



# GREENHOUSE GAS EMISSIONS INVENTORY REPORT

Toitū carbonreduce and Toitū carbonzero programme



## Greater Wellington Regional Council

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Prepared by: Ben Barrett

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For the period: 01 July 2019 to 30 June 2020

Base year: 01 July 2018 to 30 June 2019

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

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## GREENHOUSE GAS EMISSIONS INVENTORY SUMMARY

**Table 1: GHG emissions data summary.**

	2019	2020
Scope 1	3,887.87	3,981.88
Scope 2	3,126.00	3,055.18
Scope 3 Mandatory	1,156.49	757.26
Scope 3 Additional	35,709.54	35,731.15
Scope 3 One time	0.00	0.00
Total gross emissions	43,879.91	43,525.47
Certified green electricity	0.00	0.00
Purchased emission reductions	0.00	0.00
Net GHG emissions (all scopes)	43,879.91	43,525.47
Total gross GHG emissions per Turnover/revenue (\$Millions)	95.99	83.74
Total mandatory GHG emissions per Turnover/revenue (\$Millions)	17.87	15.00

*Note: total mandatory emissions includes scope 1, scope 2, and scope 3 (i.e. excludes scope 3 one-time and scope 3 additional). Refer to inventory spreadsheet for full time series.*

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

Indicator	tCO <sub>2</sub> e
Scope 1	
Other fuels	107.86
Passenger vehicles - default age	0.07
Passenger vehicles - post-2015	0.02
Transport fuels	3,873.93
Scope 2	
Electricity	3,055.18
Scope 3	
Electricity	246.83
Freight	1.35
Other fuels	9.54
Passenger vehicles - default age	9.40
Retired Indicators	2.76
Scope 3 Additional	35,731.15
Transport - other	148.54
Waste	338.83
Total	43,525.47

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

Component gas	Scope 1	Scope 2	Scope 3	Total	Removals	After removals
CH <sub>4</sub>	6.01	126.95	8,780.25	8,913.21	0.00	8,913.21
CO <sub>2</sub>	3,913.97	2,924.71	27,301.46	34,140.13	0.00	34,140.13
HFCs	0.00	0.00	0.00	0.00	0.00	0.00
N <sub>2</sub> O	61.91	3.53	406.70	472.13	0.00	472.13
NF <sub>3</sub>	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 <sub>6</sub>	0.00	0.00	0.00	0.00	0.00	0.00
Total	3,981.88	3,055.18	36,488.41	43,525.47	0.00	43,525.47

**Table 4: Mobile and stationary combustion of biomass.**

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

**Table 5: Deforestation of two hectares or more.**

Source	Mass	tCO <sub>2</sub> e
Deforestation tCO <sub>2</sub> e (tCO <sub>2</sub> e)	1,207.17	1,207.17

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

Source	Units	Quantity	Potential Liability tCO <sub>2</sub> e
Diesel commercial	litres	177,750.00	473.48
HFC-32	kilograms	188.00	126.90
R-410A	kilograms	3.20	6.68

**Table 7: Land-use liabilities.**

Type of sequestration	Liability tCO <sub>2</sub> e
Contingent liability (carbon sequestered this reporting period)	5,368.37
Potential sequestration liability (total carbon stock)	75,201.13

**Table 8: Renewable electricity generation on-site.**

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

**Table 9: Purchased emissions reductions.**

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

## 1 INTRODUCTION

This report is the annual greenhouse gas (GHG) emissions<sup>1</sup> 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**-step<sup>2</sup> 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*<sup>3</sup>. 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. This inventory also reports to the Carbon Disclosure Project (CDP).

## 3 ORGANISATION DESCRIPTION

Greater Wellington Regional Council promotes quality of life through environmental management while meeting the economic, cultural and social needs of the community.

Our responsibilities include environment management, flood protection and land management, provision of regional parks, regional public transport planning and service procurement, and catchment for several metropolitan water supplies. The Council has equity share in several Council Organisations including Centre Port, Wellington Water, Wellington NZ, and Wellington Regional Stadium Trust.

The Council has a Climate Emergency Programme of work involving adaptation and mitigation relating to the region and in corporate operations. The Council has committed to reduce emissions as much as possible over the next decade and become carbon neutral by 2030. The Council has committed to begin offsetting 40% net neutral emissions by 30 June 2025 and ten percent more each year after that until 2030. The Council has aspiration to be a net carbon sink providing greenhouse gas emissions offsets for other organisations. The Council's goals contribute directly to specific United Nations Sustainable Development Goals. The Council is also signatory of the Carbon Disclosure Project (CDP) and publically discloses all its carbon data in its Annual Report.

## 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.

A financial control consolidation approach was used to account for emissions. Overall an equity control approach has been used to determine the actual influence on emissions the Council has all

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<sup>1</sup> Throughout this document "emissions" means "GHG emissions".

<sup>2</sup> Programme refers to the Toitū carbonreduce and the Toitū carbonzero programme.

<sup>3</sup> 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*.

on business across its Group of companies. A large proportion of the services provided to the public by Greater Wellington are delivered through service provider contracts and or Council Organisations that have separate governance and management.

The equity control approach has been applied where Council Organisations are part owned by Greater Wellington and managed by others. The equity approach has been used for business that Greater Wellington has full control over, and where it remains in full ownership of assets regardless if others manage those assets. An equity control approach has also been used for major contracts where Greater Wellington is the financial sponsor and has strong influence of the resulting contractual procurement requirements that determines the nature of the subsequent business.

Greater Wellington is the parent company of all operations and the Council Organisations (the Group) on the chart. Corporate parts have operational control. Council organisations are joint ventures with an equity share. This share is designated on the chart as percentage. For contracts and where asset ownership is managed by others, financial control and contractual control gives Greater Wellington high level of influence over the nature of the business procured and how that will be managed. In those cases full ownership of greenhouse gas emissions is designated to Greater Wellington as the service procurer and sponsor. All business on this chart flows through Greater Wellington financial accounts.

## Greater Wellington structure

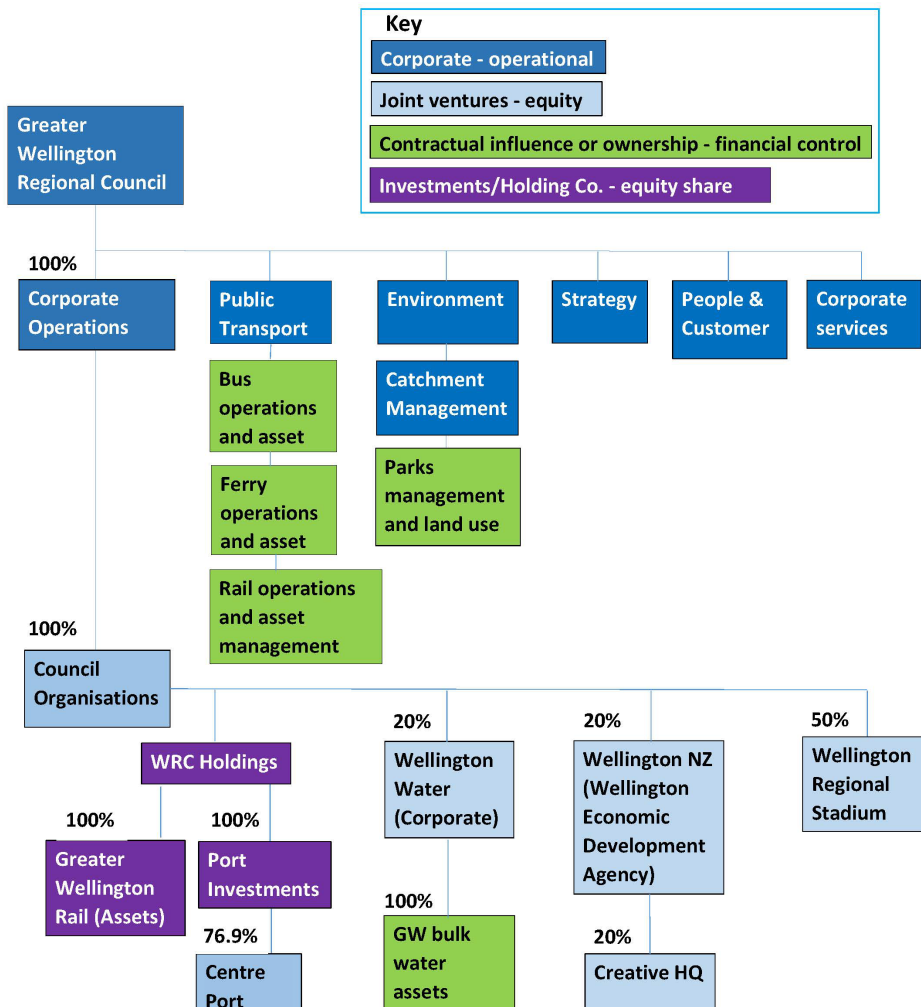


Figure 1: Organisational structure.

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

Business unit	Address	Purpose
Corporate operations	100 Cuba Street, Te Aro Wellington, 6011, New Zealand	Corporate office & environmental services base
Centre Port	1 Hinemoa Street, Pipitea, Fryatt Quay, Wellington 6011	Corporate office & port operations
Wellington Water	Level 4, IBM House, 25 Victoria Street, Petone, Lower Hutt	Corporate office
Wellington Economic Development Agency (Wellington NZ)	See Wellington City Council pre-audited data	Corporate office
Wellington Regional Stadium Trust	See Wellington City Council pre-audited data	Corporate office

## 5 ORGANISATIONAL BUSINESS UNITS EXCLUDED FROM INVENTORY

Corporate operations bundle all up all corporate business unit emissions. Public transport and Environment business units have significant emissions in their own right. These have been separated out to assist reporting.

Creative HQ is accounted for in the Wellington NZ inventory.

## 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 Greater Wellington Regional Council 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.

On behalf of the public it serves, Greater Wellington Regional Council Group has voluntarily committed to measure (and own) all known greenhouse gas emissions that it has financial, operational, and or equity share control over. These emissions include direct and indirect, scopes 1, 2 and 3 mandatory and additional. The organisation has included all meaningful emissions from across the Greater Wellington Group, including Council Organisations, and where it has a high influence on contracts that have significant levels of emissions. Stationary energy, diesel and natural gas has been reported, some sources are reported zero, that indicates there was no use of the fuel form that source in the period. Centre Port includes air travel, due to their travel agent business no longer able to report due to COVID19 pandemic, no travel records are attainable and a zero has been reported for the period.



**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)
Council Operations	Air travel domestic (average)	Scope 3	From Debbie Wilson at APX travel management to Ben Barrett, Greater Wellington	pkm	It is assumed data source represents a complete and accurate account of all travel activity.
Council Operations	Air travel short haul (econ)	Scope 3	From Debbie Wilson at APX travel management to Ben Barrett, Greater Wellington	pkm	It is assumed data source represents a complete and accurate account of all travel activity.
Council Operations	Bus travel (city)	Scope 3	FY2020-Survey data from Ben Barrett, Sustainability Coordinator. Analysis by Christoph Gerds, Senior Data Analyst/Modeller	pkm	This internal workplace travel survey data was adjusted from staff travel survey, it represents an estimate of monthly workplace travel.
Council Operations	Car Average (unknown fuel type)	Scope 3	Reported by Tim Penwarden, Building Manager, Jigsaw Property	L	It is assumed data source represents a complete and accurate account of all diesel backup purchasing. It is assumed that the building maintenance provider has supplied a complete and accurate record.
Council Operations	Composting	Scope 3 Additional	E-road (vehicle tracking) report by Ben Barrett, Sustainability Coordinator/Pat Gray, Fleet Administrator	L	It is assumed data source represents a complete and accurate account of this travel activity.
Council Operations	Diesel	Scope 1	Reported by Tim Penwarden, Building Manager, Jigsaw Property	L	It is assumed data source represents a complete and accurate account of all diesel backup purchasing. It is assumed that the building maintenance provider has supplied a complete and accurate record.
Council Operations	Electricity distributed T&D losses	Scope 3	Energy Pro report by Lily Wang Data Steward, Wellington Water	kWh	It is assumed the supplier has provided data for all meters. Invoices are monitored and Energy Pro software used to collect and report data.

Business unit	GHG emissions source	GHG emissions level scope	Data source	Data collection unit	Uncertainty (description)
Council Operations	Electricity	Scope 2	E-road (vehicle tracking SAAS) report by Ben Barrett, Sustainability Coordinator/Pat Gray, Fleet Administrator	kWh	It is assumed the supplier has provided data for all meters. It is assumed data source represents a complete and accurate account of all charging activity.
Council Operations	Electricity	Scope 3 Additional	Reported by Tim Penwarden, Building Manager, Jigsaw Property to Ben Barrett, Sustainability Coordinator	kWh	It is assumed that the building maintenance provider has supplied a complete and accurate record.
Council Operations	Natural Gas distributed commercial	Scope 1	E-road (vehicle tracking SAAS) report by Ben Barrett, Sustainability Coordinator. Pat Gray, Fleet Administrator	L	It is assumed data source represents a complete and accurate account of this travel activity.
Council Operations	Petrol premium	Scope 1	E-road (vehicle tracking SAAS) report by Ben Barrett, Sustainability Coordinator. Pat Gray, Fleet Administrator	L	It is assumed data source represents a complete and accurate account of this travel activity.
Council Operations	Petrol regular	Scope 1	Survey data from Ben Barrett, Sustainability Coordinator. Analysis by Christoph Gerds, Senior Data Analyst/Modeller.	pkm	This internal workplace travel survey data was adjusted from staff travel survey, it represents an estimate of monthly workplace travel.
Council Operations	Rail travel (national)	Scope 3	GW Finance report using Taxi Charge NZ data by Nela Prahbu, Team Leader, Financial Services	\$	It is assumed the supplier has provided complete and accurate transactions data.
Council Operations	Taxi (regular)	Scope 3	GW Finance report using Taxi Charge NZ data by Nela Leader, Financial Services	pkm	It is assumed the supplier has provided complete and accurate transactions data.

Business unit	GHG emissions source	GHG emissions level scope	Data source	Data collection unit	Uncertainty (description)
Council Operations	Waste landfilled LFGR Mixed waste	Scope 3	Report by service provider Waste Management to Ben Barrett, Sustainability Coordinator, Greater Wellington		It is assumed the supplier has provided complete and accurate transactions data.
Council Operations/Environment, Catchment & Parks	Diesel	Scope 3 Additional	Financial reports by Stephen Hill, Strategic Business Partner, Greater Wellington	L	It is assumed the supplier has provided complete and accurate transactions data.
Council Operations/Environment, Catchment & Parks	Electricity distributed T&D losses	Scope 3			
Council Operations/Environment, Catchment & Parks	Electricity	Scope 2	Energy Pro report by Lily Wang, Data Steward, Wellington Water	kWh	It is assumed the supplier has provided data for all meters. Invoices are monitored and Energy Pro software used to collect and report data.
Council Operations/Environment, Catchment & Parks	Enteric Fermentation Beef Cattle	Scope 3 Additional	GW Land use report by Andrea Brandon, Climate Change Lead, Greater Wellington	head	It is assumed that land use data provided is accurate. It was assumed maximum animal head allowable per land use (grazing) contract. MfE 2016 land use workbook used.
Council Operations/Environment, Catchment & Parks	Enteric Fermentation Horses	Scope 3 Additional	GW Land use report by Andrea Brandon, Climate Change Lead, Greater Wellington	head	It is assumed that land use data provided is accurate. It was assumed maximum animal head allowable per land use (grazing) contract. MfE 2016 land use workbook used.
Council Operations/Environment, Catchment & Parks	Enteric Fermentation Sheep	Scope 3 Additional	GW Land use report by Andrea Brandon, Climate Change Lead, Greater Wellington	head	It is assumed that land use data provided is accurate. It was assumed maximum animal head allowable per land use (grazing) contract. MfE 2016 land use workbook used.

Business unit	GHG emissions source	GHG emissions level scope	Data source	Data collection unit	Uncertainty (description)
Council Operations/Environment, Catchment & Parks	Fertiliser use Lime	Scope 3 Additional	GW Land use report by Andrea Brandon, Climate Change Lead, Greater Wellington	kg	It is assumed that land use data provided is accurate. It was assumed maximum animal head allowable per land use (grazing) contract. MfE 2016 land use workbook used.
Council Operations/Environment, Catchment & Parks	Fertiliser use Nitrogen	Scope 3 Additional	GW Land use report by Andrea Brandon, Climate Change Lead, Greater Wellington	kg	It is assumed that land use data provided is accurate. It was assumed maximum animal head allowable per land use (grazing) contract. MfE 2016 land use workbook used.
Council Operations/Environment, Catchment & Parks	Jet A1	Scope 3 Additional	Financial reports from Stephen Hill, Strategic Business Partner, Greater Wellington	L	It is assumed the supplier has provided complete and accurate transactions data.
Council Operations/Environment, Catchment & Parks	Petrol	Scope 3 Additional	Financial reports from Stephen Hill, Strategic Business Partner, Greater Wellington	L	It is assumed the supplier has provided complete and accurate transactions data.
Council Operations/Environment, Catchment & Parks	Waste landfilled LFGR Garden and Food	Scope 3	Financial reports from Stephen Hill, Strategic Business Partner, Greater Wellington		It is assumed the supplier has provided complete and accurate transactions data.
Council Operations/Environment, Catchment & Parks	Waste landfilled LFGR Mixed waste	Scope 3	Financial reports from Stephen Hill, Strategic Business Partner, Greater Wellington		It is assumed the supplier has provided complete and accurate transactions data.
Council Operations/Metlink Public Transport	CO <sub>2</sub>	Scope 3 Additional	Rail data by Rhys Hayward, EMU Fleet Engineer, Rail Assets, Greater Wellington	L	It is assumed the supplier has provided complete and accurate transactions data. It is assumed that associated bus modelling data is accurate to individual trip level.
Council Operations/Metlink Public Transport	Diesel	Scope 3 Additional	Ferry data from East by West, Coralie Christian to Ben Rob Braddock, Manager, Greater Wellington	L	It is assumed the supplier has provided complete and accurate transactions data

Business unit	GHG emissions source	GHG emissions level scope	Data source	Data collection unit	Uncertainty (description)
			GW public transport model Hamish Clark, Data Engineer, Greater Wellington	L	It is assumed that data provided from modelling is accurate to individual trip level. See bus model notes and assumptions in documentation.
Council Operations/Metlink Public Transport	Electricity distributed T&D losses	Scope 3			
Council Operations/Metlink Public Transport	Electricity	Scope 2	Energy Pro data report by Lily Wang, Data Steward, Wellington Water	kWh	It is assumed the supplier has provided data for all meters. Invoices are monitored and Energy Pro software used to collect and report data.
Council Operations/Metlink Public Transport	Electricity	Scope 3 Additional	GW public transport model Hamish Clark, Data Engineer, Greater Wellington		It is assumed that data provided from modelling is accurate to individual trip level. See bus model notes and assumptions in documentation.
Council Operations/Metlink Public Transport	Electricity	Scope 3	Rail data by Rhys Hayward, EMU Fleet Engineer, Rail Assets, Greater Wellington		It is assumed the supplier has provided accurate data for all meters.
Council Operations/Metlink Public Transport	Taxi (regular)	Scope 3 Additional	Ferry data from East by West, Coralie Christian to Rob Braddock, Manager, Greater Wellington	\$	It is assumed the supplier has provided complete and accurate transactions data.
Council Operations/Metlink Public Transport	Waste landfilled LFGR Mixed waste	Scope 3 Additional	Waste Management report from Service Resources Ltd by Nick Herbert to Mitchel Davis, Rail Assets, Fixed Asset Adviser, Greater Wellington	t	It is assumed the supplier has provided complete and accurate waste weights and transactions data.
Council Organisations/Centre Port 76.9%	Diesel	Scope 1	Travel data report from Tandem Travel by Jeff Shiu to William Woods, Strategic Planning Manager, Centre Port	pkm	It is assumed data source represents a complete and accurate account of this travel activity.

Business unit	GHG emissions source	GHG emissions level scope	Data source	Data collection unit	Uncertainty (description)
Council Organisations/Centre Port 76.9%	Electricity distributed T&D losses	Scope 3	Travel data report from Tandem Travel by Jeff Shiu to William Woods, Strategic Planning Manager, Centre Port	pkm	It is assumed data source represents a complete and accurate account of this travel activity.
Council Organisations/Centre Port 76.9%	Electricity	Scope 2	Travel data report from Tandem Travel by Jeff Shiu to William Woods, Strategic Planning Manager, Centre Port	pkm	It is assumed data source represents a complete and accurate account of this travel activity.
Council Organisations/Centre Port 76.9%	Petrol premium	Scope 1	Bulk tank and fuel card report from BP to Tim Gresham, Centre Port  Marine fuel report compiled by Charles Smith, Marine Manager, Centre Port	L	It is assumed data source represents a complete and accurate account of this diesel purchasing.
Council Organisations/Wellington NZ 20%	Air travel domestic (average)	Scope 3	See Wellington City Council EIR	pkm	See Wellington City Council EIR
Council Organisations/Wellington NZ 20%	Air travel long haul (econ)	Scope 3	See Wellington City Council EIR	pkm	See Wellington City Council EIR
Council Organisations/Wellington NZ 20%	Air travel short haul (econ)	Scope 3	See Wellington City Council EIR	pkm	See Wellington City Council EIR
Council Organisations/Wellington NZ 20%	Electricity distributed T&D losses	Scope 3	See Wellington City Council EIR	pkm	See Wellington City Council EIR
Council Organisations/Wellington NZ 20%	Electricity	Scope 2	See Wellington City Council EIR	kWh	See Wellington City Council EIR

Business unit	GHG emissions source	GHG emissions level scope	Data source	Data collection unit	Uncertainty (description)
Council Organisations/Wellington NZ 20%	Natural Gas distributed commercial	Scope 1	See Wellington City Council EIR	kWh	See Wellington City Council EIR
Council Organisations/Wellington NZ 20%	Petrol	Scope 1	See Wellington City Council EIR	L	See Wellington City Council EIR
Council Organisations/Wellington NZ 20%	Rental Car average (fuel type unknown)	Scope 1	See Wellington City Council EIR	km	See Wellington City Council EIR
Council Organisations/Wellington NZ 20%	Taxi (regular)	Scope 3	See Wellington City Council EIR	\$	See Wellington City Council EIR
Council Organisations/Wellington Regional Stadium Trust 50%	Air travel domestic (average)	Scope 3	See Wellington City Council EIR	pkm	See Wellington City Council EIR
Council Organisations/Wellington Regional Stadium Trust 50%	Air travel long haul (econ+)	Scope 3	See Wellington City Council EIR	pkm	See Wellington City Council EIR
Council Organisations/Wellington Regional Stadium Trust 50%	Air travel short haul (econ)	Scope 3	See Wellington City Council EIR	L	See Wellington City Council EIR
Council Organisations/Wellington Regional Stadium Trust 50%	Diesel	Scope 1	See Wellington City Council EIR	kWh	See Wellington City Council EIR
Council Organisations/Wellington Regional Stadium Trust 50%	Electricity distributed T&D losses	Scope 3	See Wellington City Council EIR	kWh	See Wellington City Council EIR
Council Organisations/Wellington Regional Stadium Trust 50%	Electricity	Scope 2	See Wellington City Council EIR	L	See Wellington City Council EIR

Business unit	GHG emissions source	GHG emissions level scope	Data source	Data collection unit	Uncertainty (description)
Council Organisations/Wellington Regional Stadium Trust 50%	Natural Gas distributed commercial	Scope 1	See Wellington City Council EIR	km	See Wellington City Council EIR
Council Organisations/Wellington Regional Stadium Trust 50%	Petrol	Scope 1	See Wellington City Council EIR	\$	See Wellington City Council EIR
Council Organisations/Wellington Regional Stadium Trust 50%	Rental Car average (fuel type unknown)	Scope 1	See Wellington City Council EIR	\$	See Wellington City Council EIR
Council Organisations/Wellington Regional Stadium Trust 50%	Taxi (regular)	Scope 3	See Wellington City Council EIR	\$	See Wellington City Council EIR
Council Organisations/Wellington Water/Wellington Water - managed GW assets 100%	CO <sub>2</sub>	Scope 3 Additional	Energy Pro report by Geoff Williams, Senior Advisor Strategy, Wellington Water	kWh	It is assumed the supplier has provided data for all meters. Invoices are monitored and Energy Pro software used to collect and report data.
Council Organisations/Wellington Water/Wellington Water - managed GW assets 100%	Electricity distributed T&D losses	Scope 3	Sludge to landfill estimate by Genevieve Smith, Beca for Fraser Clark, Wellington Water	tkm	It is assumed the supplier has provided complete transactions data. Assumption on dry sludge weight was made from sludge wet mass weight. Assumption on freight distances were obtained from Google Maps.
Council Organisations/Wellington Water/Wellington Water - managed GW assets 100%	Electricity	Scope 2	Genevieve Smith, Beca for Fraser Clark, Wellington Water	kg	It is assumed the supplier has provided complete transactions data. Assumption on dry sludge weight was made from sludge wet mass weight.
Council Organisations/Wellington Water/Wellington Water - managed GW assets 100%	Freight Road rigid truck (average)	Scope 3	Genevieve Smith, Beca for Fraser Clark, Wellington Water	km/t	It is assumed the supplier has provided complete transactions data. Assumption on dry sludge weight was made from sludge wet mass weight.
Council Organisations/Wellington Water/Wellington Water - managed GW assets 100%	Waste to Landfill Sludge (CO <sub>2</sub> )	Scope 3	Sludge to landfill estimate by Genevieve Smith, Beca for Fraser Clark, Wellington Water	t	It is assumed the supplier has provided complete transactions data. Assumption on dry sludge weight was made from sludge wet mass weight.



Business unit	GHG emissions source	GHG emissions level scope	Data source	Data collection unit	Uncertainty (description)
Council Organisations/Wellington Water/Wellington Water Corporate 20%	Air travel domestic (average)	Scope 3	Travel data report from by Arina Anderson, FCM Travel Solutions for Fraser Clark, Principal Advisor, Strategy, Wellington Water	pkm	It is assumed the supplier has provided complete and accurate transactions data
Council Organisations/Wellington Water/Wellington Water Corporate 20%	Air travel long haul (average)	Scope 3	Travel data report from by Arina Anderson, FCM Travel Solutions for Fraser Clark, Principal Advisor, Strategy, Wellington Water	pkm	It is assumed the supplier has provided complete and accurate transactions data
Council Organisations/Wellington Water/Wellington Water Corporate 20%	Air travel short haul (average)	Scope 3	Travel data report from by Arina Anderson, FCM Travel Solutions for Fraser Clark, Principal Advisor, Strategy, Wellington Water	pkm	It is assumed the supplier has provided complete and accurate transactions data
Council Organisations/Wellington Water/Wellington Water Corporate 20%	Diesel	Scope 1	Fuel report by Graham Bennett, City Care for Lily Wang, Data Steward, Wellington Water	L	It is assumed data source represents a complete and accurate account of all travel activity.
Council Organisations/Wellington Water/Wellington Water Corporate 20%	Electricity distributed T&D losses	Scope 3	Energy Pro report by Geoff Williams, Senior Advisor Strategy, Wellington Water	kWh	It is assumed the supplier has provided data for all meters. Invoices are monitored and Energy Pro software used to collect and report data.
Council Organisations/Wellington Water/Wellington Water Corporate 20%	Electricity	Scope 2	Fuel report by Graham Bennett, City Care for Fraser Clark, Principal Advisor, Strategy, Wellington Water	L	It is assumed data source represents a complete and accurate account of all travel activity.
Council Organisations/Wellington Water/Wellington Water Corporate 20%	Petrol premium	Scope 1	Fuel report by Graham Bennett, City Care for Fraser Clark, Principal Advisor, Strategy, Wellington Water	L	It is assumed data source represents a complete and accurate account of all travel activity.

Business unit	GHG emissions source	GHG emissions level scope	Data source	Data collection unit	Uncertainty (description)
Council Organisations/Wellington Water/Wellington Water Corporate 20%	Petrol regular	Scope 1	Travel data report from by Arina Anderson, FCM Travel Solutions for Fraser Clark, Principal Advisor, Strategy, Wellington Water	km	It is assumed the supplier has provided complete and accurate transactions data.
Council Organisations/Wellington Water/Wellington Water Corporate 20%	Rental Car Medium (petrol 1600-2000cc) - post-2015	Scope 1	Report to Fraser Clark, Principal Advisor, Strategy, Wellington Water	\$	It is assumed the supplier has provided complete and accurate transactions data.
Council Organisations/Wellington Water/Wellington Water Corporate 20%	Taxi (regular)	Scope 3			

## 6.1 Other emissions – HFCs, PFCs and SF<sub>6</sub>

No refrigeration or air-conditioning or other equipment containing hydrofluorocarbons (HFCs) is used in the operations and therefore no emissions from these sources are included in the inventory.

No operations use perfluorocarbons (PFCs), Nitrogen Trifluoride (N<sub>3</sub>) nor sulphur hexafluoride (SF<sub>6</sub>), 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

Deforestation has been undertaken but is excluded (eg due to *de minimis* or operational control reasons). Forestry emissions managed separately.

## 6.4 Pre-verified data

Pre-verified data is included in this inventory. Included in this inventory is Toitū pre-verified data (from Wellington City Council's inventory): Council (Controlled) Organisations (CCO) - Wellington NZ (20% equity share), Wellington Regional Stadium Trust (50% equity share).

# 7 GHG EMISSIONS SOURCE EXCLUSIONS

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

Forestry emission management is separate to the corporate emissions inventory.

**Table 12:** GHG emissions sources excluded from the inventory

Business unit	GHG emissions source	GHG emissions level scope	Reason for exclusion
GW Council Operations	Reimbursed: Air Travel/ rental cars	Scope 3 Mandatory	Most emissions (estimated to be over 99%) from travel is included in the EIR. There is a very small proportion (believed to be estimated at < 1%) of travel that has been reimbursed separately to the corporate booking service. This record has not been coded separately from the in the general ledger from that of booked services, as a result a report is unobtainable. Calculating this would have taken excessive amount of time and we have excluded this due to the programme <i>de minimis</i> rule.
GW Council Operations	Refrigeration	Scope 1 Mandatory	It is assumed that refrigeration (various flouorocarbons) is at a very low level (well under 1% of total emissions) and calculating this would be very time consuming. As a result there is no current record of refrigerants. Refrigerants have been excluded based on the programme <i>de minimis</i> rule.
GW Council Operations/ Environment	Fertiliser	Scope 3 Mandatory	Fertiliser use in plant nurseries and all lease holdings, except Queen Elizabeth Park (which is included in the inventory).

Business unit	GHG emissions source	GHG emissions level scope	Reason for exclusion
GW Council Operations	Couriers & Postage	Scope 3 Mandatory	It is assumed that this activity is at a very low level , well under 1% of total emissions. No general ledger code exists for these activities, as a result there is way to report this data. Calculating this would have taken excessive amount of time and we have excluded this based on the programme <i>de minimis</i> rule.
GW Council Operations	Waste to landfill	Scope 3 Mandatory	Waste excluded for CentrePort, Wellington Water (corporate), Wellington NZ and Wellington Regional Stadium Trust.
GW Council Operations	Rental vehicles	Scope 3 Mandatory	Estimated de minimis. Excluded based on the programme <i>de minimis</i> rule.
CentrePort	Workplace travel reimbursements	Scope 3 Mandatory	No data available
CentrePort	Waste to landfill	Scope 3 Mandatory	No data available
CentrePort	Refrigeration	Scope 1 Mandatory	Estimated de minimis. Excluded based on the programme <i>de minimis</i> rule.
Wellington Water (corporate)	Refrigeration	Scope 1 Mandatory	No data available
Wellington Water (corporate)	Workplace travel reimbursements	Scope 3 Mandatory	No data available
Wellington Water (corporate)	Waste to landfill	Scope 3 Mandatory	No data available

## 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.

To date fluorocarbons have not been inventoried and are assessed as widely distributed and hard to measure. Assessment of the fluorocarbons across the group is noted for future inventory improvement.

## 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.

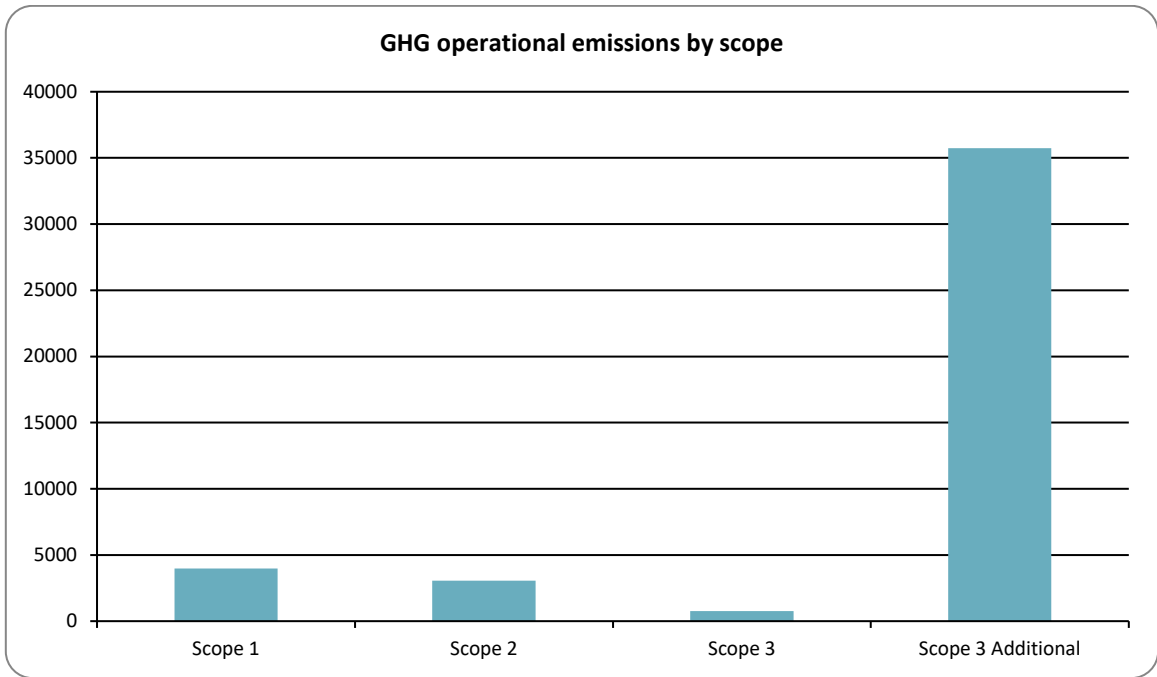


Figure 2: GHG emissions (tonnes CO<sub>2</sub>e) by scope

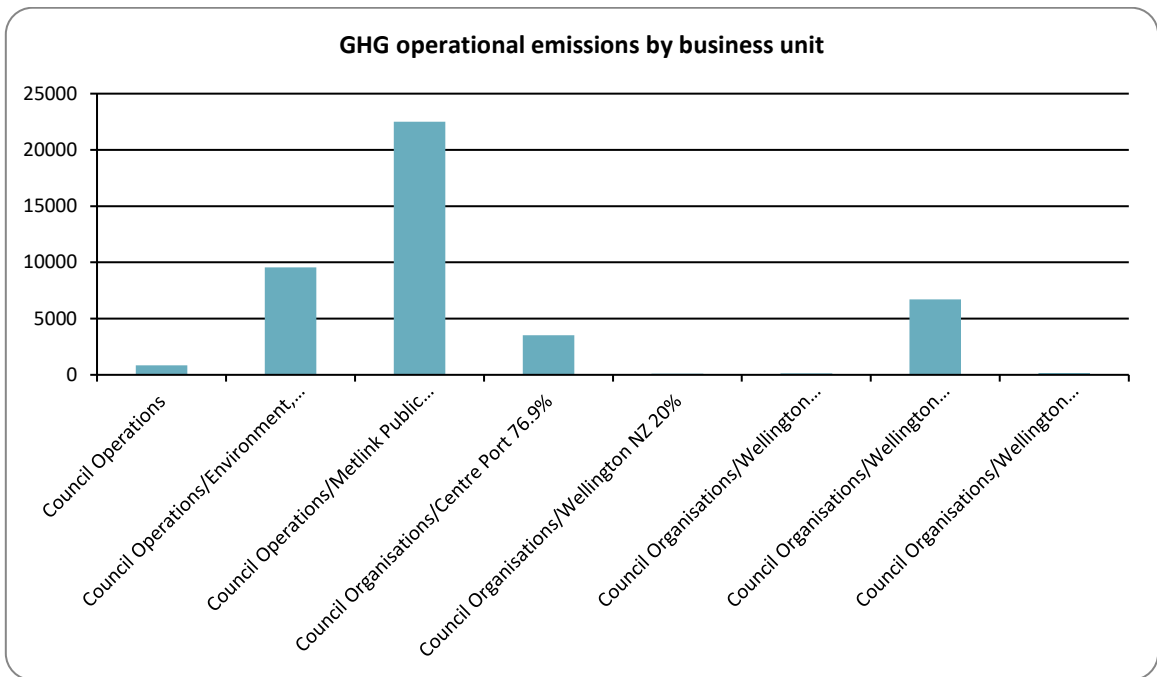


Figure 3: GHG emissions (tonnes CO<sub>2</sub>e) by business activity.

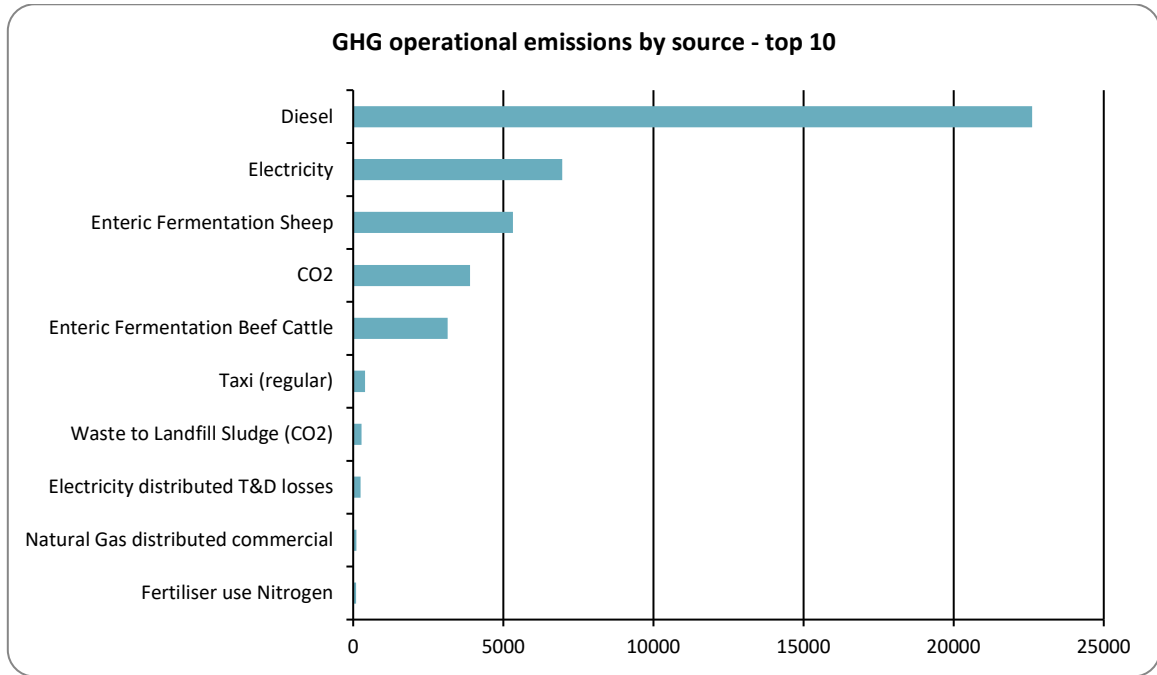


Figure 4: GHG emissions sources by source.

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

GHG emissions for the organisation for the current reporting period are detailed in Table 1.

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

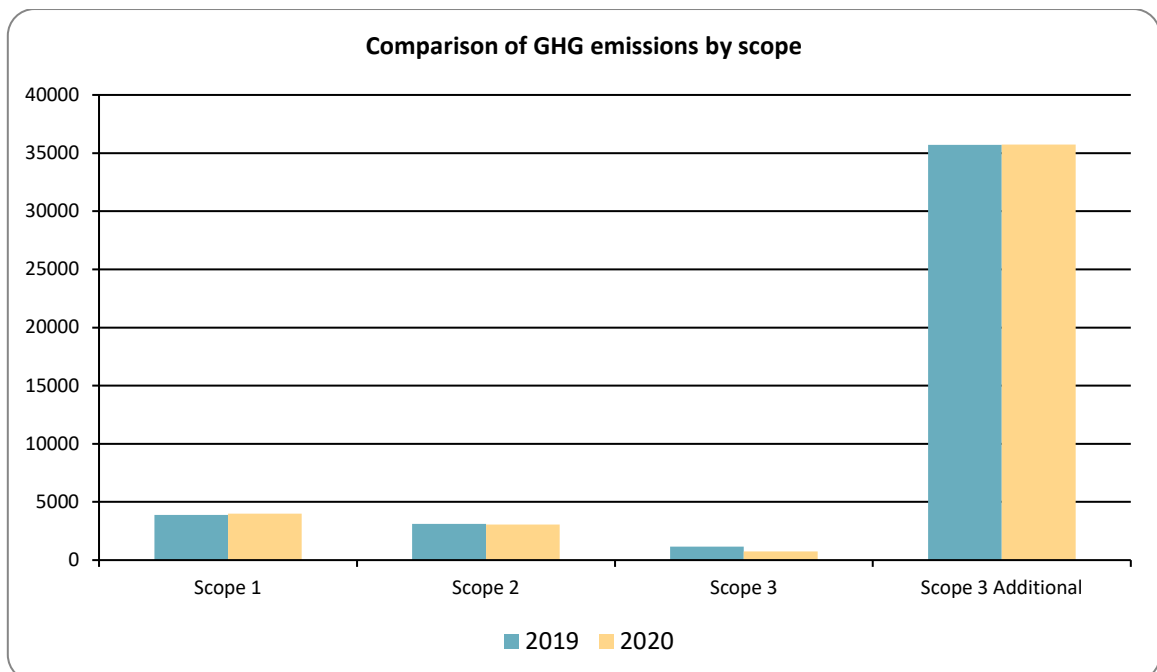
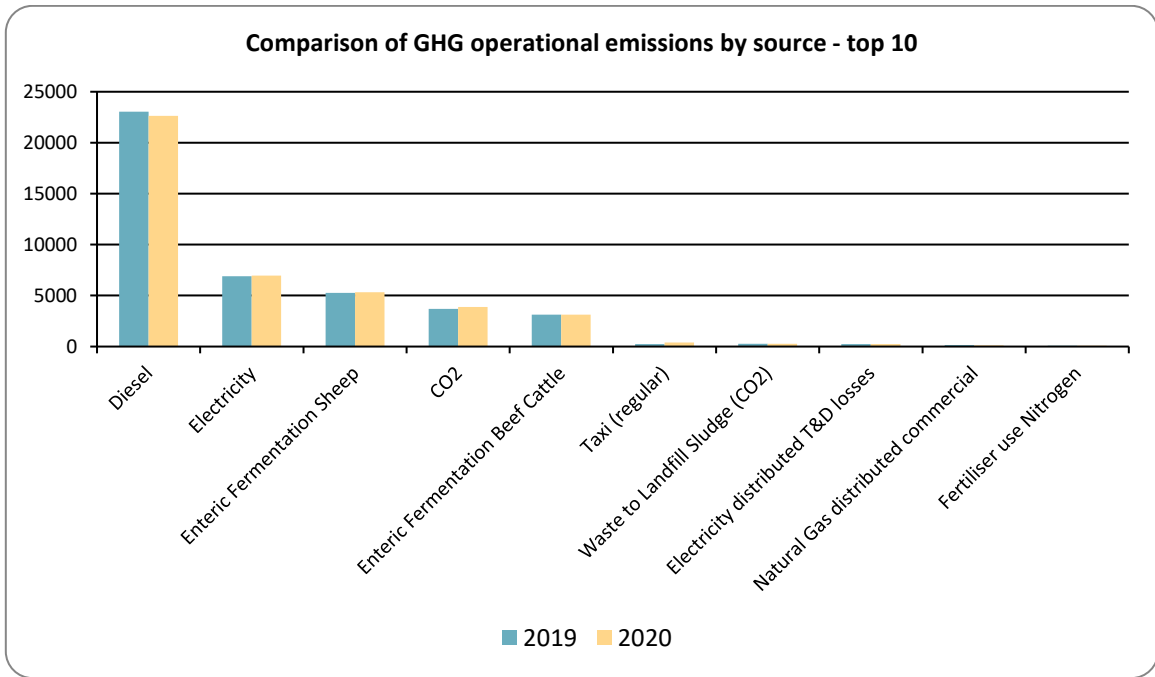
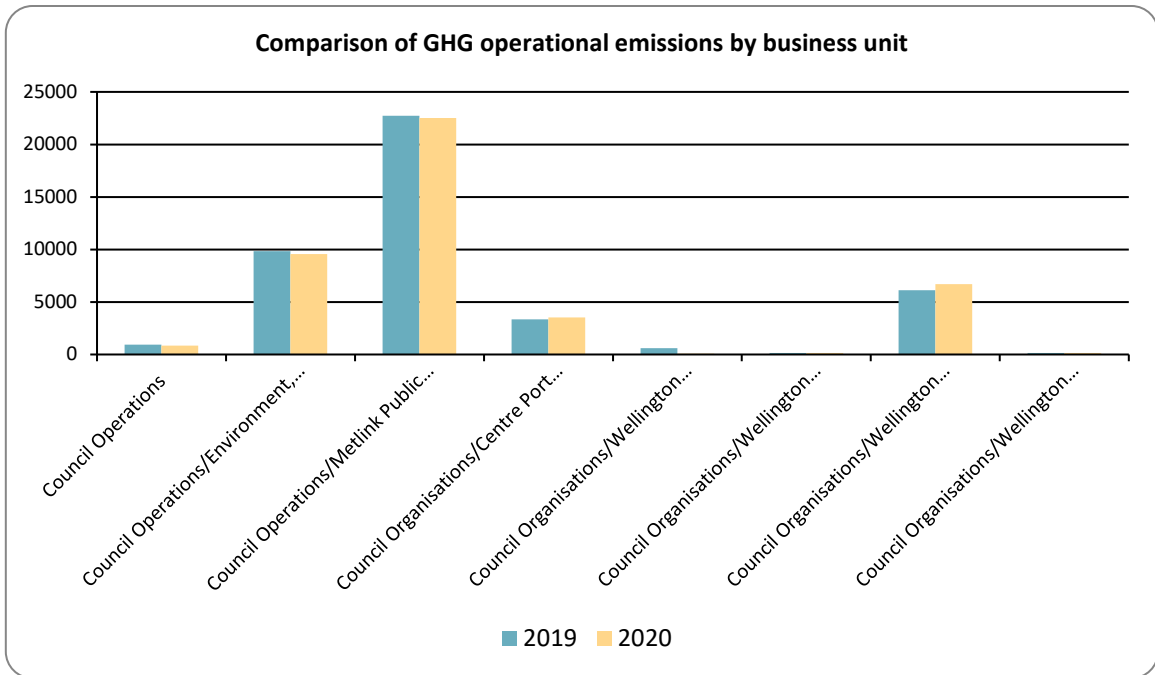


Figure 5: Comparison of GHG operational emissions by scope between the reporting periods.



**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 held<sup>4</sup>

HFCs, PFCs and SF<sub>6</sub> 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 not been reported in this inventory. Forestry emissions managed separately.

**Table 13:** HFCs, PFCs and SF<sub>6</sub> GHG emissions and liabilities.

Business Unit	Source	Units	Amount held - start of reporting period	Amount held - end of reporting period	Potential Liability tCO <sub>2</sub> e
Greater Wellington Regional Council	Diesel commercial	litres	178245	177750	473.47623
Greater Wellington Regional Council	HFC-32	kilograms	(no data)	188.00	126.90
Greater Wellington Regional Council	R-410A	kilograms	(no data)	3.20	6.68

### 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. Forestry emissions managed separately.

## 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.

Certified green electricity has not been included in this inventory.

We generate on-site renewable electricity, and this is included in the inventory. Mini hydro-generation assets owned by Greater Wellington and managed by Wellington Water are feed by bulk water and assists bulk water pumping. The hydro-generation was 1,286,258 kWh over the period.

## 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.

<sup>4</sup> HFC stock liabilities for systems under 3 kg can be excluded.



- 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: