



Greenhouse Gas Emissions for the 2021/22 Financial Year

Report and inventory

2021/22

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Introduction

This document provides the report and inventory for the greenhouse gas (GHG) emissions of Manatū Hauora | Ministry of Health (the Ministry) for the financial year 2021/22 (1 July 2021 to 30 June 2022).

The inventory has been prepared in accordance with the requirements of:

- the Carbon Neutral Government Programme (CNGP)¹
- the Greenhouse Gas Protocol (GHG Protocol)²
- International Standards ISO 14064-1:2018³.

The Ministry for the Environment (MfE) and Hīkano Whakatutuki | Ministry of Business, Innovation and Employment (MBIE) provided guidance in its development.

Inventory reports and any GHG assertions are expected to be verified by a third-party verifier. This assurance statement will be published with this report when available.

¹ Ministry for the Environment. Carbon Neutral Government Programme URL: <https://environment.govt.nz/what-government-is-doing/areas-of-work/climate-change/carbon-neutral-government-programme/>

² Greenhouse Gas Protocol. About Us. URL: <https://ghgprotocol.org/about-us>.

³ ISO. 2018. ISO 14064-1:2018: *Greenhouse Gases – Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals*. Geneva: International Organization for Standardization (ISO). URL: www.iso.org/standard/66453.html (accessed 30 November 2021).

Our commitment

This GHG inventory forms part of the Ministry's commitment to measure and manage our emissions in support of the CNGP.

Statement of intent

We aim to:

- achieve carbon neutrality by the year 2025
- measure, manage, verify and report on our emissions annually
- reduce our emissions and implement a reductions plan by the end of 2022 with a 1.5°C target reduction pathway
- optimise our vehicle fleet to electric vehicles (EVs) or hybrids where practicable⁴
- build or lease energy efficient building with ratings no less than 4 stars (5 stars for new builds) for government office accommodation over 2,000 m²
- offset our remaining emissions where it is impractical to reduce.

⁴ In line with the government's policy for reducing emissions – see the Reducing government fleet emissions webpage on the New Zealand Government Procurement website at: www.procurement.govt.nz/broader-outcomes/reducing-emissions-and-waste/reducing-government-fleet-emissions

Organisation description

The Ministry leads the health and disability system and has overall responsibility for the management and development of that system.

As kaitiaki of the health and disability system, the Ministry has a role and responsibility of stewards to sustain, nurture, grow and develop the system. It steers improvements that help New Zealanders live longer, healthier and more independent lives.

The Ministry funds an array of national services (including disability support services and public health services) and provides clinical and sector leadership.

It ensures the health and disability system is delivering on the Government's priorities and that health sector organisations are well governed and soundly managed from a financial perspective. To do this, the Ministry:

- advises the Government
- funds, monitors and drives the performance improvements of health sector crown entities, including Te Watu Ora | Health New Zealand (formerly DHB's)
- supports the planning and accountability functions of health sector crown entities, including
- regulates the sector and ensures legislative requirements are being met.

The Ministry is made up of directorates and business units, each with its own functions and areas of responsibility.

The property portfolio under the Ministry's operational control covers a variety of property types across the country, from Auckland to Invercargill.

Base year selection

In determining the base year, the Ministry has consulted with MfE and other government agencies and agreed that, due to the variabilities presented through the unique COVID-19 situation, the base year should fall before March 2020. Thus, the Ministry's base year for its GHG emissions reports is 1 March 2019 to 29 February 2020.

Where data was impractical to source for the base year period, we sourced an alternative time period of data (as close to the base year as possible) to best represent 'business as usual' for those specific emissions sources as noted in the inventory.

Organisational and operational boundaries of this reporting period

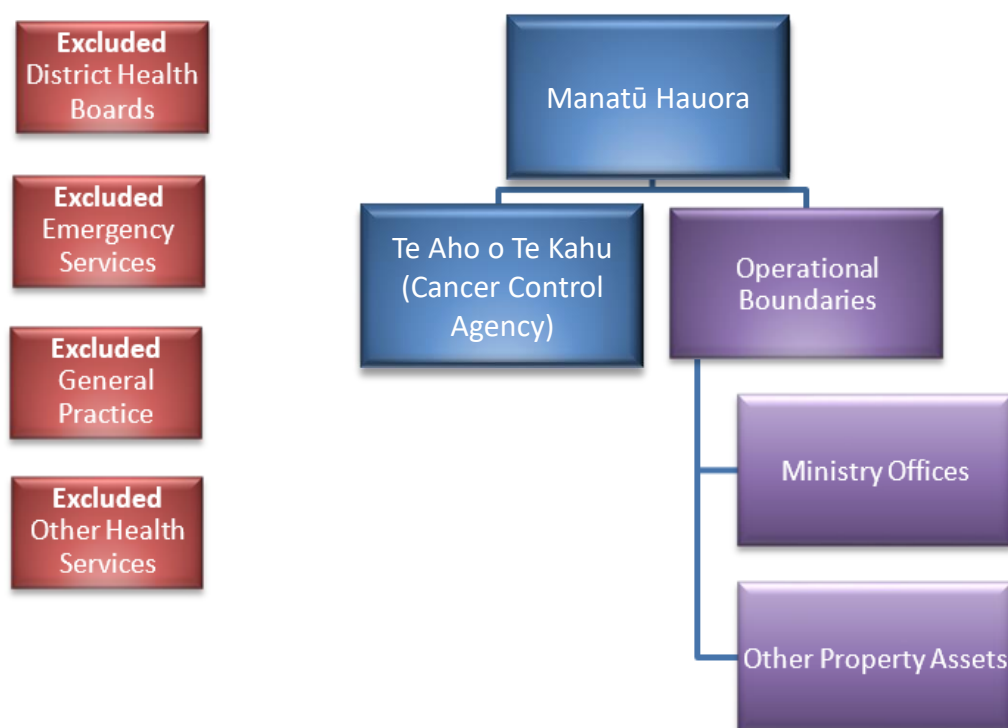
Organisational boundaries refer to the legal composition of an organisation and determine whether the Ministry has direct control over the sources of its emissions.

The organisational boundaries at the time of the base year (March 2019 to February 2020) were set with reference to the methodology described in the GHG Protocol standards.⁵

The GHG Protocol allows for 2 approaches to consolidate GHG emissions: the equity share (financial) approach and the control (operational) approach. For the purposes of the Ministry's reporting, we have used the control approach.

Figure 1 shows the Ministry's organisational boundaries, including any 'excluded' services or services that would otherwise be assumed to be under the Ministry's operational control.

Figure 1: Organisational boundaries



⁵ GHG Protocol. nd. *The Public Sector GHG Accounting and Reporting Standard, Provisional draft*. URL: https://ghgprotocol.org/sites/default/files/standards_supporting/provisional-draft.pdf (accessed 7 December 2021).

Figure 2 explains the structure of the operational boundaries defined in the GHG emissions inventory, which include all owned and leased properties directly under the Ministry's operational control or co-located premises where noted.

Figure 2: Operational boundaries



Note: Hospitals that have closed but are included in the Ministry's organisational boundaries are the result of a transfer of assets from the respective DHBs. These sites are therefore reported under the Ministry's operational control and form part of the Ministry's emissions inventory. As such, they are excluded from DHB GHG reports.

Table 1: Properties included in the Ministry’s organisational boundaries

Property	Address	Description
Wellington head office	133 Molesworth Street	Head office, responsible for oversight and operational management of property portfolio. This includes Te Aho o Te Kahu staff accommodated within this location.
Wellington office	83 Molesworth Street	Secondary Ministry office, housing approx. 160 workers.
Wellington office	42-56 Willis Street	Ministry office, housing approx. 22 workers.
Auckland office	650 Great South Road	Ministry office, housing approx. 93 workers.
Whanganui office	179 Hill Street	Ministry office and call centre, housing approx. 67 workers.
Whanganui prescriptions warehouse	137 London Street	National prescriptions warehouse and storage.
Christchurch office	48 Hereford Street	Co-located office with Ministry of Education as lead agency.
Christchurch national radiation laboratory	108 Victoria Street	National radiation laboratory and storage site.
Dunedin office	481 Moray Place	Ministry office, housing approx. 71 workers.
Dunedin new hospital building	174 Castle Street	Not yet open.
Hamilton office	87 Alexandra Street	Fleet vehicle on site to be reported only.
Hanmer Springs closed hospital	28 Amuri Avenue	Closed hospital, minor maintenance conducted at this site.
Palmerston North Te Aho o Te Kahu	619 Featherston Street	Te Aho o Te Kahu, housing approx. 5 workers

Operational boundaries excluded from inventory

Table 2 lists the properties that were leased recently or that produced no emissions within the 2021/22 financial year. These properties are not relevant to the base year in which this report and GHG emissions inventory are consolidated from. For transparency, this provides an overview of the current state of the Ministry’s property portfolio and potential for inclusion in future GHG reports and inventories.

Some properties do not sit under the Ministry’s operational control (for example, co-located tenancies), however, if the Ministry’s emissions data can be sourced, future GHG emissions reports will note the relevant portion of their emissions outputs as per their associated categories. If this is not achievable, each lead agency shall report their emissions inclusive of their co-located tenants.

Table 2: Operational boundary exclusions

Property	Address	Description
Hamilton	16 Clarence Street	Te Aho o Te Kahu. Not under the Ministry's operational control, however, the agency agreement sits with the Ministry. Due to low staffing numbers (4–5 staff), this site has been excluded from this report.
Christchurch	32 Oxford Street	Te Aho o Te Kahu. Not under the Ministry's operational control, and the Ministry has no influence over the operation of this building. Due to low staffing numbers (4–5 staff), this site has been excluded from this report.
Invercargill	194 Dee St	Closed hospital, minor maintenance conducted as required, however, no emissions produced in base year where data could practically be sourced.
Hamilton	87 Alexandra Street	Low staffing numbers (approx. 8). Part of the Waikato DHB, and not under the Ministry's operational control as the lease agreement is per seat. The Ministry's fleet vehicle, however, is included in the inventory.

GHG emissions source inclusions

The GHG emissions sources included in this inventory were identified with reference to the methodology described in the GHG Protocol⁶ and ISO14064-1:2018 standards⁷.

The emissions sources are also referenced in the MfE's, *Measuring Emissions: A Quick Guide 2020*,⁷ which specifies the various types of emissions an organisation would typically report on, depending on the type of organisation and its operational functions.

As adapted from the GHG Protocol, the emissions were classified under the following categories.

- **Direct GHG emissions (Category 1):** Emissions from sources owned or controlled by the agency.
- **Indirect GHG emissions from imported energy (Category 2):** Emissions from the generation of purchased electricity, heat and/or steam consumed by the agency.
- **Indirect GHG emissions from transportation (Category 3):** Emissions occurring as a result of the agency's activities but from sources not owned or controlled by the agency.

⁶ GHG Protocol. nd. *The Public Sector GHG Accounting and Reporting Standard, Provisional draft*. URL: https://ghgprotocol.org/sites/default/files/standards_supporting/provisional-draft.pdf (accessed 7 December 2021).

⁷ ISO. 2018. *ISO 14064-1:2018: Greenhouse Gases – Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals*. Geneva: International Organization for Standardization (ISO). URL: www.iso.org/standard/66453.html (accessed 30 November 2021).

- **Indirect GHG emissions from products an agency uses (Category 4):** Emissions occurring as a result of the agency’s activities but from sources not owned or controlled by the agency.

The actual emissions sources in figure 3 have been identified and included in the GHG emissions inventory which are relevant to the Ministry’s operational boundaries.

Table 3: GHG emission sources inclusion summary

Category	Description
1	Fleet vehicles fuel
2	Electricity
3	Air travel – Long haul Air travel – Short haul Air travel – Domestic Taxi travel Rental vehicles Accommodation Freight Staff mileage claim Staff travel claim Working from home
4	Electricity transmission and distribution losses Waste to landfill Water supply Waste water

GHG emissions source exclusions

For the financial year 1 July 2021 to 30 June 2022, we excluded the emissions sources listed in table 4 below from the operational boundaries (as per table 2).

Where a property is deemed outside Ministry operational control (for example, small co-located tenancies as shown in table 1), these may be ‘de minimis’ (too trivial or minor to be worthy of consideration) and will be reported as an exclusion.

Various factors may be involved in the decision to exclude an emissions source relevant to the Ministry’s organisation boundaries for the 2021/22 period. Such factors can include:

- the type of lease agreement in place
- the practicality of locating the emissions
- total occupied space
- the number of full-time equivalents (FTEs) in the premises
- the emissions source being less than 1% of the total emissions within that source and not greater than 5% of the total emissions.

Table 4: Emissions source exclusions

Categories	Address	Reason	Source
Categories 2 & 4	87 Alexandra Street, Hamilton	The site is outside the Ministry's operational control; it is part of the DHB and will be reported in their emissions report; Ministry data is unpractical to source as it would require apportioning building data only for 8 desks occupied by the Ministry.	Electricity Waste to landfill Water supply Waste water
Categories 2 & 4	32 Oxford Street, Christchurch 16 Clarence St, Hamilton	These sites are outside the Ministry's operational control; they have low staffing numbers (4–5 staff); they are part of the DHBs and will be reported in their emissions reports.	Electricity Waste to landfill Water supply Waste water
Category 4	All sites	Data for the base year was sourced for the largest building and extrapolated on a square meter basis for all other sites and found to be de minimis.	Water supply
Category 4	All sites	These sites have a water supply that is de minimis; waste water for the sites is also considered de minimis.	Waste water

Data collection and uncertainties

Table 5 provides an overview and explanation of uncertainties or assumptions. The calculation methodology has been used for quantifying the emissions inventory using emissions source activity data, multiplied by the emissions factors. Further detail of how the data was sourced is included in the GHG inventory (see Appendix A). All emissions factors have been sourced from guidance provided by the MfE, specifically the GHG reporting emissions factor workbook for 2022⁸.

⁸ MfE. 2022. *MfE Measuring Emissions Guidance 2022*. Wellington: Ministry for the Environment (MfE). URL: <https://environment.govt.nz/publications/measuring-emissions-a-guide-for-organisations-2022-detailed-guide/> (accessed 1 March 2023).

Table 5: GHG emission source inclusion detail

Business unit	Activity	Categories	Data source	Data unit	Uncertainty/assumption (description)
All	Fleet fuel	Category 1	Fuel card monthly summary and monthly fuel invoices	Litre	The Fleet card summary are cross checked with fuel card invoices for accuracy and completeness. Then there is a limited amount of uncertainty.
All	Purchased Electricity	Category 2	Smart Power report, and Smart Power sourced the consumption for 1 site recharged by ACC, which was not in their system	kWh	Smart Power receives, verifies, and pays all energy bills on the Ministry's behalf following strong QA internal process that results in only a limited amount of uncertainty.
All	T&D* losses	Category 4	As above	kWh	As above.
All	Air travel	Category 3	Tandem, reconciliation report	Passenger.km	Tandem reconcile and process all the Ministry's invoices for flights, accommodation and rental cars and can only charge back against an approved booking, therefore there would be no data that has not been approved in the report, resulting in only a limited amount of uncertainty.
All	Accommodations	Category 3	Tandem, reconciliation report	Room / night	
All	Rental vehicles	Category 3	Tandem, reconciliation reports	km	It is assumed the report is complete and accurate. Kilometres are used for consistency across the inventory, and default emissions factors are used. There is a moderate amount of uncertainty.
All	Taxis travel	Category 3	Taxi charge summary report	km	It is assumed the report is complete and accurate. Kilometres are used for consistency across the inventory, and default emissions factors are used. There is a moderate amount of uncertainty.
All	Freight	Category 3	Courier Post emissions report	Tonne km (tkm) and other	It is assumed the report is complete and accurate. Especially since Courier Post had their calculation audited and certified by Toitū Envirocare. There is a limited amount of uncertainty.
All	Freight	Category 3	Kiwi Express	km	It is assumed the report is complete and accurate. Kiwi Express couldn't provide accurate weight, but they provided accurate type of vehicle used and km, therefore road freight for light vehicle emissions factors have been used. Then is a moderate amount of uncertainty.

Business unit	Activity	Categories	Data source	Data unit	Uncertainty/assumption (description)
All	Working from home	Category 3	Attendance record from security record for head office and the other Wellington office and FTE and assumption provided by the Ministry	Employee per day	As the Ministry has no formal ways of measuring the number of employees per day working from home, there is reasonable amount of uncertainty.
All	Use private car	Category 3	Staff expenses financial report	km	Estimated assumption based on national vehicle ownership data to determine the split between petrol (91%) and diesel (9%) for light passenger vehicle use; use of IRD conversion rate between \$ and km; default emissions factors used. Then is a moderate amount of uncertainty.
All	Air travel	Category 3	Staff expenses financial report	Passenger km (pkm)	A number of assumptions had to be made as the expenses claim report was not detailed enough. Therefore, there is a reasonable amount of uncertainty.
All	Taxi	Category 3	Staff expenses financial report	\$	
All	Accommodation	Category 3	Staff expenses financial report	Room/ night	
All	Waste to landfill	Category 4	Waste Management customer sales transaction report	kg	It is assumed the report is complete and accurate. Especially since Waste Management had their process audited via Toitū Envirocare. Emission factor with gas recovery has been used as all the Ministry's sites' waste have landfill with gas recovery. There is a limited amount of uncertainty.

Note

* T&D = Transmission and distribution.

Greenhouse gas emissions report summary

Table 6 shows the Ministry's total emissions for the period 1 July 2021 to 30 June 2022. The sums are expressed as kilograms of carbon dioxide equivalent (kg CO₂-e). A complete and quantified breakdown of this information is found in the GHG inventory, Appendix A.

Table 6: GHG emission summary for Manatū Hauora

Category	CO ₂	CH ₄	N ₂ O	HFCs	PFCs	SF ₆	Total t-CO ₂ e
Category 1 Direct	6,971.34	60.31	199.25				7.23
Category 2 Direct	208,709.36	4,957.34	412.35				214.08
Category 3 Indirect	1,052,962.87	9,638.23	12,563.09				1,075.16
Category 4 Indirect	19,159.32	28,344.24	37.79				47.54
Total							1,344.01

Notes

CO₂ = carbon dioxide

CH₄ = methane

N₂O = nitrous oxide

HFCs = hydrofluorocarbons

PFCs = perfluorinated compounds

SF₆ = sulfur hexafluoride

t-CO₂e = metric tonnes in carbon dioxide equivalent.

Calculations and results

Figure 3 provides the totals of the Ministry’s emissions per category (see table 3 for the definition of each category).

Figure 3: GHG emissions by category for Manatū Hauora

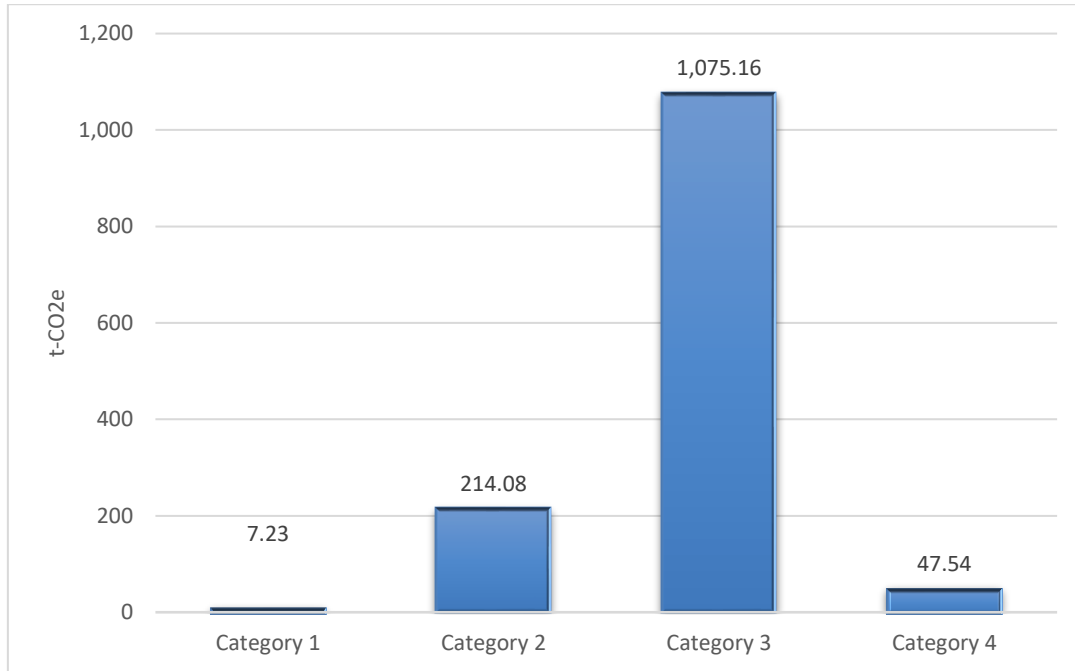
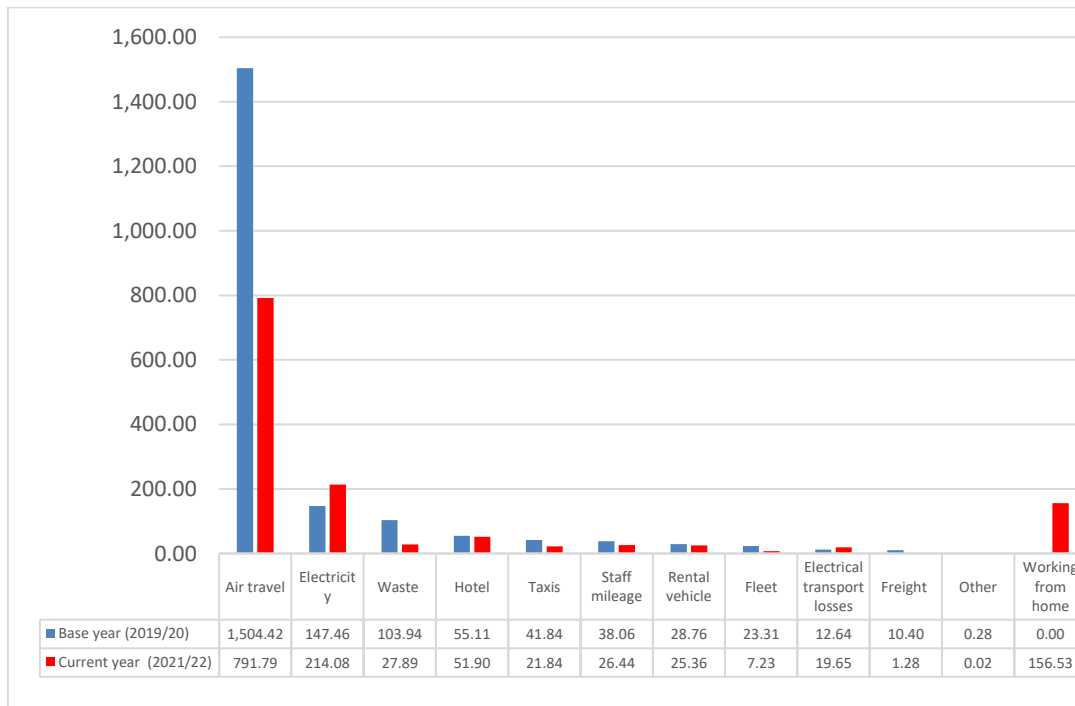


Figure 4 lists the totals of the Ministry’s emissions per source.

Figure 4: GHG emissions by source for Manatū Hauora



Variations from base year

For the 2021/22 financial year, this report concludes that the Ministry's highest emissions source was air travel.

Table 7: Emission variations from base year

Emission sources	FY 2021/22 Emission (t-CO₂e)	Emission variations from base year (t-CO₂e)	% variance from base year
Working from home	156.5	156.5	0
Freight	1.3	-9.1	-88%
Fleet	7.2	-16.1	-69%
T&D losses	19.7	7.0	55%
Rental vehicles	25.4	-3.4	-12%
Taxis	21.8	-20.0	-48%
Use of private cars	26.4	-11.6	-31%
Waste to landfill	27.9	-76.1	-73%
Accommodation	51.9	-3.2	-6%
Electricity	214.1	66.6	45%
Air travel	791.8	-712.6	-47%
Total	1,344.0	-622.0	-31.7%

Conclusion

Several emissions sources for 2021/22 were influenced by the COVID-19 pandemic, and the pandemic required the Ministry to make a number of operational changes, including setting up short-term office accommodation in Wellington to host an increased workforce. This resulted in a significant increase in electricity consumption and associated emissions. In addition, more Ministry staff worked from home, resulting in the associated emissions increasing. In contrast, air travel emissions reduced compared with our base year, resulting in a 47% reduction in emissions in this category.

Reduction plan (in development)

This report provides a framework for the Ministry to measure, verify and report on our emissions annually. The Ministry is currently developing a reductions plan with a 1.5°C target reduction pathway. Planned initiatives include:

- improving internal process to ensure accuracy and completeness of reporting
- continuing to engage with suppliers to improve reporting
- reviewing travel guidance and rules to ensure sustainability is a key consideration when deciding if travel is required
- investigating fleet utilisation for downsizing and if required replacing with hybrid/electrical or full electrical by 2025/26 (50% complete)
- investigating the potential for reducing electrical sources emissions, including improved renewable sourced electricity generation.

As travel-based sources are responsible for over 85% of the Ministry's base year emissions, category 3 will remain a significant focus for reduction activities.

Appendix A – Manatū Hauora GHG inventory – FY 2021/22

See attached.