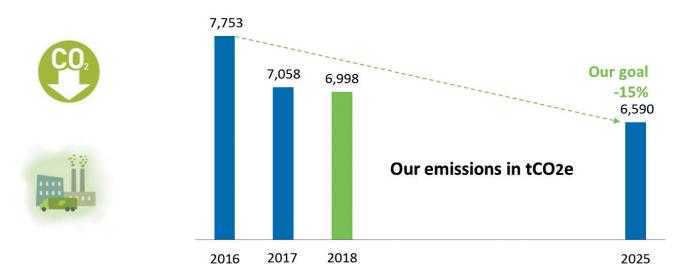
Carbon footprint & year overview

Financial year 2018



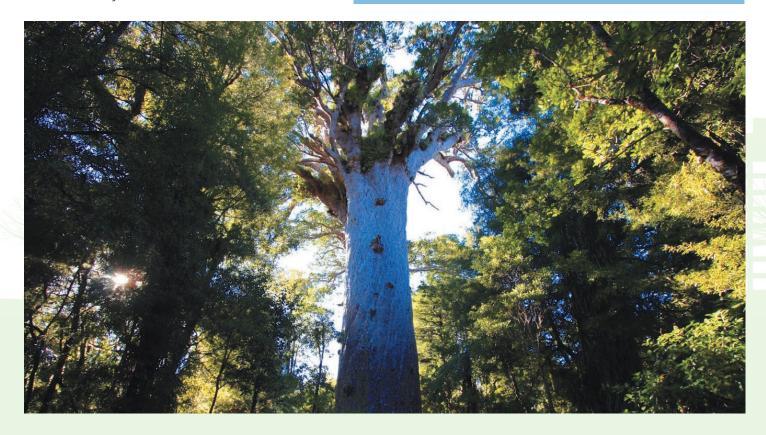
This carbon footprint for the Northland DHB has been calculated for the financial reporting year from the 1st of July 2017 until the 30th of June 2018.

We are on track to achieve our goal in 2025

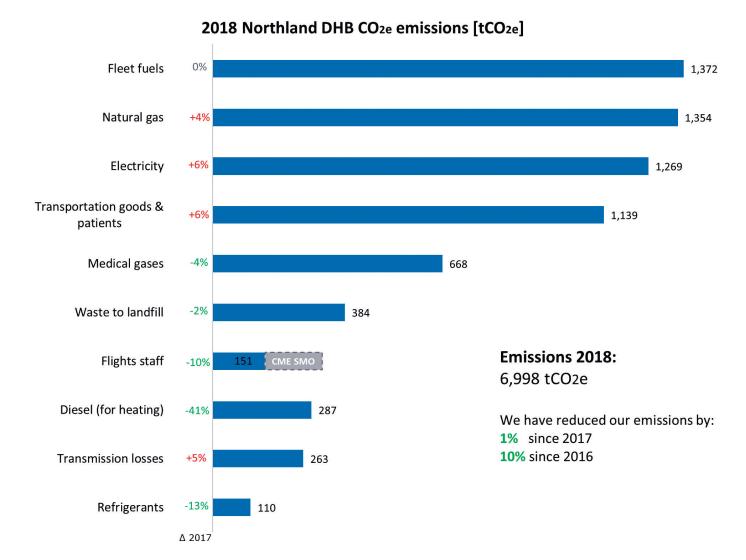


Northland DHB has made the commitment to reduce its carbon emissions by 15 percent in 2025 compared to 2016. In 2018 Northland DHB's emissions were 6,998 tCO2e, down 1 percent compared to 2017 and a 10% reduction compared to the benchmark year 2016.

Northland DHB remains on track to reach the 2025 goal of 15% greenhouse gas emissions reduction.



Our emissions and trends



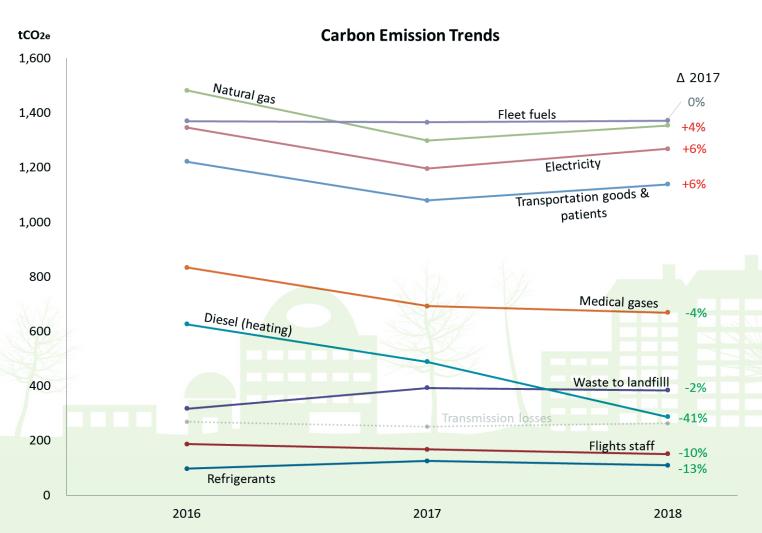
- Despite considerable activity growth a greenhouse gas emission reduction was achieved for the financial year 2018. Over the last 2 years our funding increased by 16%, our FTE increased from 2,071 to 2,203, patient activity increased by 3% and the 685 m2 new Bay of Islands hospital building was added to the building assets.
- Fleet fuels remain the largest category in our carbon footprint but the consumption has remained fairly constant over the previous years. Seven electric vehicles have been added to the fleet
- Both gas and electricity, second and third largest emission sources, saw an increase in consumption.
 Gas is very weather-dependant so difficult to predict. Electricity consumption was expected to
 increase due to the diesel boiler conversion to electric heat pumps in Dargaville but all hospitals
 had an upward trend in consumption.
- The transportations, goods & patients category consists of distribution of goods and patients travel by ambulance, helicopter, flights, bus and the most dominant contribution National Travel Assistance claims of patients travelling in their own car mostly to Auckland. The increase in emissions is caused mostly by an increase in kilometres in this category.
- In 2017 our waste consumption had seen the largest increase in emissions, but in 2018 a 2% reduction was achieved mostly by a reduction of general waste and more recycling.



- In the carbon emissions trends graph very clearly the reduced consumption of diesel for heating can be seen due to the diesel boiler conversion in Dargaville to electric heat pumps.
- There was more domestic air travel but the reduction of 10% in air travel was due to less long haul flights and due to the doctors' plane to Kaitaia not being available for several months. The flights for Senior Medical Officers (CME SMO) were not captured in air travel over the last few years due to a lack of data availability. Investigation showed it is a significant contributor to air travel and by current estimate it would double our air travel emissions. Efforts will be made to capture these flight details with the intention to include it in future carbon footprints.

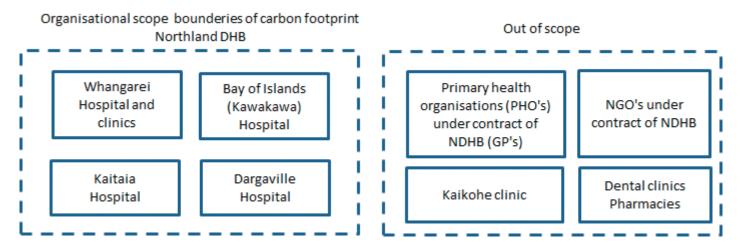
Some numbers compared with last year





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 operational control consolidation approach has been used to account for operational emissions and the boundary has been set around the hospitals of Whangarei, Bay of Islands (Kawakawa), Dargaville and Kaitaia. 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.

Emissions source exclusions

The following mandatory emissions sources were excluded from the inventory:

GHG emissions source	GHG emissions level scope	Reason for exclusion			
Postage and couriers	Scope 3 Mandatory	De minimis (insignificant)			
Rental cars	Scope 1 Mandatory	De minimis (insignificant)			
Private cars (staff mileage claims)	Scope 3 Mandatory	De minimis (insignificant)			
Business taxi transport	Scope 3 Mandatory	De minimis (insignificant)			

Base year, 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. The base year of the carbon footprint is 2016.

Information and contact



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2018 Year in review



Carbon Footprint summary and Benchmark data 2018

Target: 6,590 tCO_{2e} in 2025

		Quantity		UOM	Emission in tCO _{2e}			
	2016	2017	2018		2016	2017	2018	
Energy use								
Natural gas	7,058k	6,692k	6,982k	kWh	1,482	1,298	1,354	
Electricity	9,758k	10,048k	10,663k	kWh	1,347	1,196	1,269	
Diesel (heating)	234k	182k	107k	Litre	626	488	287	
Transmission losses	16,816k	16,740k	17,645k	kWh	269	251	263	
Refrigerants	-	-	-	kg	98	126	110	
Transportation								
Fleet fuels	568k	549k	549k	Litre	1,370	1,366	1,372	
Transportation goods & patients	4,045k	4,056k	4,248k	km	1,222	1,079	1,139	
Flights staff	1,344k	1,322k	1,153k	km	188	168	151	
Waste generation								
Waste to landfill	738	791	767	Tonne	318	394	384	
Other								
Medical gases	3,747	3,367	3,346	kg	834	693	668	
				Total	7,753	7,058	6,998	

Benchmark data, emissions per:

	2016	2017	2018	
Funding (M\$)*	23	20	18	tCO2e/M\$
FTE	3.7	3.3	3.2	tCO2e/FTE
Patient activity**	69	63	61	kgCO2e/PA
Building area (m²)	115	105	103	kgCO2e/m2 building

*Based on \$384M DHB funding of the hospitals/provider arm and mental health of out of \$655M total.



^{**} Patient Activity includes patient bed days and day cases

Detailed Carbon Footprint 2018 per scope

	Description		Quan	tity	ty		CO _{2e} emission factor			Emission tCO2e		Datasource	Accuracy	Comments
		2016	2017	2018		2016	2017 & 2018		2016	2017	2018			
	Scope 1 Gas heating	7,058k	6,692k	6,982k	kWh	0.21	0.194	kgCO2e/kWh	1,482	1,298	1,354	Genesis supplier	High, supplier meter readings	Whangarei only connected to gas.
	Diesel heating	234k	182k	107k	Litre	2.68	2.68	kgCO2e/L	626	488	287	Allied petroleum supplier	High, supplier data delivered litres and costs	Diesel boilers conversions at Kaitaia & Dargaville hospital
	Fleet fuels petrol	487k	438k	421k	Litre	2.36	2.43	kgCO2e/L	1,149	1,063	1,023		High, fuel card reports BP and Mobil	Kattala & Dalgaville Hospital
	Fleet fuels diesel	82k	111k	128k	Litre	2.72	2.72	kgCO2e/L	222	302	349		High, fuel card reports BP and Mobil	
	Medical gases	3,747	3,367	3,346	kg	varies	varies	kgCO _{2e} /kg	834	693	668		Medium High, based on delivered goods not empty bottles	Entonox, N2O and CO2 use
	Refrigerants	-	-	-	kg	varies	varies	kgCO _{2e} /kg	98	126	110	Airzone contractor	Medium high Based on ton un	
54%								Scope 1 total	4,410	3,971	3,792			
	Scope 2 Electricity	9,758k	10,048k	10,663k	kWh	0.138	0.119	kgCO _{2e} /kWh	1,347	1,196	1,269	Contact, Genesis supplier	High, meter readings	Large meters and small NDHB related meters
18%								Scope 2 total	1,347	1,196	1,269	·		
	Scope 3 up Flights business- domestic	654k	642k	726k	km	0.16	0.147	kgCO2e/pkm	105	94	107	FCm travel	High, ISO GHGP extract of	FCM CO2 emission factors from
	Flights business- int.short haul (<3700km)	313k	274k	297k	km	0.094	0.089	kgCO2e/pkm	28	24	26	FCm travel agency	database High, ISO GHGP extract of database	FCM CO2 emission factors from last year so only km total used
	Flights business - int. long haul (>3700km)	190k	197k	24k	km	0.111	0.095	kgCO2e/pkm	25	19	2	FCm travel agency	High, ISO GHGP extract of database	FCM CO2 emission factors from last year so only km total used
	Flights Doctors plane WHA- Kaitaia	188k	208k	106k	km	0.16	0.147	kgCO2e/pkm	30	31	16	Sunair and Finance department	High, based on booked passengers.	Sunair didn't operate plane for several months, road transport to Kaitaia
	Flights CME SMO	-	-	1,217k	km	-	varies	kg CO2e/pkm	_	-	150	Payroll and template	Low, many estimations. conversion from cost to PKM, estimates long short haul and type of class and mismatch with CMDHB template	Porposed to include tentative this year and start collecting more accurate data to include CME travel next year
	Transmission and distribution losses, gas	7,058k	6,692k	6,982k	kWh	0.023	0.023	kgCO _{2e} /kWh	159	153	160	Report Voluntary GHG reporting	Medium, unknown if losses are included in energy usage	Unknown.
	Transmission and distribution losses, electricity	9,758k	10,048k	10,663k	kWh	0.011	0.010	kgCO _{2e} /kWh	110	97	103	Report Voluntary GHG reporting	Medium, unknown if losses are included in energy usage	Unknown.
	Waste to landfill with landfill gas recovery	671k	730k	703k	kg	0.361	0.444	kgCO _{2e} /kg	242	324	312	Waste Management, Northlandwaste	Medium high. A few container with predefined weights	Medical waste to Redvale landfill. Puwera landfill general waste WHA, DAR, BOI
	Waste to landfill without landfill gas recovery	67k	62k	64k	kg	1.13	1.13	kgCO _{2e} /kg	75	70	72	Northlandwaste	Medium high. Predefined weight per pick up	Kaitaia hospital waste to Ahipara landfill. No gas collection.
	Transportation and distribution, road truck run	100k	100k	100k	km	0.666	0.666	kgCO2e/km	67	67	67	Health Alliance	Medium -high. Daily truck run included, other couriers excluded	Mangonui Haulage truck. Mitsubishu FUSO FM280-m1 2015 4km/l. Same as last year. Dargaville courier excluded based on minimas
	Transportation Serviced Road patient travel ambulance	419k	626k	579k	km	0.307	0.278	kgCO2e/km	129	174	161	Finance department, st John	High based on invoices and report St John	km from 2017 incorrect should be 494,330, not 626,026 km
	Transportation-Serviced patient travel helicopter	485	311	362	hrs	400.9	400.9	kgCO2e/hr	194	125	145	Finance department	High based on flight data	
	Transportation air-Fixed wing flights patients to other hospitals	15k	45k	24k	km	0.160	0.147	kgCO2e/km	2	7	4	Finance department	High based actual flights	Less long haul flights compared to last year
	Transport road replacement doctor flights	-	-	13k	km	-	0.278	kgCO2e/km			4	Finance department	High based invoices road trips	Replacement for doctors plane not flying for several months
	Business travel in private cars Rental cars	163k 5,719	-	-	km km	0.231 0.231	0.209	kgCO2e/km kgCO2e/km	38					Excluded based on minimas Excluded based on minimas
	Taxis	108k			\$	0.102	0.067	kgCO2e/\$	11		-			Excluded based on minimas
19%	Scope 3 down						Sc	cope 3 up total	1,167	1,184	1,329			
	Transporation Serviced external patient Kaitaia bus	78k	78k	78k	km	0.472	0.472	kgCO2e/km	37	37	37	Finance department, Harrison Cape runner	Medium based on amount of runs and estimate van versus bus use	No new data. Assumed same amount of bus trips every day
	Transportation NTA claims patients	3,433k	3,207k	3,454k	km	0.231	0.209	kgCO2e/km	793	670	722	Finance department, NTA claims	High based on reimbursements	
10%							Scop	e 3 down total	830	<u>707</u>	<u>759</u>			

Total carbon footprint [tCO2e] 7,753 7,058 6,998
2016 2017 2018
Benchmark -9% -1%