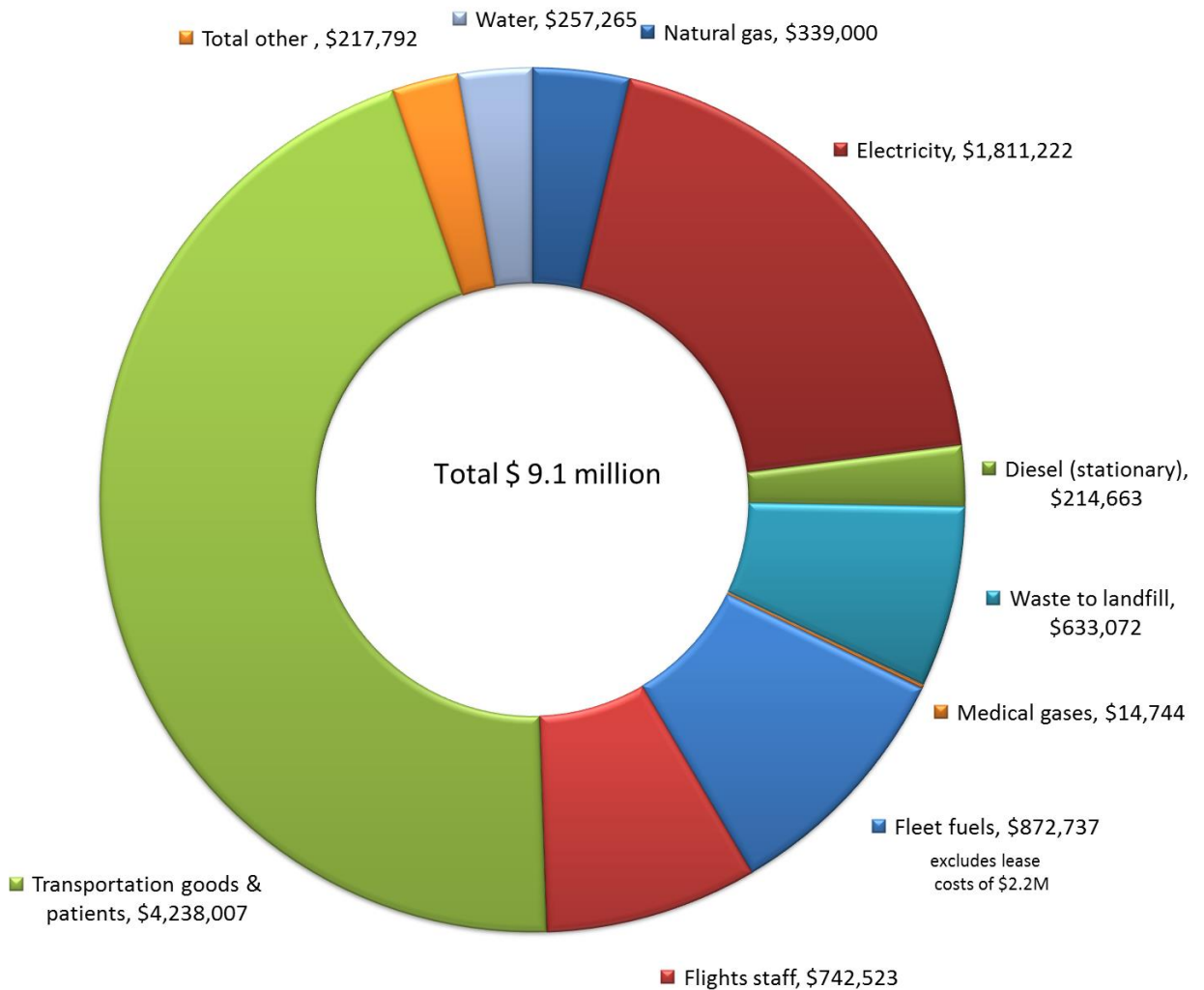
**Total “external” environmental costs\*: NZ\$ 1.7 million**

\*External costs (or the environmental cost indicator) are based on European methodology to value environmental external costs per environmental effect. It is based on the hypothetical prevention costs of measures (eg carbon capture) that have to be taken to reduce current emissions to a sustainable level and achieve the emission target. The costs give an indication of the costs the society should be willing to pay to mitigate that specific environmental impact. For global warming the value equates to NZ\$ 0,077 /kg CO<sub>2</sub>e



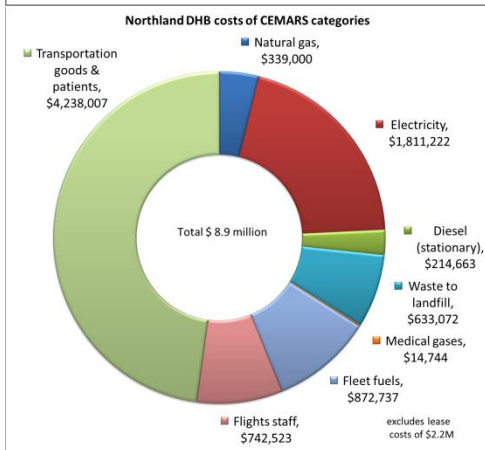
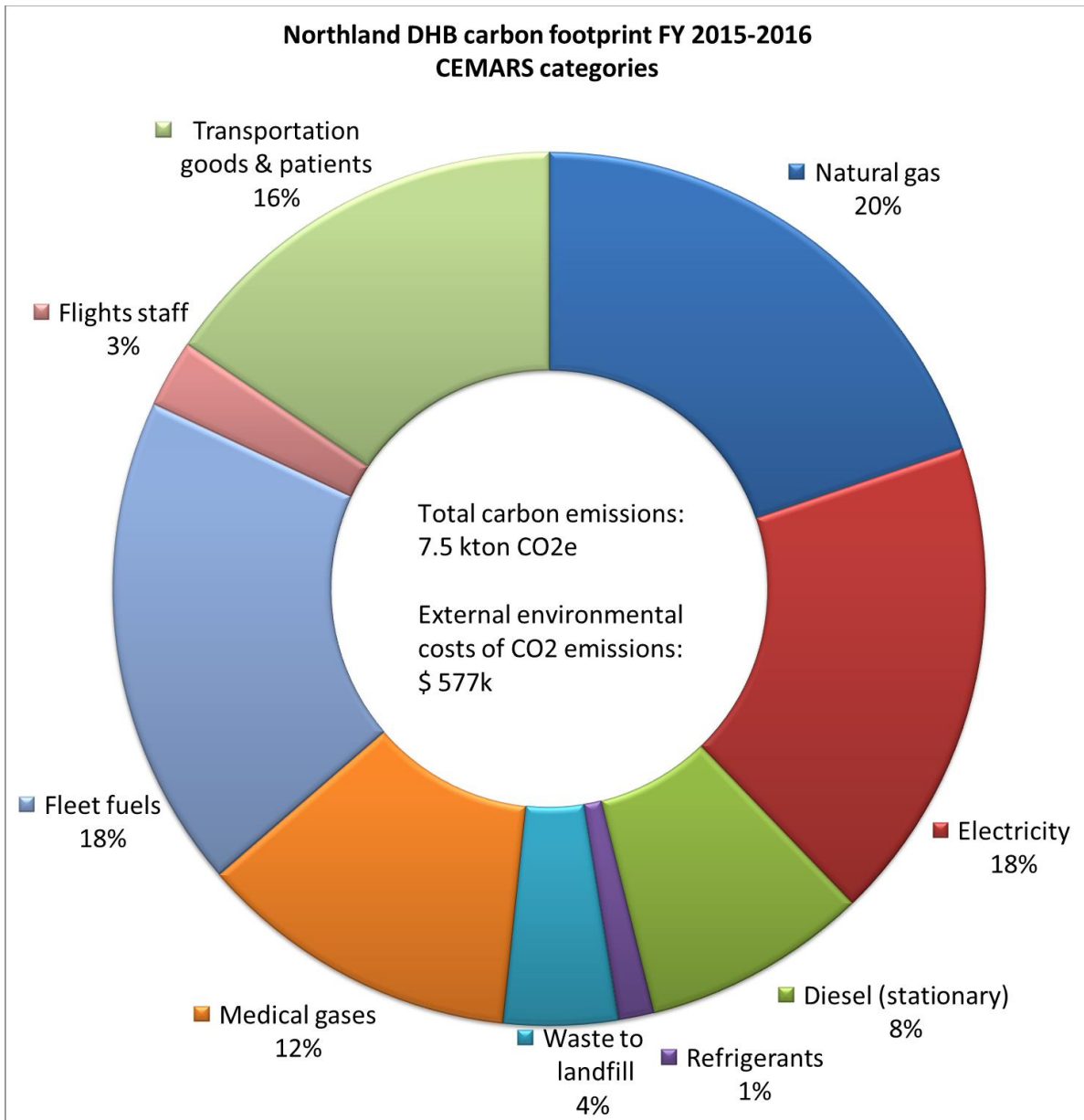
## Northland DHB COSTS OF THE ALL-INCLUSIVE FOOTPRINT

Costs of Northland DHB all-inclusive carbon footprint FY 2015-2016





## OUR CEMARS CERTIFICATION MANDATORY FOOTPRINT



Almost 50%  
dominated by  
building energy  
consumption

Total emissions:  
7.5 ktonne CO2e



## OUR FOOTPRINT

### Staff commutes



### Private and serviced transport patients



### Fleet fuels



### Flights



### Energy consumption



### Diesel for heating



> 37,000 packs of paper / year



### Waste to landfill



### Water



### Medical gases





## BACKGROUND DATA CARBON FOOTPRINT 2015-2016

	Description	Value	Unit	CO2e emission factor	CO2e emission	Cost NDHB	Datasource	Accuracy	Comments	
<b>Scope 1</b>										
				Qty	Unit	[ton CO2e]				
CEMARS	Gas heating	7,057,930	kWh	0.21	kg CO2e/kWh	1,482	\$339,000	Facilities management & Oracle	High, meter readings	Whangarei only connected to gas.
CEMARS	Diesel heating	233,633	Litre	2.68	kg CO2e/L	626	\$214,663	Allied petroleum supplier	High, supplier data delivered litres and costs	Diesel boilers only at Kaitaia & Dargaville hospital
CEMARS	Company fleet fuels	568,249	Litre	2.36/ 2.72	kg CO2e/L	1,370	\$872,737	BP and Mobil fuel card report. Facilities management	High, fuel card reports BP and Mobil	14% diesel use. Lease costs NZ\$ 2.2 Million
CEMARS	Medical gases	6,017	kg	298/1	kgCO2e/kg	896	\$14,744	BOC supplier data	High, based on delivered goods	Entonox, N2O and CO2 use
CEMARS	Refrigerants	1,630	kg	varies	kg CO2e/kg	98	?	Airzone contractor	Low-medium, estimate charge kg and leakage %	No data on top ups, estimates based on charges
<b>Scope 2</b>										
CEMARS	Electricity	9,758,364	kWh	0.138	kg CO2e/kWh	1,347	\$1,811,222	Contact, Genesis supplier	High, meter readings	Large meters and small NDHB related meters
	<b>Total scope 1 &amp; 2</b>					<b>5,819</b>	<b>\$3,252,367</b>			
	<b>CEMARS scope 1 &amp; 2</b>					<b>5,819</b>	<b>\$3,252,367</b>			
						ton CO2e	cost NDHB			
<b>Scope 3 up</b>										
	Paper landfilled	18,648	kg	0.963	kg CO2e/kg	18	\$0	Health Alliance database	Medium, invoices of procured goods, estimate % landfilled	Procured paper 93,240 kg @ \$166,035. Assumed 20% confidential to landfill with medical waste
	Employee commuting -car	20,172,702	km	0.231	kg CO2e/km	4,660	\$0	Payroll + estimate	Medium to low. Estimate based on suburb location of staff, 25% unknown. Estimates of car use, working days and staff into FTE ratio.	Paid parking income not included
	Employee commuting - public transport	108,358	km	0.1	kgCO2e/km	11	\$0	Payroll + estimate	Low, estimate based on staff location and percentage of public transport use	
CEMARS	Flights- domestic	653,534	km	0.16	kg CO2e/km	105	\$269,817	FCm travel agency	High, ISO GHGP extract of database	detailed cabin class emission profile used from datasheet
CEMARS	Flights- international short haul (<3700km)	312,919	km	0.0942	kg CO2e/km	28	\$53,315	FCm travel agency	High, ISO GHGP extract of database	detailed cabin class emission profile used from datasheet
CEMARS	Flights- international long haul (>3700km)	189,840	km	0.111	kg CO2e/km	25	\$13,092	FCm travel agency	High, ISO GHGP extract of database	detailed cabin class emission profile used from datasheet
CEMARS	Flights Doctors plane GBA WHA- Kaitaia	187,668	km	0.16	kg CO2e/km	30	\$406,299	Fac management	High, based on booked passengers.	
CEMARS	Waste to landfill	737,852	kg	0.361/1.13	kg CO2e/kg	318	\$633,072	Report Northlandwaste general waste. Oracle invoices waste. Medical report and landfill contractors	Medium high. Uncertainty if all waste from different contracts is included	Ahipara waste to landfill data from Kaitai hospital estimated. Cost include all costs under account numbers incl collections rental bags. Dump fees only are \$135k.
CEMARS	Transportation and distribution, truck run	100,228	km	0.374	kg CO2e/km	37	?	Health Alliance	Medium -high. Daily truck run included, other couriers excluded	Manganui Haulage truck. Dargaville courier excluded based on minimas
CEMARS de minimis	Business travel in private cars	163,410	km	0.231	kg CO2e/km	38	\$117,655	Payroll, Belinda Edwards	High, reimbursements of claims	
CEMARS de minimis	Rental cars	5,719	km	0.231	kg CO2e/km	1	\$6,000	FCm travel agency	High, ISO GHGP extract of database	Cost estimate \$50/day 123 days
CEMARS de minimis	Taxis	\$108,257	\$	0.102	kg CO2e/\$	11	\$108,257	Oracle	Medium, extract from Oracle from contracted taxiseservices. Other reimbursements unknown	Includes staff and patients
	Transmission and distribution losses	9592619/ 7057930	kWh	0.0113/ 0.0225	kg CO2e/kWh	269	\$0	Report Voluntary GHG reporting	Medium, unknown if losses are included in energy usage	Possibly included in electricity use. Unknown. Cost included in gas and electricity invoices
	<b>Total scope 3 up</b>					<b>5,551</b>	<b>\$1,607,507</b>			
	<b>CEMARS scope 3 up</b>					<b>543</b>	<b>\$1,375,595</b>			
						ton CO2e	cost NDHB			
<b>Scope 3 down</b>										
CEMARS	Transportation Serviced patient travel ambulance	418,579	km	0.307	kg CO2e/km	129	\$965,910	Belinda Edwards	High based on invoices	
CEMARS	Transportation Serviced external patient Kaitaia bus	77,810	km	0.1	kg CO2e/km	8	\$116,069	Belinda Edwards	High based on invoices	
CEMARS	Transportation- Serviced patient travel helicopter	485	hrs	400.9	kg CO2e/hr	194	\$1,916,054	Belinda Edwards	High based on invoices	
CEMARS	Transportation - Fixed wing flights patients to Auckland	15,234	km	0.16	kg CO2e/km	2	\$278,742	Belinda Edwards	High based on invoices and patient logbook	
CEMARS	Transportation NTA claims patients	3,432,971	km	0.231	kg CO2e/km	793	\$961,232	Belinda Edwards, NTA claims	High based on reimbursements	
	Private travel patients and visitors	43,441,081	km	0.231	kg CO2e/km	9,791		NTA claims + Annual report statistics, estimate sustainability manager	Low, estimate based on NTA claims + hospital visits statistics, 70% private travel with car and estimate average travel distance 19 km one way	
	<b>Total scope 3 down</b>					<b>10,917</b>	<b>\$4,238,007</b>			
	<b>CEMARS scope 3 down</b>					<b>1,126</b>	<b>\$4,238,007</b>			
						ton CO2e	cost NDHB			
	<b>Total full footprint</b>					<b>22,287</b>	<b>\$9,097,881</b>			
	<b>Total CEMARS footprint</b>					<b>7,488</b>	<b>\$8,865,968</b>			



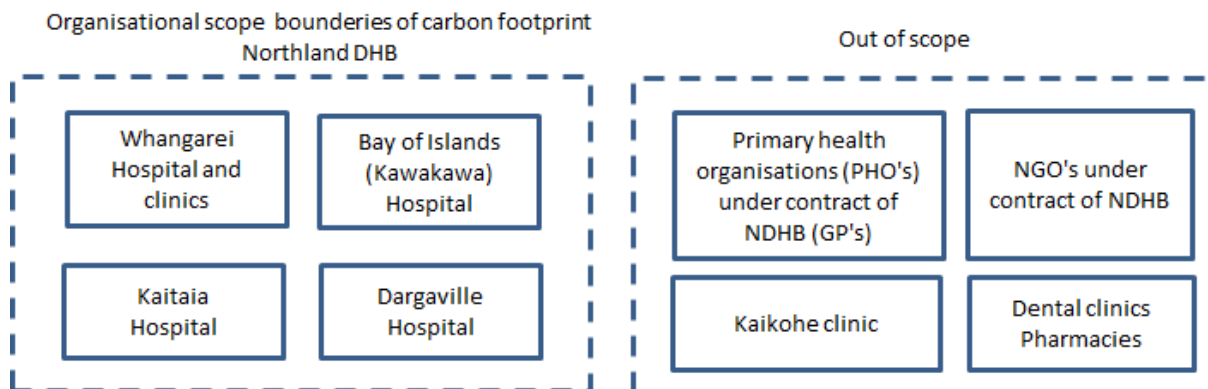
## INFORMATION ON THE CARBON FOOTPRINT

### Reporting year

The footprints have been calculated for the financial reporting year from July 2015 to June 2016.

### 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 these footprints have been set around the hospitals of Whangarei, Bay of Islands (Kawakawa), Dargaville and Kaitaia. Outside the scope of these footprints are general practices, NGO's under contract of the NDHB, dental clinics and pharmacies and clinics outside the 4 main hospital towns.

### Accuracy

The accuracy of this footprint is per category mentioned in the table of background data. Generally the accuracy is medium to high based on invoices or actual tracking and reports of the data. The accuracy of private patient travel and car commutes by staff are low. They are partly based on known statistics of living location and hospital visit statistics but are also based on estimates for percentage of car use.

### Audit and verification

The mandatory CEMARS certification categories of these footprints have been audited and verified by Enviromark Solutions.

### Information and contact



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