



REDREDGREENHOUSE GAS EMISSIONS INVENTORY REPORT

Toitū carbonreduce and Toitū carbonzero programme



Taranaki District Health Board

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Dated: 10 December 2020

For the period: 01 July 2019 to 30 June 2020

Base year: 01 July 2019 to 30 June 2020

Verification status: Reasonable Scope 1 & 2, Limited Scope 3



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GREENHOUSE GAS EMISSIONS INVENTORY SUMMARY

Table 1: GHG emissions data summary.

	2020
Scope 1	2,756.38
Scope 2	780.05
Scope 3 Mandatory	3,973.85
Scope 3 Additional	1,039.17
Scope 3 One time	0.00
Total gross emissions	8,549.44
Certified green electricity	0.00
Purchased emission reductions	0.00
Net GHG emissions (all scopes)	8,549.44
Total gross GHG emissions per Electricity / Bed - kWh / Bed - BASE HOSPITAL	89.69
Total mandatory GHG emissions per Electricity / Bed - kWh / Bed - BASE HOSPITAL	78.79
Total gross GHG emissions per Electricity / Bed - kWh / Bed - HAWERA HOSPITAL	75.37
Total mandatory GHG emissions per Electricity / Bed - kWh / Bed - HAWERA HOSPITAL	66.21
Total gross GHG emissions per Electricity / Building Area - kWh / m ² - BASE HOSPITAL	102.01
Total mandatory GHG emissions per Electricity / Building Area - kWh / m ² - BASE HOSPITAL	89.61
Total gross GHG emissions per Electricity / Building Area - kWh / m ² - HAWERA HOSPITAL	75.14
Total mandatory GHG emissions per Electricity / Building Area - kWh / m ² - HAWERA HOSPITAL	66.01
Total gross GHG emissions per Electricity / Employee - kWh / FTE - BASE HOSPITAL	2.03
Total mandatory GHG emissions per Electricity / Employee - kWh / FTE - BASE HOSPITAL	1.79
Total gross GHG emissions per Electricity / Employee - kWh / FTE - HAWERA HOSPITAL	1.49
Total mandatory GHG emissions per Electricity / Employee - kWh / FTE - HAWERA HOSPITAL	1.31
Total gross GHG emissions per Emission / Building Area - tCO ₂ e / m ² - BASE HOSPITAL	657,649.09
Total mandatory GHG emissions per Emission / Building Area - tCO ₂ e / m ² - BASE HOSPITAL	577,713.13
Total gross GHG emissions per Emission / Building Area - tCO ₂ e / m ² - HAWERA HOSPITAL	474,968.79

	2020
Total mandatory GHG emissions per Emission / Building Area - tCO ₂ e / m ² - HAWERA HOSPITAL	417,237.26
Total gross GHG emissions per Emission / Employee - tCO ₂ e / FTE - BASE HOSPITAL	5,469.89
Total mandatory GHG emissions per Emission / Employee - tCO ₂ e / FTE - BASE HOSPITAL	4,805.04
Total gross GHG emissions per Emission / Funding - tCO ₂ e / \$M - TARANAKI DHB	222.20
Total mandatory GHG emissions per Emission / Funding - tCO ₂ e / \$M - TARANAKI DHB	195.19
Total gross GHG emissions per Emission / Patient Activity - tCO ₂ e / PA (Patient Bed Days + Out-Patient Cases) - TARANAKI DHB	140,154.72
Total mandatory GHG emissions per Emission / Patient Activity - tCO ₂ e / PA (Patient Bed Days + Out-Patient Cases) - TARANAKI DHB	123,119.19
Total gross GHG emissions per Fleet Vehicle Petrol / Employee - Litres / FTE - TARANAKI DHB	170.15
Total mandatory GHG emissions per Fleet Vehicle Petrol / Employee - Litres / FTE - TARANAKI DHB	149.47
Total gross GHG emissions per Landfill Waste / Bed - kg / bed - BASE HOSPITAL	3,569.70
Total mandatory GHG emissions per Landfill Waste / Bed - kg / bed - BASE HOSPITAL	3,135.81
Total gross GHG emissions per Landfill Waste / Bed - kg / bed - HAWERA HOSPITAL	1,664.29
Total mandatory GHG emissions per Landfill Waste / Bed - kg / bed - HAWERA HOSPITAL	1,462.00
Total gross GHG emissions per Landfill Waste / Employee - kg / FTE - BASE HOSPITAL	80.96
Total mandatory GHG emissions per Landfill Waste / Employee - kg / FTE - BASE HOSPITAL	71.12
Total gross GHG emissions per Landfill Waste / Employee - kg / FTE - HAWERA HOSPITAL	32.92
Total mandatory GHG emissions per Landfill Waste / Employee - kg / FTE - HAWERA HOSPITAL	28.92
Total gross GHG emissions per Water / Bed - m ³ / bed - BASE HOSPITAL	9,781.97
Total mandatory GHG emissions per Water / Bed - m ³ / bed - BASE HOSPITAL	8,592.99
Total gross GHG emissions per Water / Bed - m ³ / bed - HAWERA HOSPITAL	17,341.66
Total mandatory GHG emissions per Water / Bed - m ³ / bed - HAWERA HOSPITAL	15,233.81
Total gross GHG emissions per Water / Employee - m ³ / FTE - BASE HOSPITAL	221.78
Total mandatory GHG emissions per Water / Employee - m ³ / FTE - BASE HOSPITAL	194.82
Total gross GHG emissions per Water / Employee - m ³ / FTE - HAWERA HOSPITAL	343.08
Total mandatory GHG emissions per Water / Employee - m ³ / FTE - HAWERA HOSPITAL	301.38
Total gross GHG emissions per Turnover/revenue (\$Millions)	38.48
Total mandatory GHG emissions per Turnover/revenue (\$Millions)	33.80

Note: total mandatory emissions includes scope 1, scope 2, and scope 3 (i.e. excludes scope 3 one-time and scope 3 additional).

Table 2: Gross organisation GHG emissions by scope for current measurement year.

Indicator	tCO ₂ e
Scope 1	
Other fuels	2,321.91
Other gases	195.38
Passenger vehicles - default age	0.13
Transport fuels	238.96
Scope 2	
Electricity	780.05
Scope 3	
Electricity	59.08
Other fuels	266.51
Passenger vehicles - default age	44.19
Scope 3 Additional	1,039.17
Transport - other	3,550.80
Waste	53.26
Total	8,549.44

Table 3: GHG emissions inventory summary by scope and business unit.

Component gas	Scope 1	Scope 2	Scope 3	Total	Removals	After removals
CH ₄	7.49	35.05	338.18	380.73	0.00	380.73
CO ₂	2,722.54	744.28	4,626.44	8,093.26	0.00	8,093.26
HFCs	17.47	0.00	0.00	17.47	0.00	17.47
N ₂ O	8.87	0.72	48.39	57.98	0.00	57.98
NF ₃	0.00	0.00	0.00	0.00	0.00	0.00
PFCs	0.00	0.00	0.00	0.00	0.00	0.00
SF ₆	0.00	0.00	0.00	0.00	0.00	0.00
Total	2,756.38	780.05	5,013.01	8,549.44	0.00	8,549.44

Table 4: Mobile and stationary combustion of biomass.

Biomass	Quantity	Tonnes Biogenic CO ₂
No activity recorded	n/a	n/a

Table 5: Deforestation of two hectares or more.

Source	Mass	tCO ₂ e
Deforestation tCO ₂ e (tCO ₂ e)	0.00	0.00

Table 6: GHG stock liability (see Table 13: for mass of individual gases).

Source	Units	Quantity	Potential Liability tCO ₂ e
CO ₂	kilograms	132.00	0.13
Diesel commercial	litres	30,460.00	81.14
HCFC-22 (R-22, Genetron 22 or Freon 22)	kilograms	65.50	118.56
HFC-134a	kilograms	595.00	850.85
R-407C	kilograms	9.00	15.97

Table 7: Land-use liabilities.

Type of sequestration	Liability tCO ₂ e
Contingent liability (carbon sequestered this reporting period)	0.00
Potential sequestration liability (total carbon stock)	0.00

Table 8: Renewable electricity generation on-site.

Renewable generation on-site	kWh generated	tCO ₂ e avoided
No activity recorded	n/a	n/a

Table 9: Purchased emissions reductions.

Type of emission reductions purchased	Amount	tCO ₂ e
Certified green electricity (tCO ₂ e)	0.00	0.00
Purchased emission reductions (tCO ₂ e)	0.00	0.00
Total	0.00	0.00

1 INTRODUCTION

This report is the annual greenhouse gas (GHG) emissions¹ inventory report for the named organisation. The inventory is a complete and accurate quantification of the amount of GHG emissions that can be directly attributed to the organisation's operations within the declared boundary and scope for the specified reporting period. The inventory has been prepared in accordance with the requirements of the **measure**-step² of the Programme, which is based on the *Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (2004)* and *ISO 14064-1:2006 Specification with Guidance at the Organization Level for Quantification and Reporting of Greenhouse Gas Emissions and Removals*³. Where relevant, the inventory is aligned with industry or sector best practice for emissions measurement and reporting.

2 STATEMENT OF INTENT

This inventory forms part of the organisation's commitment to gain Programme certification.

This inventory reports into the Toitū carbonreduce programme. The Emissions Inventory Report will also form part of Taranaki DHB's Sustainability Action Plan and Work Programme for the next twelve months. This is to ensure that identified emission sources are prioritised, managed and reduced in a timely manner, and meets Key Performance Indicators and targets set-out in this Programme and action plan.

3 ORGANISATION DESCRIPTION

The Taranaki District Health Board (DHB) is a crown entity established by the New Zealand Public Health and Disability Act 2000. It is responsible for planning, funding, and providing hospital and healthcare (public health, medical, surgical, mental health, allied health, ambulance and primary health) services for the people of Taranaki.

The majority of health services in our district are funded or provided by Taranaki DHB. We receive this funding from the Government in order to provide services to improve the health of our community and reduce health inequalities.

Taranaki DHB is a large organisation which employs approximately 2,100 staff. According to Statistics New Zealand Taranaki DHB served a population of 119,800 people in 2018/19.

Go Zero Carbon is the work we do as an organisation to implement the Sustainability/Pūmoutanga Policy and framework to achieve our 'zero-carbon by 2050 and zero waste by 2040' goals. It encompasses two climate change responses: how we affect climate change by reducing our carbon footprint (mitigation); and how climate change affects us and how we respond (adaptation).

The objectives of Sustainability/Pūmoutanga Policy are to:

1. Commit to achieving our values:

- (a) Partnership/Whanaungatanga – We work together to achieve our goals
- (b) Courage/Manawanui – We have the courage to speak up and advocate for each other
- (c) Empowerment/Mana Motuhake – We support each other to make the best decisions
- (d) People Matter/Mahakitanga – We value each other, our patients and whānau

¹ Throughout this document "emissions" means "GHG emissions".

² Programme refers to the Toitū carbonreduce and the Toitū carbonzero programme.

³ Throughout this document 'GHG Protocol' means the *GHG Protocol Corporate Accounting and Reporting Standard* and 'ISO 14064-1:2006' means the international standard *Specification with Guidance at the Organizational Level for Quantification and Reporting of Greenhouse Gas Emissions and Removals*.

(e) Safety/Manaakitanga – We provide excellent service in a safe and trusted environment

2. Meet zero-carbon by 2050, zero landfill waste by 2040, other legal requirements, and healthy communities.
3. Mitigate climate change effects by measuring, reducing, managing and verifying carbon emissions arising from our operations.
4. Adapt to climate change effects.
5. Maximise efficiency of our operations and cost savings.
6. Foster a culture of environmental sustainability and to encourage leadership in sustainability throughout the health sector.

Our responses are illustrated in the ‘Sustainability/Pūmoutanga - A Plan on a Page’. The Taranaki DHB’s Sustainability Action Plan incorporates processes on how we will mitigate or reduce our carbon footprint arising from each target areas. The Toitū carbonreduce certification is the process chosen to measure, manage (through an emission management and reduction plan), and verify our carbon footprint.

Our mitigation response focuses on reducing our carbon footprint on key focus areas: energy, waste, procurement, buildings, transportation, food, and water, and promoting health and environmental co-benefits.

4 ORGANISATIONAL BOUNDARIES INCLUDED FOR THIS REPORTING PERIOD

Organisational boundaries were set with reference to the methodology described in the GHG Protocol and ISO 14064-1:2006 standards. The GHG Protocol allows two distinct approaches to be used to consolidate GHG emissions: the equity share and control (financial or operational) approaches. The Programme specifies that the operational control consolidation approach should be used unless otherwise agreed with the Programme.

An operational control consolidation approach was used to account for emissions.

Figure 1 shows Taranaki DHB’s organisational structure used for describing our greenhouse gas emissions inventory, and what business units were included in the inventory in the context of the entire organisational profile. The parts of the structure (business units) in green have been identified as being within this emissions inventory. Business units excluded from the inventory are shown in aqua.

Taranaki DHB has two hospitals: the main regional hospital is Taranaki Base Hospital in New Plymouth and Hawera Hospital. Taranaki DHB has health centres at Stratford, Opunake, Waitara, Mokau and Patea; dental clinics; rental accommodation; and has shares in Allied Laundry Services Limited, HealthShare Limited and New Zealand Partnerships Limited.

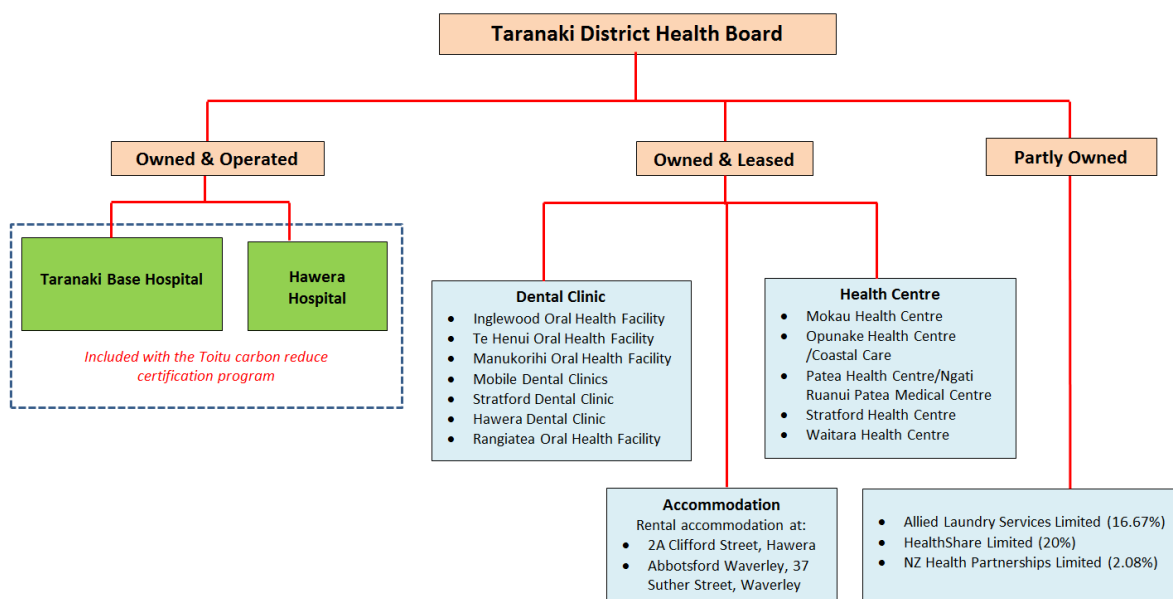


Figure 1: Taranaki District Health Board Organisational Chart

Figure 1: Organisational structure.

Table 10: Brief description of business units in the certifying entity.

Business unit	Address	Purpose
Taranaki Base Hospital	David Street, Westown, New Plymouth	Regional Healthcare facility
Hawera Base Hospital	37 Hunter Street, Hawera	Rural Healthcare facility

5 ORGANISATIONAL BUSINESS UNITS EXCLUDED FROM INVENTORY

The business units which are partly owned and leased by Taranaki DHB are excluded from the inventory (shaded in aqua in Figure 1) because the organisation has no full operational control over these units.

6 GHG EMISSIONS SOURCE INCLUSIONS

The GHG emissions sources included in this inventory are those required for Programme certification and were identified with reference to the methodology described in the GHG Protocol and ISO 14064-1:2006 standards. Identification of emissions sources was achieved via personal communications with Taranaki District Health Board staff, and cross-checked against operational expenditure records for the reporting period. These records were viewed in order to see what activities may be associated with emissions from all of the operations.

As adapted from the GHG Protocol, these emissions were classified into the following categories:

- **Direct GHG emissions (Scope 1):** GHG emissions from sources that are owned or controlled by the company.

- **Indirect GHG emissions (Scope 2):** GHG emissions from the generation of purchased electricity, heat and steam consumed by the company.
- **Indirect GHG emissions (Scope 3):** GHG emissions required by the Programme that occur as a consequence of the activities of the company but occur from sources not owned or controlled by the company. Inclusion of other Scope 3 emissions sources is done on a case-by-case basis.

After liaison with the organisation, the emissions sources in Table 11 have been identified and included in the GHG emissions inventory.

Table 11: GHG emissions sources included in the inventory

Business unit	GHG emissions source	GHG emissions level scope	Data source	Data collection unit	Uncertainty (description)
Taranaki DHB	Diesel - Fleet Vehicle	Scope 1 Direct	BP Oil New Zealand Ltd	litres	It is assumed data source represents a complete and accurate account of diesel purchase. Taranaki DHB uses a Fleetcard (swipe card) which is to be used at BP Service Stations in refuelling fleet vehicles.
	Petrol - Fleet Vehicle	Scope 1 Direct	BP Oil New Zealand Ltd	litres	It is assumed data source represents a complete and accurate account of petrol purchase. Taranaki DHB uses a Fleetcard (swipe card) which is to be used at BP Service Stations in refuelling fleet vehicles.
	Rental Car	Scope 1 Direct	Corporate Traveller	km	It is assumed data source represents a complete and accurate account of all rental car activity.
	Natural Gas	Scope 1 Direct	Genesis Energy	Gj	It is assumed that the data provided by the supplier is complete and accurate.
	Desflurane	Scope 1 Direct	Baxter Pharmaceuticals	kg	It is assumed that the data provided by the supplier is complete and accurate.
	Sevoflurane	Scope 1 Direct	Baxter Pharmaceuticals	kg	It is assumed that the data provided by the supplier is complete and accurate.
	Natural Gas distributed T&D	Scope 3 Mandatory	Genesis Energy	Gj	It is assumed that the data provided by the supplier is complete and accurate.
	Air travel domestic (average) - Staff Travel Corporate Traveller	Scope 3 Mandatory	Corporate Traveller	pkm	It is assumed that data source represents a complete and accurate account of all travel activity. Taranaki DHB has a mandatory rule whereby all staff must book via Corporate Traveller. It is important to note that restrictions in air travel due to COVID-19 will affect the overall baseline data associated with travel and freight (reduced availability of stocks).

Business unit	GHG emissions source	GHG emissions level scope	Data source	Data collection unit	Uncertainty (description)
	Air Travel Long Haul (econ) - Staff Travel - Corporate Traveller	Scope 3 Mandatory	Corporate Traveller	pkm	It is assumed that data source represents a complete and accurate account of all travel activity. Taranaki DHB has a mandatory rule whereby all staff must book via Corporate Traveller. It is important to note that restrictions in air travel due to COVID-19 will affect the overall baseline data associated with travel and freight (reduced availability of stocks).
	Air Travel Long Haul (premium economy) - Staff Travel - Corporate Traveller	Scope 3 Mandatory	Corporate Traveller	pkm	It is assumed that data source represents a complete and accurate account of all travel activity. Taranaki DHB has a mandatory rule whereby all staff must book via Corporate Traveller. It is important to note that restrictions in air travel due to COVID-19 will affect the overall baseline data associated with travel and freight (reduced availability of stocks).
	Air Travel Long Haul (business) - Staff Travel - Corporate Traveller	Scope 3 Mandatory	Corporate Traveller	pkm	It is assumed that data source represents a complete and accurate account of all travel activity. Taranaki DHB has a mandatory rule whereby all staff must book via Corporate Traveller. It is important to note that restrictions in air travel due to COVID-19 will affect the overall baseline data associated with travel and freight (reduced availability of stocks).
	Air Travel Short Haul (econ) - Staff Travel - Corporate Traveller	Scope 3 Mandatory	Corporate Traveller	pkm	It is assumed that data source represents a complete and accurate account of all travel activity. Taranaki DHB has a mandatory rule whereby all staff must book via Corporate Traveller. It is important to note that restrictions in air travel due to COVID-19 will affect the overall baseline data associated with travel and freight (reduced availability of stocks).
	Staff Travel - Taxi	Scope 3 Mandatory	TaxiCharge New Zealand Ltd	pkm	It is assumed that data source represents a complete and accurate account of all travel activity. Taranaki DHB staff are provided with Taxi Charge voucher or card for taxi travel.
	Staff Vehicle Travel - Reimbursement	Scope 3 Mandatory	Finance data	km	It is assumed the data source provided by Taranaki DHB's Payroll Manager is an appropriate representation of staff vehicle travel reimbursement. Assumptions are made on vehicle type and approximate travel distance.

Business unit	GHG emissions source	GHG emissions level scope	Data source	Data collection unit	Uncertainty (description)
	Air Travel Domestic (Average) - Staff Travel - CME	Scope 3 Mandatory	Finance data	pkm	The CME travel template provided by Toitū Envirocare is used to calculate the data. It is assumed the data source provided by Taranaki DHB's Payroll Manager and Corporate Traveller used to populate the CME travel template is an appropriate estimation of CME staff travel. It is important to note that restrictions in air travel due to COVID-19 will affect the overall baseline data associated with travel and freight (reduced availability of stocks).
	Air Travel Short Haul (econ) - Staff Travel - CME	Scope 3 Mandatory	Finance data	pkm	The CME travel template provided by Toitū Envirocare is used to calculate the data. It is assumed the data source provided by Taranaki DHB's Payroll Manager and Corporate Traveller used to populate the CME travel template is an appropriate estimation of CME staff travel. It is important to note that restrictions in air travel due to COVID-19 will affect the overall baseline data associated with travel and freight (reduced availability of stocks).
	Air Travel Short Haul (Business) - Staff Travel - CME	Scope 3 Mandatory	Finance data	pkm	The CME travel template provided by Toitū Envirocare is used to calculate the data. It is assumed the data source provided by Taranaki DHB's Payroll Manager and Corporate Traveller used to populate the CME travel template is an appropriate estimation of CME staff travel. It is important to note that restrictions in air travel due to COVID-19 will affect the overall baseline data associated with travel and freight (reduced availability of stocks).
	Air Travel Long Haul (Economy) - Staff Travel - CME	Scope 3 Mandatory	Finance data	pkm	The CME travel template provided by Toitū Envirocare is used to calculate the data. It is assumed the data source provided by Taranaki DHB's Payroll Manager and Corporate Traveller used to populate the CME travel template is an appropriate estimation of CME staff travel. It is important to note that restrictions in air travel due to COVID-19 will affect the overall baseline data associated with travel and freight (reduced availability of stocks).

Business unit	GHG emissions source	GHG emissions level scope	Data source	Data collection unit	Uncertainty (description)
	Air Travel Long Haul (Business) - Staff Travel - CME	Scope 3 Mandatory	Finance data	pkm	The CME travel template provided by Toitū Envirocare is used to calculate the data. It is assumed the data source provided by Taranaki DHB's Payroll Manager and Corporate Traveller used to populate the CME travel template is an appropriate estimation of CME staff travel. It is important to note that restrictions in air travel due to COVID-19 will affect the overall baseline data associated with travel and freight (reduced availability of stocks).
	Patient Transport - Bus	Scope 3 Additional	Taranaki Regional Council	pkm	It is assumed the supplier reports are complete and accurate.
	Visitor Transport - Bus	Scope 3 Additional	Taranaki Regional Council	pkm	It is assumed the supplier reports are complete and accurate.
	Staff Transport - Bus	Scope 3 Additional	Taranaki Regional Council	pkm	It is assumed the supplier reports are complete and accurate.
	Patient Transport - Helicopter	Scope 3 Additional	National Ambulance Sector Office, Ministry of Health, Kim Batten (Taranaki DHB Patient Travel Administrator)	hours	It is assumed that data collected from Air Ambulance database including km supplied by helicopter pilot and referenced from https://airport.globefeed.com/New_Zealand_Distance_Between_Airports.asp , are appropriate estimation of patient transport using helicopter ambulance.

Business unit	GHG emissions source	GHG emissions level scope	Data source	Data collection unit	Uncertainty (description)
	Patient Transport - Air Travel - Fixed Wing	Scope 3 Additional	Skyline aviation (Mike Toogood); Air Wanganui (Dean Martin); Waikato Air; Ambulance Life Flight; Garden City Helicopters (Simon Duncan); Kim Batten (Taranaki DHB Patient Travel Administrator)	hours	It is assumed that data collected from Air Ambulance database including km supplied by helicopter pilot and referenced from https://airport.globefeed.com/New_Zealand_Distance_Between_Airports.asp , are appropriate estimation of patient transport using fixed wing ambulance.
	Patient Transport - Air Travel - Air New Zealand & Air Chathams	Scope 3 Additional	Air Chathams; Jet Star; Air New Zealand; Kim Batten (Taranaki DHB Patient Travel Administrator)	pkm	It is assumed the supplier reports are complete and accurate.
	Patient Transport - Ambulance - St John	Scope 3 Additional	St John Ambulance	km	It is assumed the supplier reports are complete and accurate.

Business unit	GHG emissions source	GHG emissions level scope	Data source	Data collection unit	Uncertainty (description)
	Patient Transport - Other Ambulance Services	Scope 3 Additional	Life Flight; Waikato Westpac; Wellington Free Ambulance; Kim Batten (Taranaki DHB Patient Travel Administrator)	km	It is assumed the supplier reports are complete and accurate.
	Patient Transport - MOH car mileage	Scope 3 Additional	Ministry of Health; Kim Batten (Taranaki DHB Patient Travel Administrator)	km	It is assumed the supplier reports are complete and accurate.
	Patient Transport - Taxi Charge & Discount Taxi	Scope 3 Additional	Taxi Charge & Discount Taxi; Kim Batten (Taranaki DHB Patient Travel Administrator)	pkm	It is assumed the supplier reports are complete and accurate.
	Patient Transport - Shuttle	Scope 3 Additional	Tourism Transport Super Shuttle; Kim Batten (Taranaki DHB Patient Travel Administrator)	pkm	It is assumed the supplier reports are complete and accurate.
	Patient Transport - Bus	Scope 3 Additional	Inter City; Kim Batten (Taranaki DHB Patient Travel Administrator)	pkm	It is assumed the supplier reports are complete and accurate.

Business unit	GHG emissions source	GHG emissions level scope	Data source	Data collection unit	Uncertainty (description)
	Patient Transport - Petrol Voucher	Scope 3 Additional	Taxi Charge; Discount Taxi; Kim Batten (Taranaki DHB Patient Travel Administrator)	km	It is assumed the supplier reports are complete and accurate.
	Staff Travel Accommodation - Domestic	Scope 3 Additional	Corporate Traveller	# of night's stay	It is assumed that the data provided by the supplier is complete and accurate.
	Staff Travel Accommodation - International Boston, USA	Scope 3 Additional	Corporate Traveller	# of night's stay	It is assumed that the data provided by the supplier is complete and accurate.
	Staff Travel Accommodation - International Sydney, Australia	Scope 3 Additional	Corporate Traveller	# of night's stay	It is assumed that the data provided by the supplier is complete and accurate.
	Recycling - Plastic - Baxter PVC	Scope 3 Additional	Baxter Healthcare Pty Ltd	kg	It is assumed that the data provided by the supplier is complete and accurate.
	Recycling- Batteries	Scope 3 Additional	Waste Management	kg	It is assumed that the data provided by the supplier is complete and accurate.
Base Hospital	Diesel Generator (back-up - boiler)	Scope 1 Direct	McFall Fuel	litres	It is assumed that the data provided by the supplier is complete and accurate.

Business unit	GHG emissions source	GHG emissions level scope	Data source	Data collection unit	Uncertainty (description)
	Refrigerants - R22/R14A	Scope 1 Direct	AHI Carrier; Philip Olckers (Taranaki DHB Engineering Services Manager)	kg	It is assumed that the data provided by the supplier and Taranaki DHB's Engineering Services Manager are representative of the amount of refrigerants used and help on-site.
	Refrigerants - HFC 134a	Scope 1 Direct	AHI Carrier; Philip Olckers (Taranaki DHB Engineering Services Manager)	kg	It is assumed that the data provided by the supplier and Taranaki DHB's Engineering Services Manager are representative of the amount of refrigerants used and help on-site.
	Refrigerants - R22	Scope 1 Direct	AHI Carrier; Philip Olckers (Taranaki DHB Engineering Services Manager)	kg	It is assumed that the data provided by the supplier and Taranaki DHB's Engineering Services Manager are representative of the amount of refrigerants used and help on-site.
	Medical gasses: Entonox, Nitrous oxide (N ₂ O)	Scope 1 Direct	BOC Healthcare	kg	It is assumed that the data provided by the supplier is complete and accurate.
	Medical gasses: CO ₂	Scope 1 Direct	BOC Healthcare	kg	It is assumed that the data provided by the supplier is complete and accurate.
	Medical gasses: N ₂ O	Scope 1 Direct	BOC Healthcare	kg	It is assumed that the data provided by the supplier is complete and accurate.
	Medical gasses: Acetylene	Scope 1 Direct	BOC Healthcare	kg	It is assumed that the data provided by the supplier is complete and accurate.
	Electricity	Scope 2 Indirect	Meridian Energy Limited	kWh	It is assumed that the data provided by the supplier is complete and accurate.
	Electricity distributed T&D	Scope 3 Mandatory	Meridian Energy Limited	kWh	It is assumed that the data provided by the supplier is complete and accurate.

Business unit	GHG emissions source	GHG emissions level scope	Data source	Data collection unit	Uncertainty (description)
	Medical Waste	Scope 3 Mandatory	International Waste Ltd	kg	It is assumed that the data accessed via the supplier's portal is complete and accurate. However, this data is considered elevated (volume unknown) because medical waste from 32 community pharmacies have been included with the data. This arrangement has been discontinued since the 1st of September 2020.
	Cytotoxic Waste	Scope 3 Mandatory	International Waste Ltd	kg	It is assumed that the data accessed via the supplier's portal is complete and accurate. However, this data is considered elevated (volume unknown) because cytotoxic waste from 32 community pharmacies have been included with the data. This arrangement has been discontinued since the 1st of September 2020.
	Waste landfilled - LFGR Mixed Waste	Scope 3 Mandatory	Waste Management	tonne	It is assumed the supplier reports are complete and accurate.
	Waste landfilled - Sanitary Waste	Scope 3 Mandatory	Alsco	kg	It is assumed that the data provided by the supplier is complete and accurate.
	Recycling - Paper - Cardboard	Scope 3 Additional	Waste Management	tonne	It is assumed the supplier reports are complete and accurate.
	Recycling - Plastic - Grade 1, 2 and 5	Scope 3 Additional	Waste Management	tonne	It is assumed the supplier reports are complete and accurate.
	Recycling - Paper & Small Cardboard	Scope 3 Additional	Waste Management	tonne	It is assumed the supplier reports are complete and accurate.
	Recycling- Tins & Aluminium	Scope 3 Additional	Waste Management	tonne	It is assumed the supplier reports are complete and accurate.
	Confidential Paper Recycling	Scope 3 Additional	International Waste Ltd	kg	It is assumed that the data accessed via the supplier's portal is complete and accurate.

Business unit	GHG emissions source	GHG emissions level scope	Data source	Data collection unit	Uncertainty (description)
	Water	Scope 3 Additional	New Plymouth District Council	m ³	It is assumed the supplier reports are complete and accurate.
	Wastewater - Trade Waste	Scope 3 Additional	New Plymouth District Council	m ³	It is assumed the supplier reports are complete and accurate.
Hawera Hospital	Refrigerants - R22/R14A	Scope 1 Direct	AHI Carrier; Taranaki DHB Engineering & Facilities Services	kg	It is assumed that the data provided by the supplier and Taranaki DHB's Engineering Services Manager are representative of the amount of refrigerants used and help on-site.
	Medical gasses: Entonox, Nitrous oxide (N ₂ O)	Scope 1 Direct	BOC Healthcare	kg	It is assumed that the data provided by the supplier is complete and accurate.
	Electricity	Scope 2 Indirect	Meridian Energy Limited	kWh	It is assumed that the data provided by the supplier is complete and accurate.
	Electricity distributed T&D	Scope 3 Mandatory	Meridian Energy Limited	kWh	It is assumed that the data provided by the supplier is complete and accurate.
	Medical Waste	Scope 3 Mandatory	International Waste Ltd	kg	It is assumed that the data accessed via the supplier's portal is complete and accurate.
	Cytotoxic Waste	Scope 3 Mandatory	International Waste Ltd	kg	It is assumed that the data accessed via the supplier's portal is complete and accurate.
	Waste landfilled - LFGR Mixed Waste	Scope 3 Mandatory	Waste Management & Ingrams Contracting Limited	kg	It is assumed the suppliers' reports are complete and accurate.

Business unit	GHG emissions source	GHG emissions level scope	Data source	Data collection unit	Uncertainty (description)
	Waste landfilled - LFGR Green Waste	Scope 3 Mandatory	Ingrams Contracting Limited	kg	It is assumed that the data provided by the supplier is an appropriate estimation of landfill waste.
	Recycling - Paper - Cardboard Cage	Scope 3 Additional	Waste Management	tonne	It is assumed the supplier reports are complete and accurate.
	Recycling - Plastic - Grade 1, 2 and 5	Scope 3 Additional	Waste Management	tonne	It is assumed the supplier reports are complete and accurate.
	Recycling - Paper & Small Cardboard	Scope 3 Additional	Waste Management	tonne	It is assumed the supplier reports are complete and accurate.
	Recycling- Tins & Aluminium	Scope 3 Additional	Waste Management	tonne	It is assumed the supplier reports are complete and accurate.
	Confidential Paper Recycling	Scope 3 Additional	International Waste Ltd	kg	It is assumed that the data accessed via the supplier's portal is complete and accurate.
	Water	Scope 3 Additional	South Taranaki District Council	m ³	It is assumed the supplier reports are complete and accurate.

6.1 Other emissions – HFCs, PFCs and SF₆

We use hydrofluorocarbons (HFCs) in our operations and these have been included in the inventory. Refrigerant HFC134a is included in the Base Hospital inventory.

No operations use perfluorocarbons (PFCs), Nitrogen Trifluoride (N₃) nor sulphur hexafluoride (SF₆), therefore no holdings of these are reported and no emissions from these sources are included in this inventory.

6.2 Other emissions – biomass

No biomass is combusted in the operations and therefore no emissions from the combustion of biomass are included in this inventory.

6.3 Other emissions – deforestation

No deforestation has been undertaken by the organisation on land it owns and that is included in this inventory. Therefore no emissions from deforestation are included in this inventory.

6.4 Pre-verified data

No pre-verified data is included within the inventory.

7 GHG EMISSIONS SOURCE EXCLUSIONS

Emissions sources in Table 12 have been identified and excluded from the GHG emissions inventory.

The following emissions sources have been identified and excluded from the GHG emissions inventory:

Taranaki DHB: Accommodation – US and Australia; and Patient Transport using shuttles

Base Hospital: Acetylene

Table 12: GHG emissions sources excluded from the inventory

Business unit	GHG emissions source	GHG emissions level scope	Reason for exclusion
Taranaki DHB	Accommodation - US	Scope 3 Additional	Estimates illustrate that emissions from this source were only less than 1% of the total emissions. Collating data for this emission source was very time consuming and given the small impact on the total, we have chosen to exclude this based on the programmes <i>de minimis</i> rule.
	Accommodation - Australia	Scope 3 Additional	Estimates illustrate that emissions from this source were only less than 1% of the total emissions. Collating data for this emission source was very time consuming and given the small impact on the total, we have chosen to exclude this based on the programmes <i>de minimis</i> rule.

Business unit	GHG emissions source	GHG emissions level scope	Reason for exclusion
	Bus travel (Shuttle) - Patient Transport	Scope 3 Additional	Estimates illustrate that emissions from this source were only less than 1% of the total emissions. Collating data for this emission source was very time consuming and given the small impact on the total, we have chosen to exclude this based on the programmes <i>de minimis</i> rule.
	Freight Road and Air	Scope 3 Mandatory	Calculation using \$ spent for freight during FY2019-2020 and Toitū <i>de minimis</i> template shows that emissions from this source were 0.01% of the total emissions. For this reason, we have chosen to exclude this based on the programmes <i>de minimis</i> rule.
Base Hospital	Acetylene	Scope 1 Direct	Estimates illustrate that emissions from this source were only less than 1% of the total emissions. For this reason, we have chosen to exclude this based on the programmes <i>de minimis</i> rule.

8 DATA COLLECTION AND UNCERTAINTIES

Table 11 provides an overview of how data were collected for each GHG emissions source, the source of the data and an explanation of any uncertainties or assumptions made. Estimated numerical uncertainties are reported with the emissions calculations and results.

All data was calculated using Toitū emanage and GHG emissions factors as provided by the Programme (see Appendix 1 - data summary.xls).

A calculation methodology has been used for quantifying the GHG emissions inventory using emissions source activity data multiplied by GHG emissions or removal factors.

Taranaki DHB emission source data provides an overview of activities which gives rise to GHG emissions, source of the data and an explanation of any uncertainties or assumptions made. All data was calculated using Toitū emanage and GHG emissions factors as provided by the Programme. A calculation methodology has been used for quantifying the GHG emissions inventory.

9 GHG EMISSIONS CALCULATIONS AND RESULTS

GHG emissions for the organisation for this measurement period are provided in Table 1 where they are stated by greenhouse gas, by scope, by business unit and as total emissions.

Taranaki DHB's GHG emissions for this measurement period are provided in the following figures: GHG Emission tCO₂e by Business Unit; GHG Emission tCO₂e by Scope; GHG operation emissions by source - top 10; and Taranaki DHB, Base and Hawera Hospitals Top Emission Sources.

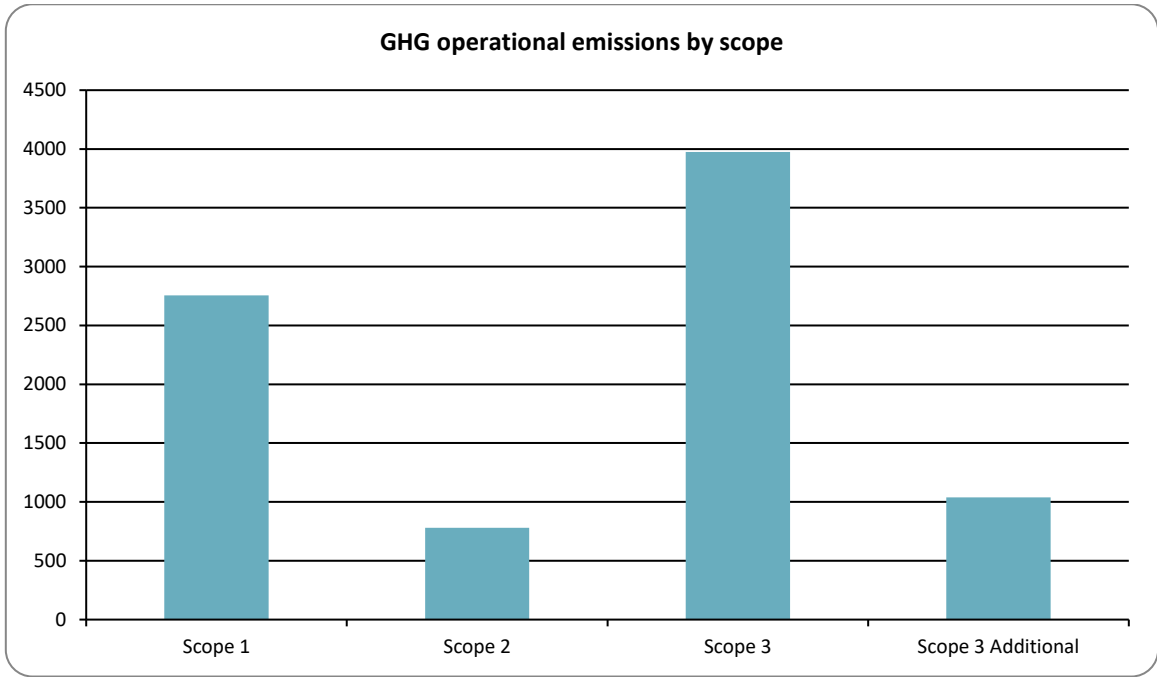


Figure 2: GHG emissions (tonnes CO₂e) by scope

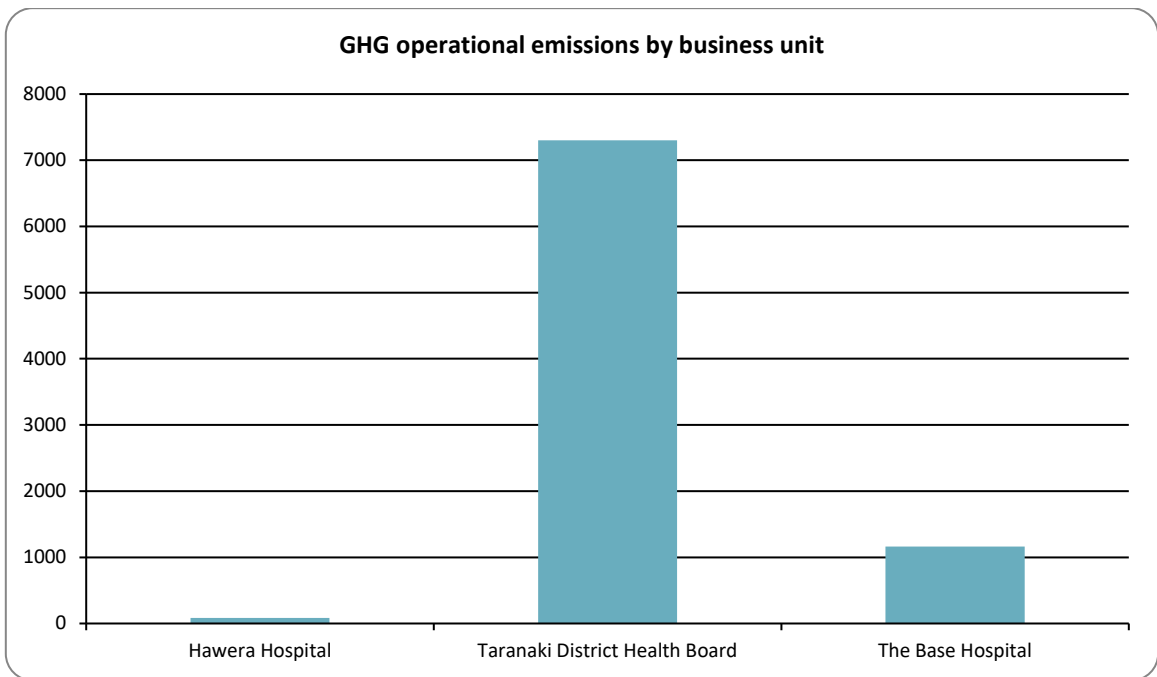


Figure 3: GHG emissions (tonnes CO₂e) by business activity.

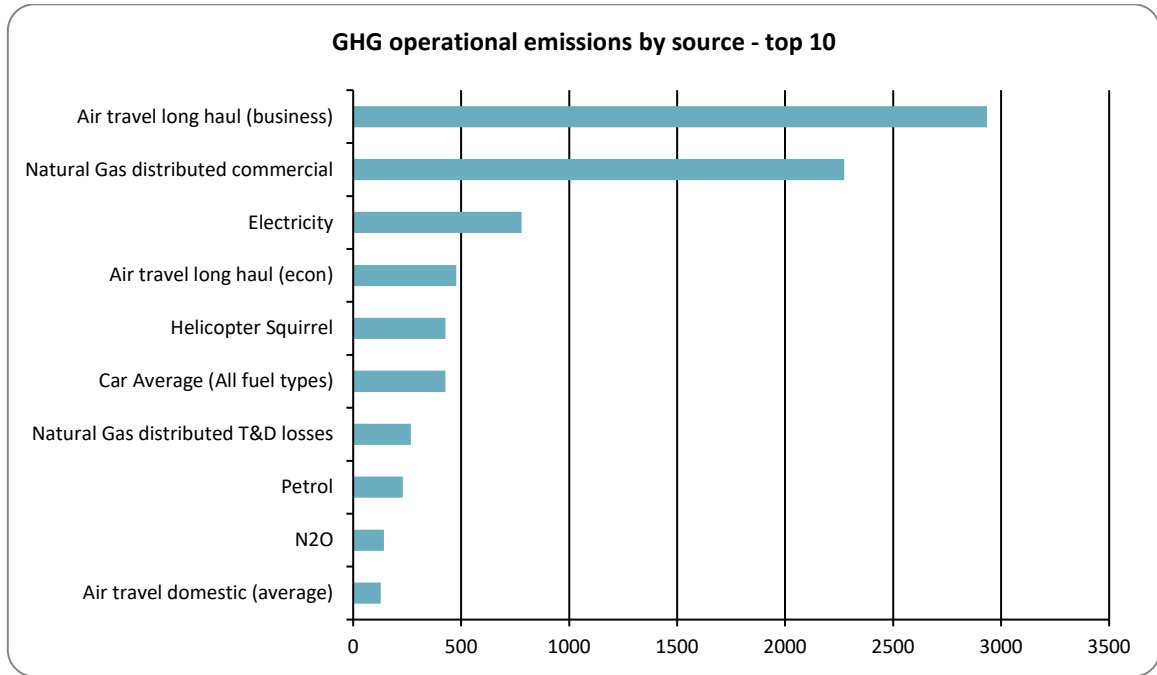


Figure 4: GHG emissions sources by source.

The inventory report and any GHG assertions are expected to be verified by a Programme-approved, third-party verifier. The level of assurance is reported in a separate Assurance Statement provided to the directors of the certified entity.

10 EMISSIONS REDUCTIONS AND REMOVALS ENHANCEMENT

There is no management and reduction plan in place yet. An Emission Management and Reduction Plan is in place to manage and reduce emissions in order to maintain Programme recertification.

The organisation will have an updated management plan in place for managing and reducing emissions in the future in order to maintain Programme recertification.

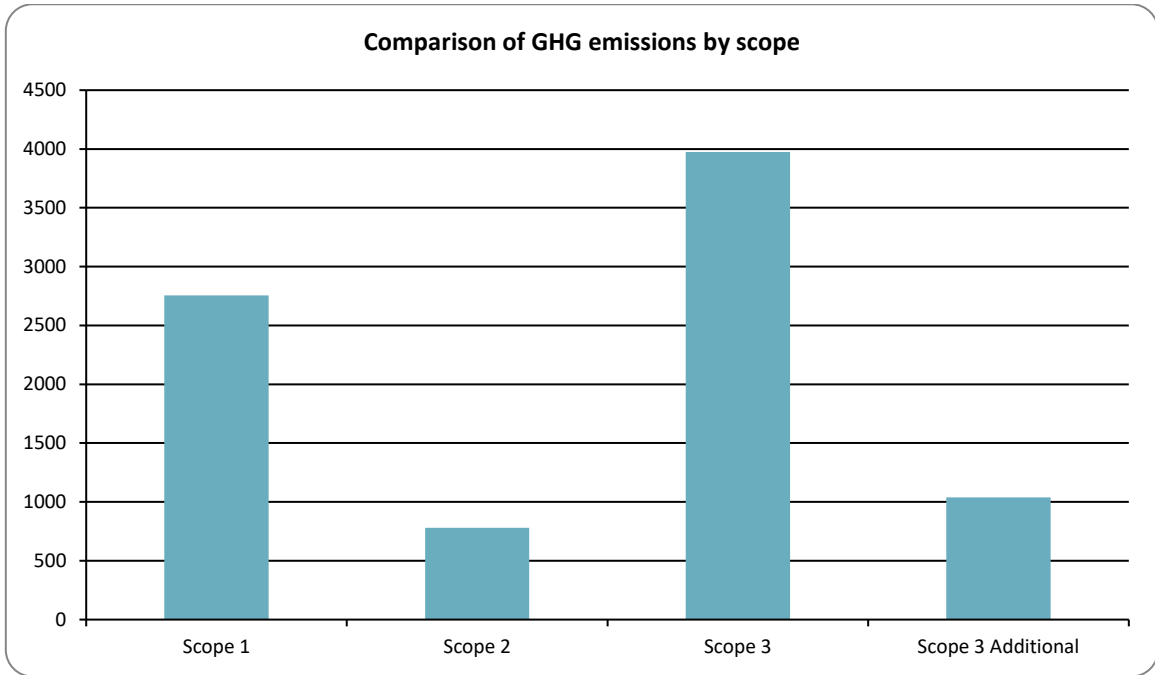


Figure 5: Comparison of GHG operational emissions by scope between the reporting periods.

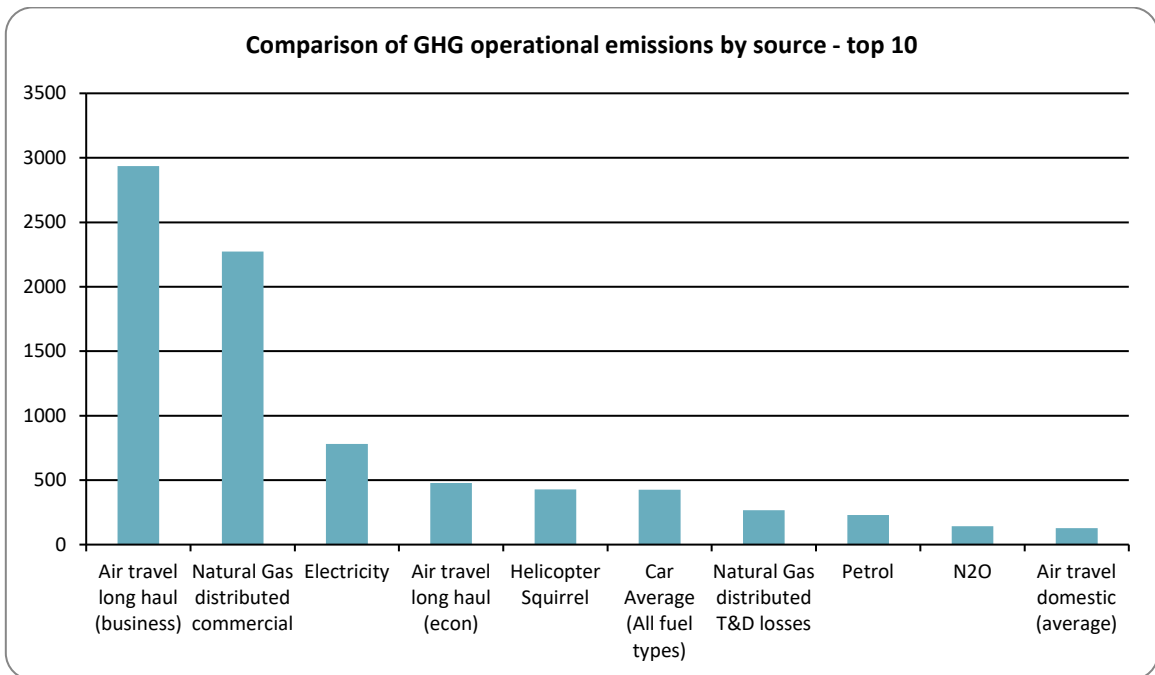


Figure 6: Comparison of GHG operational emissions by emissions sources between the reporting periods.

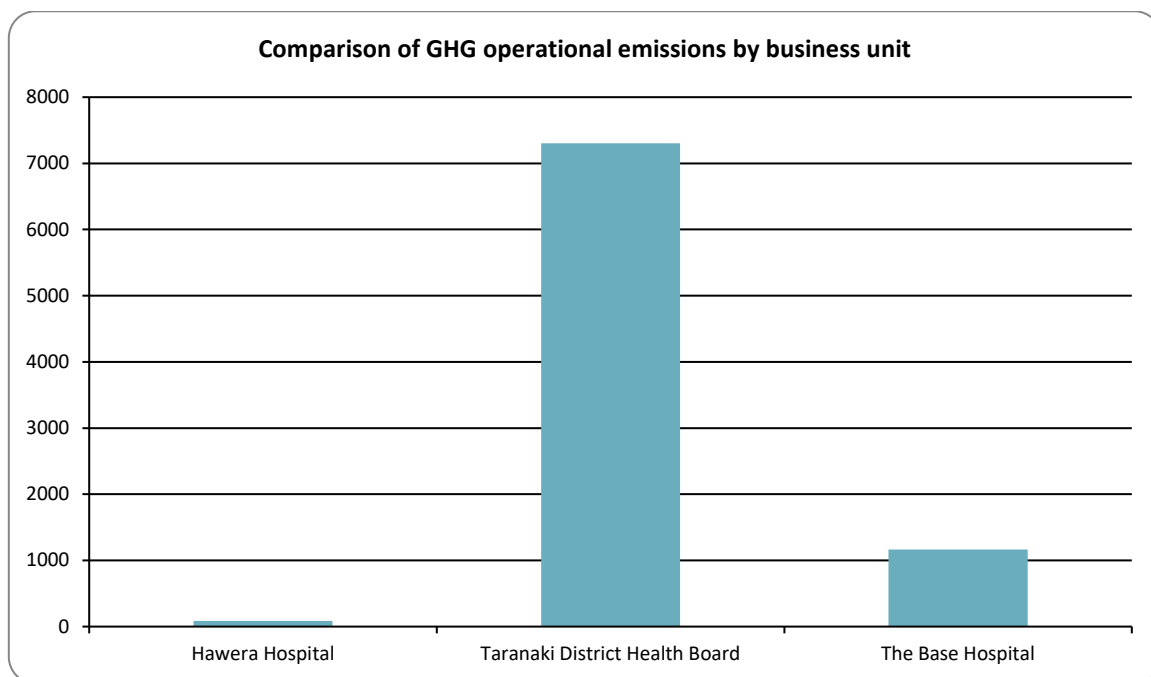


Figure 7: Comparison of emissions by business unit between the reporting periods.

11 LIABILITIES

11.1 GHG stocks held⁴

HFCs, PFCs and SF₆ represent GHGs with high global warming potentials. Their accidental release could result in a large increase in emissions for that year, and therefore the stock holdings are reported under the Programme (Table 13).

GHG stocks have been reported in this inventory and added into the GHG Stock Liability questionnaire.

Table 13: HFCs, PFCs and SF₆ GHG emissions and liabilities.

Business Unit	Source	Units	Amount held - start of reporting period	Amount held - end of reporting period	Potential Liability tCO ₂ e
The Base Hospital	CO ₂	kilograms	132	132	0.132
Hawera Hospital	Diesel commercial	litres	5,200.00	5,200.00	13.85
The Base Hospital	Diesel commercial	litres	25,260.00	25,260.00	67.29
The Base Hospital	HCFC-22 (R-22, Genetron 22 or Freon 22)	kilograms	51.50	51.50	93.22

⁴ HFC stock liabilities for systems under 3 kg can be excluded.

Business Unit	Source	Units	Amount held - start of reporting period	Amount held - end of reporting period	Potential Liability tCO ₂ e
Hawera Hospital	HCFC-22 (R-22, Genetron 22 or Freon 22)	kilograms	14.00	14.00	25.34
The Base Hospital	HFC-134a	kilograms	595.00	595.00	850.85
The Base Hospital	R-407C	kilograms	9.00	9.00	15.97

11.2 Land-use change

Organisations that own land subject to land-use change may achieve sequestration of carbon dioxide through a change in the carbon stock on that land. Where a sequestration is claimed, then this also represents a liability in future years should fire, flood or other management activities release the stored carbon.

Land-use change has not been included in this inventory.

12 PURCHASED REDUCTIONS

Purchased reductions could include certified “green” electricity, verified offsets or other carbon-neutral-certified services. Organisations may choose to voluntarily purchase carbon credits (or offsets) or green electricity that meets the eligibility criteria set by a regulatory authority. The reported gross emissions may not be reduced through the purchase of offsets or green tariff electricity.

Purchased emission reductions have not been included in this inventory.

Certified green electricity has not been included in this inventory.

We do not generate on-site renewable electricity.

13 DOUBLE COUNTING / DOUBLE OFFSETTING

Double counting/offsetting refers to situations where:

- Parts of the organisation have been prior offset.
- The same emissions sources have been reported (and offset) in both organisation and product.
- Emissions have been included and potentially offset in the GHG emissions inventories of two different organisations, e.g. a company and one of its suppliers/contractors. This is particularly relevant to indirect (Scope 2 and 3) emissions sources.
- The organisation generates renewable electricity, uses or exports the electricity and claims the carbon benefits.
- Emissions reductions are counted as removals in an organisation’s GHG emissions inventory and are counted or used as offsets/carbon credits by another organisation.

Double counting / double offsetting has not been included in this inventory.

14 REFERENCES

International Organization for Standardization, 2006. ISO 14064-1:2006. Greenhouse gases – Part 1: Specification with guidance at the organisation level for quantification and reporting of greenhouse gas GHG emissions and removals. ISO: Geneva, Switzerland.

World Resources Institute and World Business Council for Sustainable Development, 2004 (revised). The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard. WBCSD: Geneva, Switzerland.

15 APPENDIX 1: GHG EMISSIONS DATA SUMMARY

More GHG emissions data is available on the accompanying spreadsheet to this report:

Scope 1 Direct - Desflurane and Sevoflurane Spreadsheet.xlsx, Scope 1 Direct - Diesel for Boiler Back-Up - McFall Fuel pdf document.pdf, Scope 1 Direct - Medical Gases - BOC Spreadsheet.xlsx, Scope 1 Direct - Natural Gas - Genesis Energy Spreadsheet.xlsx, Scope 1 Direct - Petrol and Diesel for Fleet Cars - BP Oil Spreadsheet.xlsx, Scope 1 Direct - Rental Car for Staff Travel - Corporate Traveller Spreadsheet.xls, Scope 2 Indirect - Electricity - Base Hospital - Meridian Energy Spreadsheet.xlsx, Scope 2 Indirect - Electricity - Hawera Hospital - Meridian Energy Spreadsheet.xlsx, Scope 3 Addition - Accommodation Domestic and International - Corporate Traveller Spreadsheet.xlsx, Scope 3 Addition - Patient Ambulance Travel - St John Spreadsheet.xlsx, Scope 3 Addition - Patient Travel Spreadsheet.xlsx, Scope 3 Addition - Patient-Visitor-Staff Bus Travel - Taranaki Regional Council Spreadsheet.xlsx, Scope 3 Addition - Water Supply Base Hospital Account No 150 - NPDC Spreadsheet.xlsx, Scope 3 Addition - Water Supply Base Hospital Account No 31627 - NPDC Spreadsheet.xlsx, Scope 3 Addition - Water Supply Hawera Hospital - South Taranaki District Council Spreadsheet.xlsx, Scope 3 Mandatory - Landfilled Green and Mixed Waste - Ingrams Spreadsheet.xlsx, Scope 3 Mandatory - Landfilled Mixed Waste - Waste Management Report in pdf.pdf, Scope 3 Mandatory - Landfilled Sanitary Waste - AlSCO Spreadsheet.xlsx, Scope 3 Mandatory - Staff Air Travel - Corporate Traveller Spreadsheet.xls, Scope 3 Mandatory - Staff Travel - Toitū CME Template Spreadsheet.xlsx, Scope 3 Mandatory -Staff Taxi Travel - Taxi Charge Spreadsheet.xlsx, Scope 3 Mandatory -Trade Waste - New Plymouth District Council Spreadsheet.xlsx, Taranaki DHB Freight Costs FY2019-2020.xlsx, Taranaki DHB Toitū carbon reduce emission source data sheet 10-12-2020.xlsx