

Pharmac Greenhouse Gases Emissions Report

ISO 14064-1:2018(E) Guidelines

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Emissions Inventory Summary

Table 1: Greenhouse gases (GHG) qualified separately for 2023-2024 reporting year.

tCO ₂ e	CO ₂	CH ₄	N ₂ O	HFCs	PFCs	SF6	Other	Total
Scope 1	-	-	-	-	-	-	-	-
Scope 2	12.606	0.447	0.014	-	-	-	-	13.09
Scope 3	189.199	3.458	1.319	-	-	-	-	193.98
Total	201.805	3.925	1.333					207.07

Table 2: Total tonnes CO₂ equivalent (tCO₂e) by scope and FTEs for base year (2018/19) and reporting years.

	2018/2019	2022/2023	2023/2024
FTE	119	157	167
Greenhouse Gas Emissions			
Scope 2	20.93	20.86	13.09
Scope 3	415.66	259.04	193.98
Total tCO₂e	436.59	279.90	207.07

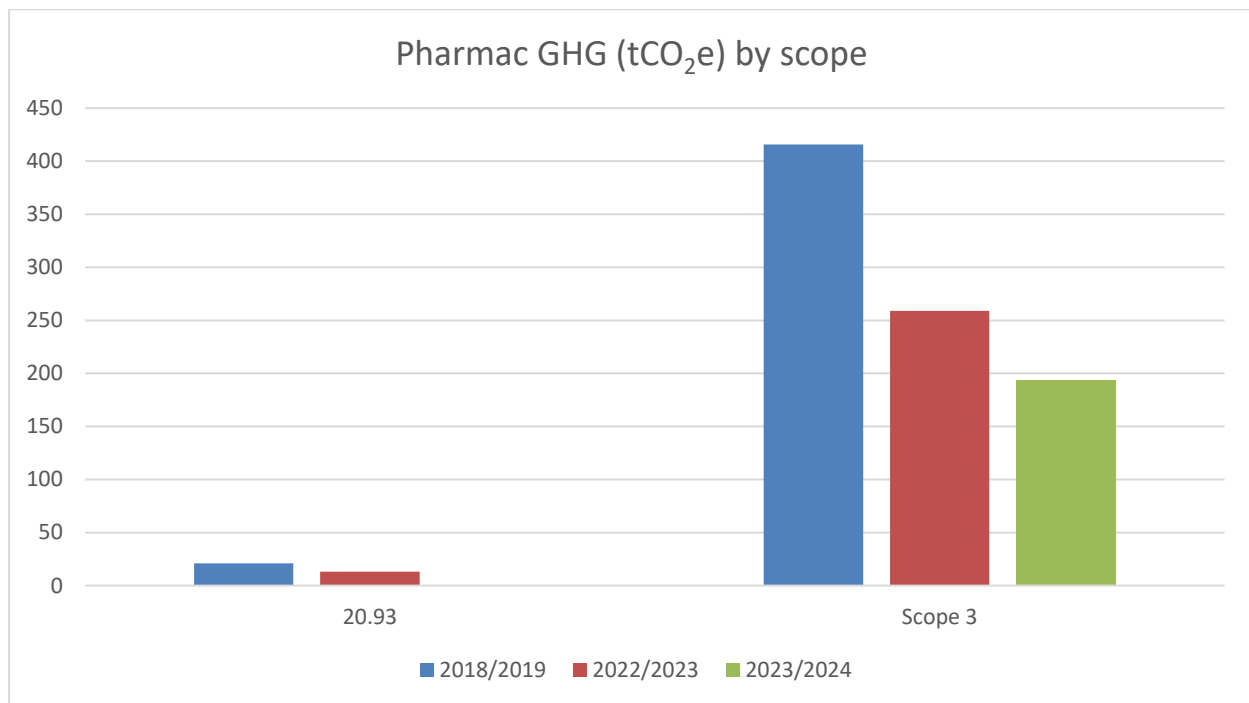


Figure 1: Total scope 2 and 3 emissions from base year and reporting years.

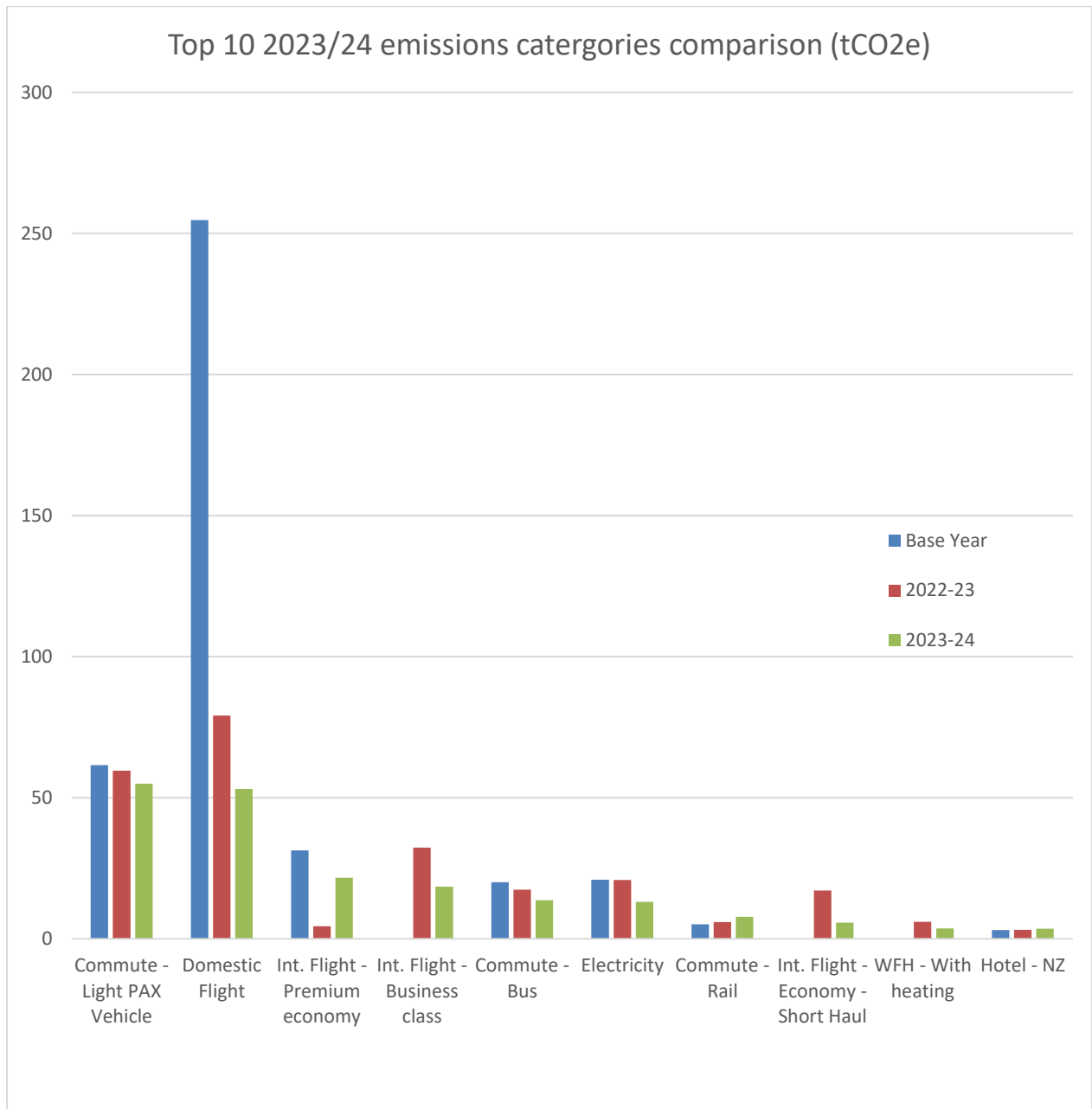


Figure 2: Top 10 GHG emissions for 2023-2024 compared to previous years.

Table 3: GHG emissions by ISO14064-1:2018(E) categories

Scope	Category	Description	tCO2-e
2	2	Indirect GHG emissions from imported energy - <i>Electricity</i>	13.09
3	3	Indirect GHG emissions from transportation - <i>Business Travel, Commuting, Freight, Work From Home (WFH)</i>	191.74
3	4	Indirect GHG emissions from products used by an organisation - <i>Waste, Water</i>	2.24

Introduction

This report is the annual greenhouse gas (GHG) emissions inventory report for the Pharmaceutical Management Agency (Pharmac). 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 baseline period.

The inventory has been prepared in accordance with the requirements of the ISO 14064-1:2018(E) Part 1: Specification with Guidance at the Organization Level for Quantification and Reporting of Greenhouse Gas Emissions and Removals.

Statement of Intent

Our mandate

Pharmac's legislative objective is set out in section 68 of the Pae Ora (Healthy Futures) Act 2022 *'to secure for eligible people in need of pharmaceuticals, the best health outcomes that are reasonably achievable from pharmaceutical treatment and from within the amount of funding provided'*. As a Crown Entity, Pharmac is governed by a board of directors. The Board provides governance over our strategy and future operating intentions and monitors organisational performance.

Governance

Board members are appointed by the Minister of Health. A Governance Manual guides the Board's operations and sets out legal obligations, relevant procedures, and the delegation's framework for Pharmac's decision-making. The Pharmac Chair receives a letter of expectation (LOE) directly from the Associate Minister of Health Hon David Seymour.

Environmental sustainability (from the Statement of Intent)

The global pharmaceutical industry causes environmental impacts through the manufacture, disposal and packaging of medicines and medical devices. While very little pharmaceutical manufacturing occurs in New Zealand there are opportunities to improve sustainability through procurement. Wherever possible Pharmac will signal our preferences for more environmentally sustainable packaging from suppliers and for options that minimise the volume of packaging.

As a Crown entity, we actively support New Zealand's greenhouse gas emissions reduction goals to levels that meet international agreements. Pharmac | Te Pātaka Whaioranga is a member of the Carbon Neutral Government Programme to reduce net carbon emissions. We encourage innovative thinking to find smarter ways of being more energy efficient, increase environmental awareness in our activities, and implement sustainable procurement initiatives.

We are required to report annually on our progress to reduce carbon emissions. Our Carbon Emissions Reduction Plan provides the basis for setting our emissions reporting, reduction targets, and meeting the Government's broader objective of achieving carbon neutrality by 2025.

Description of the reporting organisation

Pharmac is the New Zealand Crown entity that decides which medicines and related products are funded in New Zealand. We work hard to give New Zealanders access to medicines and related products they need. Our role includes:

- managing the list of vaccines, medicines and devices that get subsidised in the community (part of the cost is paid by government so it is cheaper for the user)
- promoting responsible use of medicines
- managing which hospital medicines are funded, and national contracts for some devices used in public hospitals.

Person responsible

This report has been put together by the Pharmac Office Manager/Team Leader and Sustainability Lead, Corey Moir.

Reporting period covered

The reporting period covers the 2024 financial year, 1 July 2023 to 30 June 2024. This will be compared to the Base Year, 1 June 2018 to 30 June 2019.

Organisational boundaries

Organisational boundaries were set with reference to the methodology described in the ISO 14064-1:2018(E) standards. The standard describes two distinct approaches to consolidate GHG emissions: the equity share and control (financial or operational) approaches. This report used an operational control consolidation approach to account for emissions.

Emissions inclusions

No business units have been excluded from this inventory.

Emission breakdown

The GHG emissions sources included in this inventory were identified with reference to the methodology in the ISO14064-1:2018(E) standard. As adapted from the standard these emissions were classified under the following categories:

- **Direct GHG emissions (Scope 1):** emissions from sources that are owned or controlled by the company (category 1 in ISO Standard (B.2))
- **Indirect GHG emissions (Scope 2):** emissions from the generation of purchased electricity, heat and steam consumed by the company (category 2 in ISO Standard (B.3))
- **Indirect GHG emissions (Scope 3):** emissions that occur because of the company's activities but from sources not owned or controlled by the company. These have been further categorised using the ISO14064 standard categories:
 - Category 3 – Indirect GHG emissions from transportation (B.4)
 - Category 4 – Indirect GHG emissions from products used by organization (B.5)

Table 4: Calculation table of raw data with emission factors with tCO₂e per emission type

	Unit	Amount	Emission factor	tCO ₂ -e
Scope 2				
Electricity	kWh	179,579	0.0729	13.09
Scope 3 Mandatory				
Transmission and distributions losses (electricity)	kWh	179,579	0.00533	0.96
Business travel				106.78
Air travel domestic	km	273,969	0.194	53.15
Air travel short haul - Economy	km	37,969	0.151	5.73
Air travel short haul - Premium economy	km	1,618	0.153	0.25
Air travel short haul - Business class	km	3,552	0.226	0.80
Air travel long haul - Economy	km	5,214	0.148	0.77
Air travel long haul - Premium economy	km	90,640	0.236	21.39
Air travel long haul - Business class	km	41,139	0.429	17.65
Transport - Rental Car	km	1,245	0.183	0.23
Transport - Private Car	km	1,109	0.243	0.27
Transport - Private Motorcycle	km	902	0.106	0.10
Transport - Taxi	\$	47,946	0.0454	2.18
Other - Hotel - Australia	nights	9	43.2	0.39
Other - Hotel - Canada	nights	3	12.5	0.04
Other - Hotel - NZ	nights	310	11.6	3.60
Other - Hotel - Spain	nights	11	11.1	0.12
Other - Hotel - USA	nights	8	15.1	0.12
Staff WFH				4.15
Without heating	days	8,053	0.0515	0.41
With heating	days	4,940	0.756	3.73
Freight rail, road, coastal shipping and couriers				1.29
All trucks	tkm	8,073	0.135	1.09
Domestic flights	tkm	43	4.67	0.20
Waste and water				2.24
Wastewater	m3	769	0.476	0.37
Water supply	m3	854	0.0349	0.03
Waste (to landfill)	kg	2,767	0.666	1.84
Scope 3 Plus				
Staff commuting				78.56
Bus	km	88,452	0.155	13.71
Rail	km	353,367	0.0222	7.84
Flight	km	13,919	0.194	2.03
Light PAX Vehicle	km	318,729	varied	54.98
Total				207.07

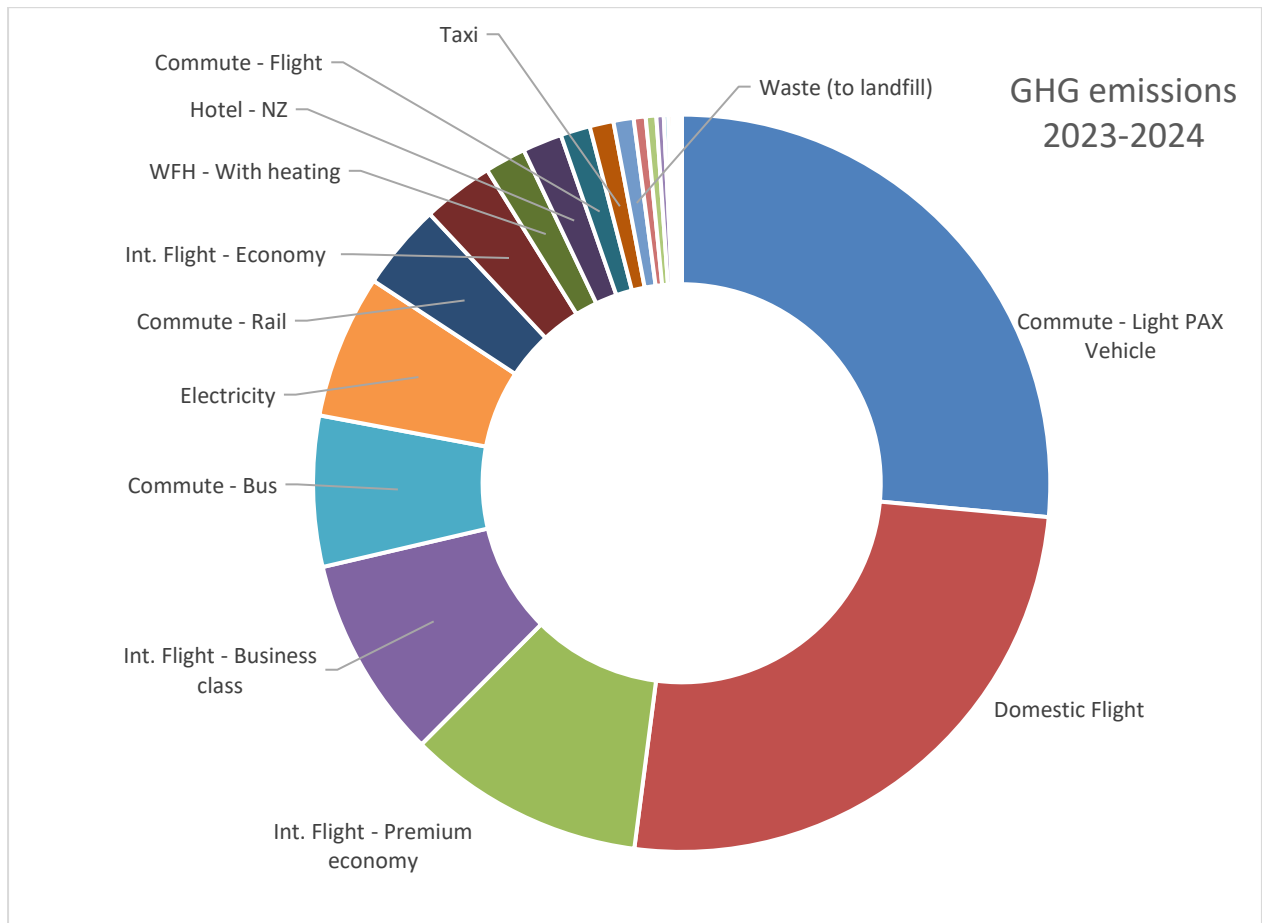


Figure 3: 2023-2024 GHG emissions by description.

GHG emission source exclusions

Pharmac recognises the extent of Scope 3 emissions is significant. We have chosen to declare the following notable emissions sources that have been excluded from the emissions inventory.

Table 5: Excluded data sources

Scope	Source source	Reason for exclusion
1	Refrigerant leaks	No refrigerant top-ups reported by the landlord in 2023/24
3	International staff	There are two staff working internationally for 20 hours a week. The emissions for the two staff working are less than 1% of the total emissions and can be excluded.

Base year comparison

Table 6: Comparison of tCO₂e for base year and reporting years by emission type.

	2018/2019	2022/2023	2023/2024
Scope 2			
Electricity	20.93	20.86	13.09
Scope 3 Mandatory			
Transmission and distributions losses (electricity)	2.16	1.92	0.96
Business travel	314.20	157.67	106.78
Air travel domestic	254.70	79.12	53.15
Air travel international - Economy	17.53		
Air travel - Economy - Short Haul		17.14	5.73
Air travel - Economy - Long Haul		14.95	0.77
Air travel international - Premium economy	31.33	4.44	
Air travel - Premium economy - Short Haul			0.25
Air travel - Premium economy - Long Haul			21.39
Air travel international - Business class		32.32	
Air travel - Business class - Short Haul			0.80
Air travel - Business class - Long Haul			17.65
Transport - Rental Car	2.50	0.09	0.23
Transport - Taxi	3.20	2.92	2.17
Transport - Private Car			0.27
Transport - Private Motorcycle			0.10
Other - Hotel - Australia	1.75	3.27	0.39
Other - Hotel - Canada			0.04
Other - Hotel - Germany	0.11		
Other - Hotel - NZ	3.08	3.21	3.60
Other - Hotel - Spain			0.12
Other - Hotel - UK		0.09	
Other - Hotel - USA		0.12	0.12
Staff WFH		6.62	4.15
Without heating		0.57	0.41
With heating		6.05	3.73
Freight rail, road, coastal shipping and couriers	10.04	7.88	1.29
All trucks	10.04	7.52	1.09
Domestic flights		0.36	0.20
Waste and water	2.49	2.1	2.24
Wastewater	0.60	0.60	0.37
Water supply	0.04	0.04	0.03
Waste (to landfill)	1.85	1.46	1.84
Scope 3 Plus			
Staff commuting	86.77	82.85	78.56
Bus	20.10	17.39	13.71
Rail	5.15	5.90	7.84
Flight			2.03
Light PAX Vehicle	61.52	59.56	54.98
Total	436.59	279.90	207.07

Quantification methodologies

Emission factors were sourced from the Ministry for the Environment guides.

- Base year (2018/19) and 1st reporting year (2022/23) used emission factors from August 2022 guide – *Measuring emissions: A guide for organisations 2022 detailed guide*.
- 2nd reporting year (2023/2024) use emission factors from May 2024 guide – *Te ine tukunga: He tohutohu pakihi | Measuring emissions: A guide for organisations 2024 detailed guide*

Table 7: Carbon emission factor (EF) sources

	EF 2022 guide	Table	EF 2024 guide	Table
Scope 2				
Electricity	0.120	9	0.0729	9
Scope 3 Mandatory				
Transmission and distributions losses (electricity)	0.0110	10	0.00533	12
Business travel				
Air domestic	0.306	37	0.194	38
Air international - Economy - Short Haul	0.151	48	0.151	43
Air international - Economy - Long Haul	0.148	48	0.148	43
Air international - Premium economy	0.237	48		
Air - Premium economy - Short Haul			0.153	43
Air - Premium economy - Long Haul			0.236	43
Air international - Business class	0.429	48		
Air - Business class - Short Haul			0.226	43
Air - Business class - Long Haul			0.429	43
Rental Car default petrol	0.211	21	0.183	21
Private Car <3000 cc engine petrol	0.265	20	0.243	20
Private Motorcycle >60cc petrol	0.115	19	0.106	19
Transport - Taxi	0.070	22	0.0454	22
Hotel - Australia	38.9	51	43.2	45
Hotel - Canada	17.1	51	12.5	45
Hotel - NZ	9.4	51	11.6	45
Hotel - Spain	16.3	51	11.1	45
Hotel - UK	13.4	51	10.5	45
Hotel - USA	19.8	51	15.1	45
Staff WFH				
Without heating	0.0665	14	0.0515	13
With heating	0.9791	14	0.756	13
Freight rail, road and couriers				
All trucks	0.105	63	0.135	55
Domestic flights	4.494	67	4.67	63
Waste and water				
Wastewater	0.480	73	0.476	68
Water supply	0.031	72	0.0349	67
Waste (to landfill) - class 1 gas recovery	0.594	80	0.666	75
Scope 3 Plus				
Staff commuting				
Bus	0.155	27	0.155	27
Rail	0.019	27	0.0222	27
Flight	0.306	37	0.194	38
Light PAX Vehicle	0.265	20	varied	16-19

Uncertainties

In this section, we provide the data sources, assumptions, and methodologies used to calculate/estimate the activity data for certain emissions sources:

- Pharmac has no Scope 1 emissions as the organisation has no company vehicles, gas usage, or emissions associated to refrigerants used.
- **Electricity** – the data was gathered from Mercury Energy invoices and Meridian website for the energy usage by floor. Pharmac changed providers in October 2023. Additionally, manual reads were completed for the Level 11, that has yet to receive a smart meter. The data is recorded well so there is a low uncertainty with this data.
- **Freight Transport** – monthly data gathered from Healthcare Logistics. Excellent data collected so uncertainty low.
- **Staff WFH and Staff Commuting** – in April 2024 collected information on commuting distance, mode of transport and WFH days. A total of 125.55 FTE were surveyed which was used to estimate the emissions for 167 FTE. With errors associated with staff self-reporting there is a higher uncertainty with this data. WFH data has less variation compared to transport, so uncertainty is moderate.
- **Office Waste** – the cleaner carried out a total weight measurement for the waste for one week every two months. Using six weekly measurements to estimate landfill for the 48.8 weeks the office was open leads to high uncertainty.
- **Water and Wastewater** – water invoices from the landlord have been used to determine the m³ water usage for the organisation. Since the water supply isn't metered this is an estimate so has a moderate uncertainty.
- **Air Travel and Hotel stays** – data reported by Orbit, capturing all business travel, so low uncertainty with this data.
- **Taxi travel** – data reported by TaxiCharge so low uncertainty.

Table 8: Data sources for GHG emissions with uncertainties

Scope	GHG Emission Source	Data source	Data collection unit	Uncertainty (description)
2	Purchased electricity	Mercury and Meridian Invoices and meter reads	kWh	low
3	Transmission and distributions losses (electricity)		kWh	low
3	Staff commuting (public transport)	Staff survey conducted in April 2024 (125.55 FTE respondents)	passenger.km	high
3	Staff commuting (light passenger vehicle)		km	high
3	WFH		days	moderate
3	Taxi travel	Spend data comes from TaxiCharge	\$	low
3	Rental cars	Data provided by Orbit Travel	km	moderate
3	Domestic air travel		passenger.km	low
3	International air travel		passenger.km	low
3	Hotel stays		room per night	low
3	Freight	Data provided by Healthcare Logistics	tonne.km	low
3	Water supply	Landlord (CBRE)	m ³	moderate
3	Wastewater treatment		m ³	moderate
3	Office waste	Bimonthly week weighing's by cleaner	kg	high

Statement

This report has been prepared in accordance with the ISO 14064-1:2018(E) standard for GHG reporting.

Verification

This report is verified by Toitū Envirocare. The assurance for the audit was Reasonable & Limited (Reasonable for most categories and Limited for Water, Wastewater, Staff commuting, and WFH).

References

International Organization for Standardization (2018) ISO14064-1:2018(E). Greenhouse gases – Part 1: Specification with guidance at the organisation level for quantification and reporting of greenhouse gas GHG emissions and removals. Geneva: ISO.

Ministry for the Environment (2022) Measuring emissions: A guide for organisations: 2022 detailed guide. Wellington: Ministry for the Environment.
<https://environment.govt.nz/assets/publications/Measuring-emissions-guidance-August-2022/Detailed-guide-PDF-Measuring-emissions-guidance-August-2022.pdf> (accessed on 18 September 2024)

Ministry for the Environment (2024) Measuring emissions: A guide for organisations: 2024 detailed guide. Wellington: Ministry for the Environment.
https://environment.govt.nz/assets/publications/Measuring-Emissions-2024/Measuring-emissions_Detailed-guide_2024_ME1829.pdf (accessed on 18 September 2024)

Pharmac (2023) Statement of Intent | He Tauākī Whakamaunga Atu 2023/24 – 2026/27
<https://pharmac.govt.nz/assets/Uploads/SOI-2023-v1.0.pdf> (accessed on 18 September 2024)

Pharmac (2023) Statement of Performance Expectations | Te Tauākī o Ngā Mahi Hei Whakatutuki, 2023/24 <https://pharmac.govt.nz/assets/Pharmac-SPE-24-25.pdf> (accessed on 18 September 2024)

Appendix 1 – Measured raw data from the reporting years

Table 9: Raw data from emission categories

Scope 2	Unit	Amount		
		2018/19	2022/23	2023/24
Electricity	kWh	205,809	173,718	179,579
Scope 3 Mandatory				
Transmission and distributions losses (electricity)	kWh	205,809	173,718	179,579
Business travel				
Air travel domestic	km	835,079	259,403	273,969
Air travel international - Economy - Short Haul	km	113,714	113,490	37,969
Air travel international - Economy - Long Haul	km	2,377	101,090	5,214
Air travel international - Premium economy	km	132,437	18,772	
Air travel - Premium economy - Short Haul	km			1,618
Air travel - Premium economy - Long Haul	Km			90,640
Air travel international - Business class	km		75,367	
Air travel - Business class - Short Haul	Km			3,552
Air travel - Business class - Long Haul	km			41,139
Transport - Rental Car	km	11,843	450	1,245
Transport - Private Car	km			1,109
Transport - Private Motorcycle	km			902
Transport - Taxi	\$	45,504	41,531	47,946
Other - Hotel - Australia	nights	45	84	9
Other - Hotel - Canada	nights			3
Other - Hotel - Germany	nights	6		
Other - Hotel - NZ	nights	329	342	310
Other - Hotel - Spain	nights			11
Other - Hotel - UK	nights		7	
Other - Hotel - USA	nights			8
Staff WFH				
Without heating	days		8,587	8,053
With heating	days		6,179	4,940
Freight rail, road, coastal shipping and couriers				
All trucks	tkm	74,390	55,702	8,073
Domestic flights	tkm		81	43
Waste and water				
Wastewater	m ³	1,243	1,243	769
Water supply	m ³	1,380	1,380	854
Waste (to landfill)	kg	3,120	2,451	2,767
Scope 3 Plus				
Staff commuting				
Bus	km	129,480	112,022	88,452
Rail	km	277,056	317,182	353,367
Flight	km			13,919
Light PAX Vehicle	km	232,440	225,056	318,729

Appendix 2 – Month on month data collection

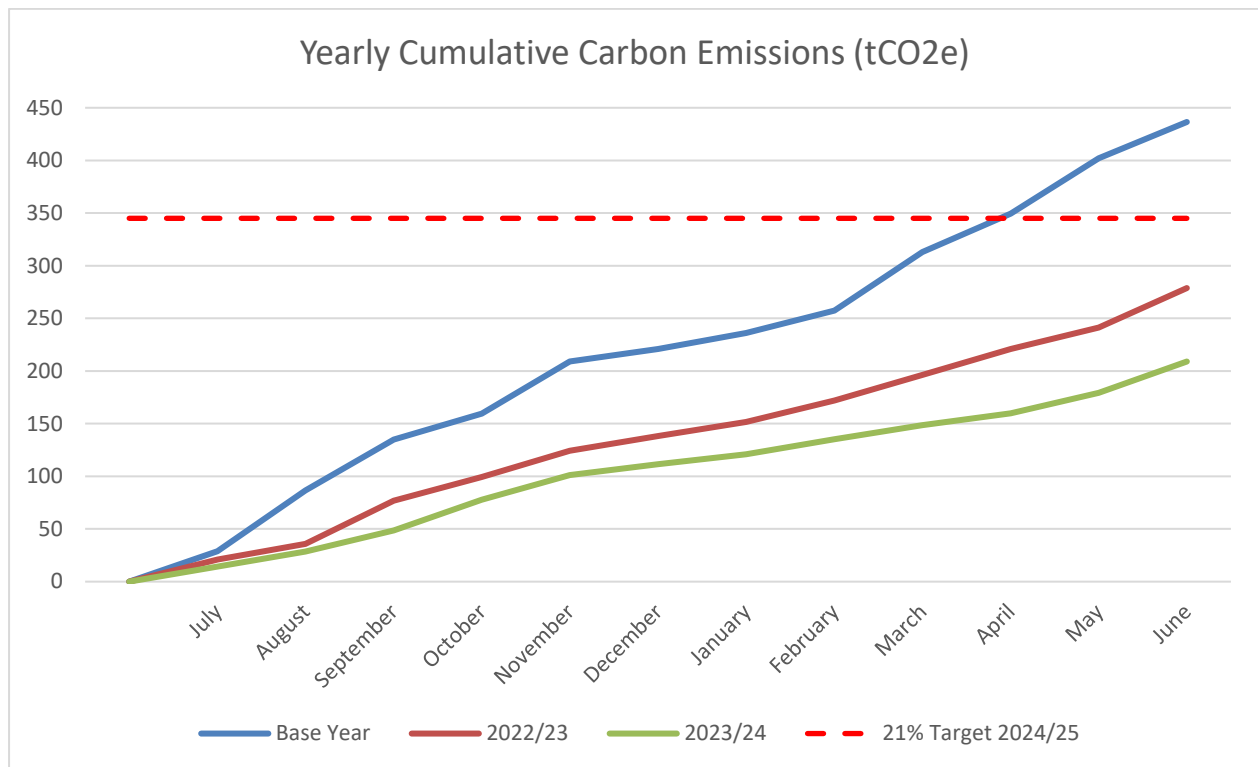


Figure 4: Yearly cumulative carbon emissions (tCO₂e) with 2024/25 21% reduction target.