Greenhouse Gas Emissions Inventory Report

Prepared in accordance with the Greenhouse Gas Protocol and ISO 14064-1 and Category Reporting in ISO 14064-1:2018

Waikato District Council – FY2024

Waikato District Council

Person responsible: Rachael Goddard

Prepared by: Martin Lynch

Dated: 1 October 2024

Verification status: Not Verified

For the period: 1/7/2023 to 30/6/2024

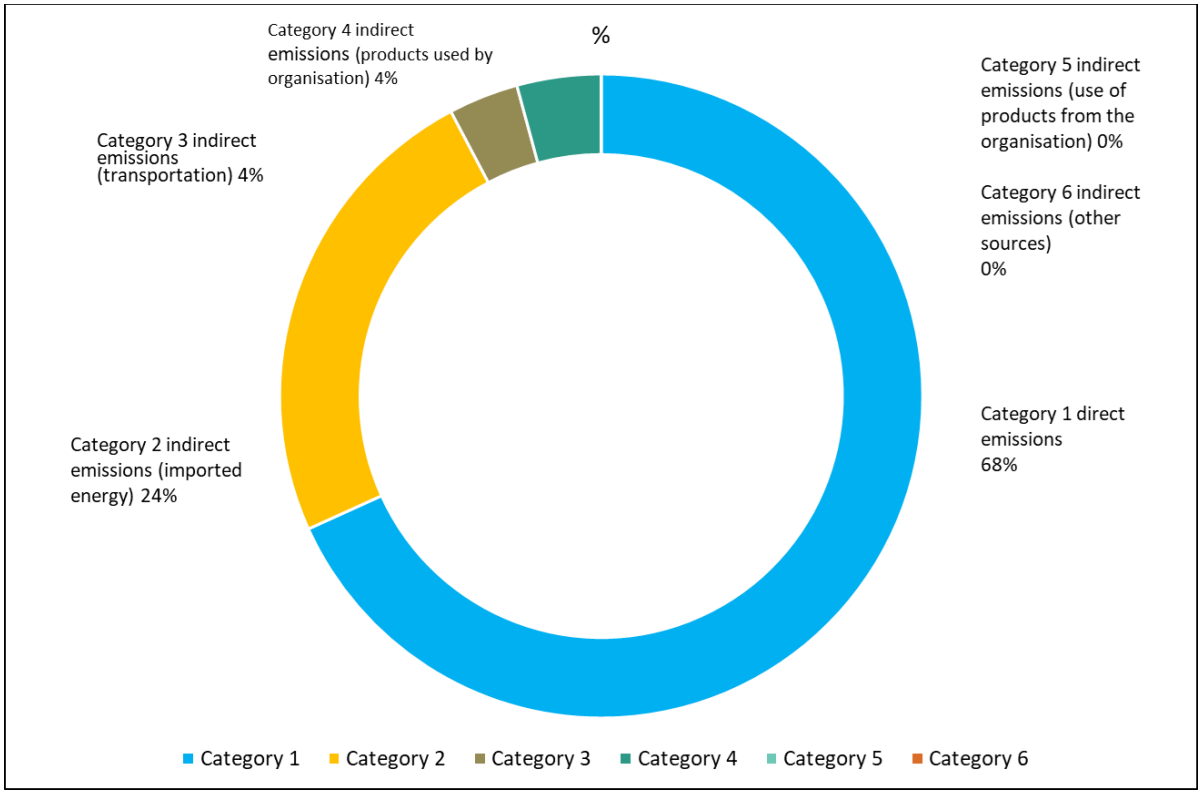
Base year: 1/7/2019 to 30/6/2020

Contents

Table 1: Summary emissions and removals (tCO_2e) by Category for this measurement period 1/7/2023 to 30/6/2024

Category	FY24 (tCO2e)
Scope 1, Category 1 direct emissions	675.82
Scope 2, Category 2 indirect emissions (imported energy)	236.51
Scope 3, Category 3 indirect emissions (transportation)	34.61
Scope 3, Category 4 indirect emissions (products used by organisation)	41.63
Scope 3, Category 5 indirect emissions (use of products from the organisation)	0.00
Scope 3, Category 6 indirect emissions (other sources)	0.00
Total direct emissions	**675.82**
Total indirect emissions	**312.75**
Total gross emissions	**988.58**
Scope 1, Category 1 direct removals	0.00
Certified renewable energy certificates	0.00
Total net emissions	**988.58**

Figure 1: Emissions by Category for all measured emissions for 1/7/2023 to 30/06/2024

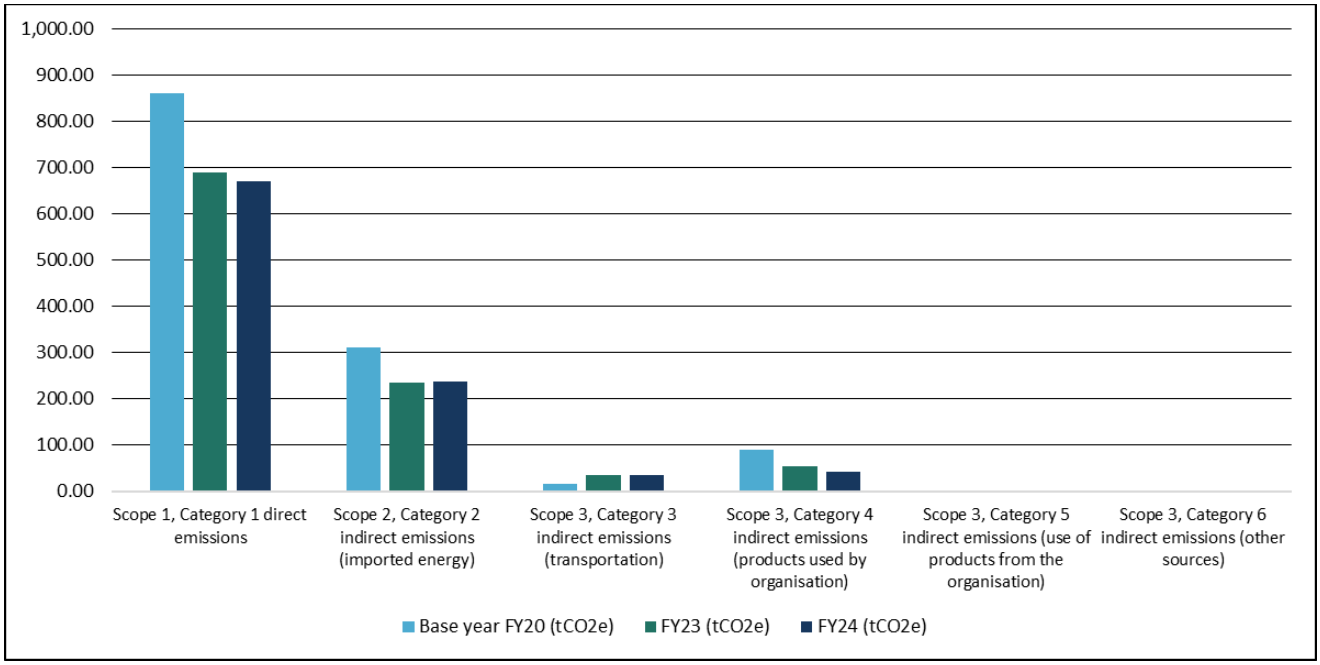


Comparison to Previous Inventories

Table 2: Historical GHG inventory summary comparisons

Category	Base year FY20 (tCO2e)	FY23 (tCO2e)	FY24 (tCO2e)
Scope 1, Category 1 direct emissions	861.35	689.18	675.82
Scope 2, Category 2 indirect emissions (imported energy)	310.71	234.44	236.51
Scope 3, Category 3 indirect emissions (transportation)	16.28	34.28	34.61
Scope 3, Category 4 indirect emissions (products used by organisation)	88.57	54.76	41.63
Scope 3, Category 5 indirect emissions (use of products from the organisation)	0.00	0.00	0.00
Scope 3, Category 6 indirect emissions (other sources)	0.00	0.00	0.00
Total direct emissions	861.35	689.18	675.82
Total indirect emissions	415.56	323.48	312.75
Total gross emissions	1,276.91	1,012.66	988.58
Scope 1, Category 1 direct removals	0	0	0.00
Certified renewable energy certificates	0	0	0.00
Total net emissions	1,276.91	1,012.66	988.58

Figure 2: Summary of historical emissions inventories

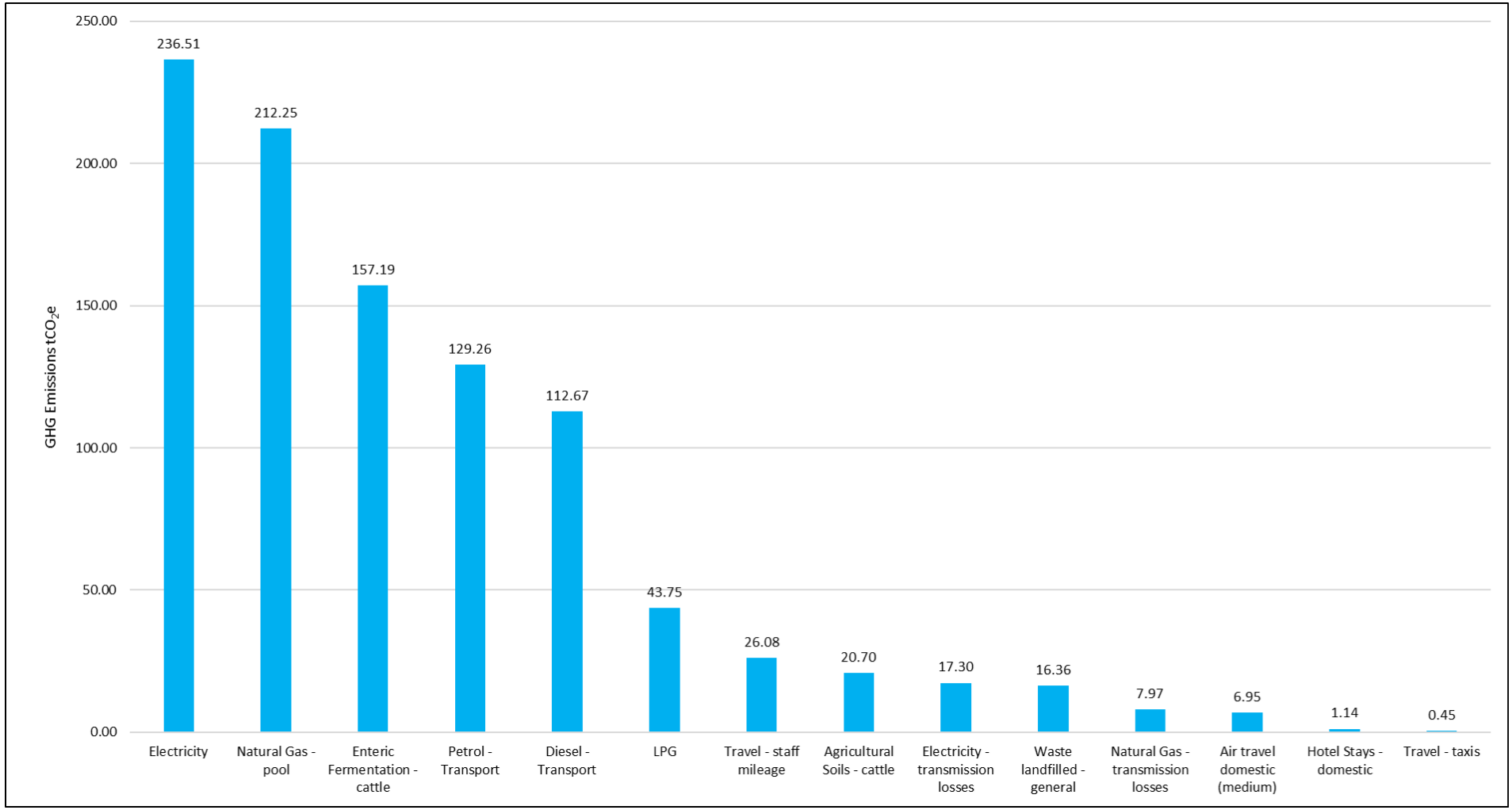


Emission Source Inventory Results

Table 3: GHG emissions inventory summary, for this measurement period 1/7/2023 to 30/06/2024

Category	Emission sources	All measured emissions (tCO2e)
Scope 1, Category 1 direct emissions	Natural Gas (heating), Diesel (transport), Petrol (transport), LPG, Agricultural Soils (cattle), Enteric Fermentation (cattle)	675.82
Scope 2, Category 2 indirect emissions (imported energy)	Electricity	236.51
Scope 3, Category 3 indirect emissions (transportation)	Air travel domestic (medium), Hotel stays (domestic), Travel (staff mileage), Travel (taxis)	34.61
Scope 3, Category 4 indirect emissions (products used by organisation)	Transmission Losses (electricity and natural gas), Waste to landfill – general.	41.63
Scope 3, Category 5 indirect emissions (use of products from the organisation)	None	0
Scope 3, Category 6 indirect emissions (other sources)	None	0
Total direct emissions		**675.82**
Total indirect emissions		**312.75**
Total gross emissions		**988.58**
Total net emissions		**988.58**
Emissions intensity	**Intensity unit**	**tCO_2e per intensity unit**
$M Revenue	225 (provisional)	4.39
Full Time Employee	431	2.29

Figure 3: FY24 GHG emissions (tonnes CO_2e) by source



Organisation Context

1 Introduction

This report is the annual greenhouse gas (GHG) emissions inventory report for Waikato District Council. 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 (1 July 2023 to 30 June 2024).

The inventory has been prepared in accordance with the requirements of the publication Measuring Emissions: A Guide for Organisations, Ministry of Environment 2024. The most recent emission factors have been used and these were updated by the Ministry of Environment in May 2024. This guidance is in accordance with the Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard and ISO 14064-1. Emission sources have been further allocated into categories in accordance with ISO 14064-1:2018.

2 Statement of intent

This inventory forms part of Waikato District Council's commitment to measure and manage our emissions.

3 Organisation description & reduction activities

Waikato District Council is the local government authority for the Waikato District in the north island of New Zealand. The Council supplies infrastructure and community services across a wide area bounded by the west coast of Raglan to Port Waikato and across to the eastern Hauraki Plains. Council's main office is in the township of Ngaruawahia, twenty kilometres north of Hamilton, the nearest city. Council had total revenue of $225 million (provisional) and employed 431 full time equivalent staff in the financial year ending 30 June 2024.

Council has reported its organisation GHG emissions since 2019. The Base Year reporting period was reset to FY2020 to take into account the change in operational responsibility for water treatment and wastewater treatment activities – these are now operated and managed by Watercare. Council has undertaken a number of initiatives to reduce its emissions over the past four years including replacing LPG and natural gas hot water systems with electric hot water heat pumps, reduction of livestock, reduction of fleet, and purchase of hybrid and plug-in electric vehicles.

Council operates 72 fleet vehicles; 34 Hybrid, 8 Plug-in Hybrid EV's and 8 electric vehicles, which make up 69% of the total fleet. The remainder are diesel.

Electric vehicle charging stations were installed at the Ngaruawahia Office fleet compound in 2023, with charging for 9 electric vehicles.

The Procurement, Entitlement and Disposal of Council Vehicle Policy was reviewed and approved in 2022. This document introduces a sinking lid on personal use vehicles, removes the ability for existing personal use vehicles to be replaced with internal combustion engine vehicles and also sets out the preference for low carbon vehicles for pool and team vehicle replacement.

Council was successful in gaining funding from the Energy Efficiency & Conservation Authority, to upgrade the existing gas fired boiler at the Huntly Aquatic Centre, to a low carbon electric heat pump system. This was completed in May 2024 and will make a significant reduction to emissions in the future.

Council is investing in improved reporting of energy and carbon and will add an additional module "Carbonmanage" to its existing reporting platform Energypro.

The Climate Action and Sustainability Works Programme has been set for the next 2 years, and the Climate Response and Resilience Strategy and Climate Action Plan (operational) have been approved by council. The strategy is an overarching document that sets direction, aims and key projects that will align with annual emission reduction targets. Internal and external climate action plans will be developed to drive the strategy.

Council established a Sustainability and Wellbeing Committee in 2022. The Climate Action and Sustainability team report regularly to the council committee and Executive Leadership Team.

4 Organisational boundaries included for this reporting period

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

Figure 4 shows the organisational structure for the Waikato District Council and its main Groups. Councillors lead high level decision-making for the organisation. The Executive Leadership Team oversees management of the organisation and fulfilment of the decisions made by Council. The Executive Leadership Team does this by managing and co-ordinating the work of the four Groups. Each Group employs staff and contractors split into Business Units. For clarification, this inventory encompasses all of Waikato District Council activities shown in Figure 1 unless otherwise noted.

Organisations not included are shaded crimson:

- Council Controlled Organisations being Strada Corporation Ltd, Waikato Regional Airport Ltd, Waikato Local Authority Shared Services Ltd, Waikato District Community Wellbeing Trust.

Figure 4: Organisational structure (as at June 2024)

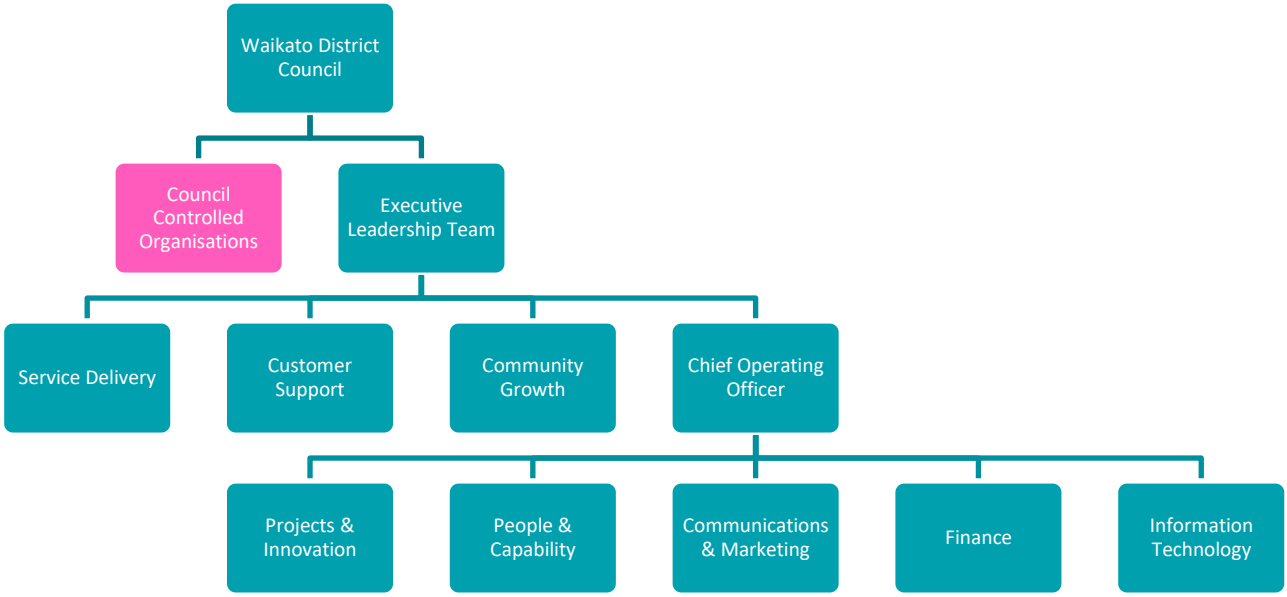


Figure 5 shows the Waikato District Council boundary in bold. Service centres and other facilities are spread across the district.

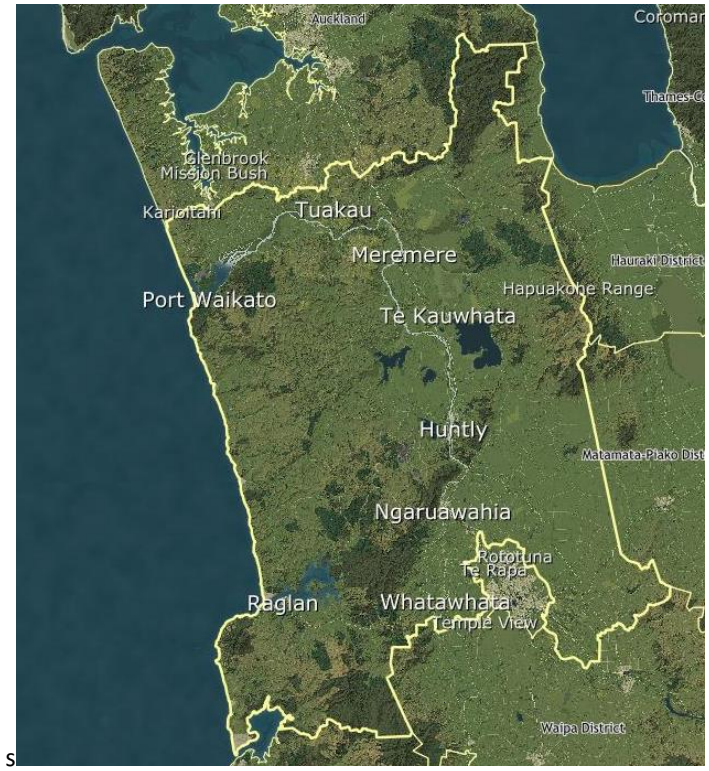


Figure 5: Waikato District Council Bordered By Bold Yellow Line.

Table 4: Brief description of business units in the certifying entity.

Group/Unit	Address	Purpose
Service Delivery Community Connections	Multiple addresses for sites, but staff are principally based at Head Office, 15 Galileo Street, Ngaruawahia.	This includes teams for Venue and Events, Facilities, and Open Spaces. These teams operate, manage and maintain key facilities such as cemeteries and halls, Woodlands venue, holiday parks (overview only), offices, libraries, service centres, toilets, and parks.
Service Delivery Strategic Property	Principally based at Head Office, 15 Galileo Street, Ngaruawahia.	To secure and manage land and property required for strategic development.
Service Delivery Community Projects	Principally based at Head Office, 15 Galileo Street, Ngaruawahia.	To manage the design, development, project delivery of community projects.
Service Delivery Contracts & Partnering	Principally based at Head Office, 15 Galileo Street, Ngaruawahia.	Management of roading contracts and road safety, management of waste management and minimisation.
Service Delivery Community Assets	Principally based at Head Office, 15 Galileo Street, Ngaruawahia with multiple plants located in key towns.	Management of assets including water, wastewater, facilities and roading.
Customer Support Consents	Principally based at Head Office, 15 Galileo Street, Ngaruawahia.	Management of consenting processes and land development.
Customer Support Customer Delivery	Based at Service Centres including Raglan, Tuakau, Huntly, Te Kauwhata, Meremere, and Ngaruawahia.	Operation of service centres including libraries.
Customer Support Regulatory Manager	Principally based at Head Office, 15 Galileo Street, Ngaruawahia.	This includes the animal control team, regulatory administrators, environmental health and monitoring and compliance officers.
Customer Support Building Quality	Principally based at Head Office, 15 Galileo Street, Ngaruawahia.	This includes the building review and building inspection teams and administration.
Community Growth Analytics	Principally based at Head Office, 15 Galileo Street, Ngaruawahia.	Analysis of community growth and development contributions.
Community Growth Economic and Community	Principally based at Head Office, 15 Galileo Street, Ngaruawahia.	Economic development and youth engagement in the Waikato district.
Community Growth Planning and Policy	Principally based at Head Office, 15 Galileo Street, Ngaruawahia.	Strategic, environmental and policy planning for the Waikato District.

Group/Unit	Address	Purpose
COO Projects and Innovation	Principally based at Head Office, 15 Galileo Street, Ngaruawahia.	This covers procurement, project management, risk & innovation, and business improvement.
COO People & Capability	Principally based at Head Office, 15 Galileo Street, Ngaruawahia.	Management of human resources and training within the organisation.
COO Communications & Marketing	Principally based at Head Office, 15 Galileo Street, Ngaruawahia.	Delivery of communications across the organisation and engagement with the community.
COO Finance	Principally based at Head Office, 15 Galileo Street, Ngaruawahia.	Financial management and accounting, rates administration and payroll, and legal counsel.
COO Information Technology	Principally based at Head Office, 15 Galileo Street, Ngaruawahia.	To provide business intelligence, records and property information, analysis and IT infrastructure support.

5 Organisational business units excluded from inventory

There are no business units excluded from the inventory. There are a number of activities that have oversight by the organisation which are operated by third parties and include Scope 1 and Scope 2 emission sources paid for directly by the third party. This includes Raglan Holiday Park and a number of aquatic facilities.

Activity	Operated By Third Party	Emission Sources
Raglan Holiday Park	Raglan Holiday Park Trust	Natural Gas, Electricity, LPG
Huntly, Tuakau, Ngaruawahia Pools	Belgravia Leisure	Natural Gas, Electricity

Council has a high level of influence on the operation and asset replacement of these activities and chosen to include them as part of Council's corporate greenhouse gas inventory.

From 1 October 2019, water operations including treated water, wastewater and storm water are managed and operated by WaterCare Ltd. This report excludes emissions arising from water operations. From 1 October 2019 onwards, emissions from these activities are reported separately by Watercare.

6 Emission source identification method and significance criteria

The GHG emissions sources included in this inventory are those that are referenced to the methodology described in the ISO 14064-1:2018 standard. This included personal communications with relevant staff, review of operational expenditure records, review of asset registers, and site walkarounds.

Significance of emissions sources within the organisational boundaries has been considered in the design of this inventory. The significance criteria used comprise:

- All direct emissions sources that contribute more than 1% of total Category 1 and 2 emissions
- All indirect emissions that contribute more than 1% of total emissions and we can influence.

The significance criteria has not increased for the FY2024 year compared to our base year emissions sources in FY2020.

7 GHG emissions source inclusions and uncertainties

The GHG emissions sources included in this inventory were identified with reference to the methodology in the *GHG Protocol* and *ISO14064-1:2006* standards. As adapted from the *GHG Protocol*, these emissions were classified under the following categories:

- **Direct GHG emissions (Scope 1):** emissions from sources that are owned or controlled by the company.
- **Indirect GHG emissions (Scope 2):** emissions from the generation of purchased electricity, heat and steam consumed by the company.
- **Indirect GHG emissions (Scope 3):** emissions that occur as a consequence of the company's activities but from sources not owned or controlled by the company.

Table 5 provides detail on emissions sources included in the GHG emissions inventory, an overview of how activity data were collected for each emissions source, and an explanation/assessment of any uncertainties or assumptions made.

A calculation methodology has been used for quantifying the emissions inventory using emissions source activity data multiplied by emission or removal factors. All emission factors were sourced from the Ministry for the Environment's 2024 Measuring Emissions: A Guide for Organisations, and where applicable, Market Economics Ltd, 2023, Consumption Emissions Modelling, report prepared for Auckland Council.

Information management and monitoring procedures

All information used for compiling the inventory is stored in a dedicated folder on the Council server system under the sustainability programme. Records are stored and managed in compliance to the organisation's Standard Operating Procedures for document retention practices. Specifically, emissions source data is collated into one central workbook for performing final calculations into sources and sink totals. This includes any pre-work such as unit conversions, filtering, and pro-rating.

Table 5: GHG emissions sources included in the inventory.

Group/Business unit	GHG emissions source	GHG emissions level scope	Data source	Data collection unit	Uncertainty (description)
All Council	Air travel domestic (medium)	Scope 3, Category 3	Data was received from Council officer Katie Glasgow-Palmer in two parts. For the period July 23 to Sep 23, flights were compiled by Council's administrators from bookings. Passenger kms were calculated using travel details and the Air NZ distance calculator. From Oct 2023, travel has been consolidated through Orbit who provide detailed environmental reports.	pkm	Low. The adoption of Orbit to manage travel data has streamlined the collection of information.
All Council	Hotel Stays	Scope 3, Category 3	Data was received from Council Officer Katie Glasgow-Palmer in two parts. The first part detailed the number of hotel stays as compiled by Council's administrators from bookings and the second part was compiled by Orbit as part of an environmental travel report.	nights	Low. The adoption of Orbit to manage travel data has streamlined the collection of information.
All Council	Staff – Personal Cars Taxi	Scope 3, Category 3	Mileage data was received from Council's Finance team. This detailed the mileage claimed by staff and Councillors. Emissions were calculated using the default emissions factor for a private car 2,000-3000cc. Taxi data was received from Council Officer Katie Glasgow-Palmer. This detailed the number of taxi trips as compiled by Council's administrators from bookings. Kilometres travelled were calculated based on the number of taxi days at a rate of 50km per day.	km	Low. It is assumed that staff and councillors claimed all personal car travel and it is noted that the generic vehicle used may not be representative of private vehicles. Medium. Actual distance travelled by taxi is estimated and so will have inherent inaccuracy.

Group/Business unit	GHG emissions source	GHG emissions level scope	Data source	Data collection unit	Uncertainty (description)
All Council	Waste	Scope 3, Category 4	This applies to Council buildings and Raglan Holiday Park only. Waste collection reports have been provided by the waste contractors and where this is not possible calculations of waste volumes are made based on bin size and collection frequency.	Bins collected and volume data.	Medium. This year we were unable to obtain actual weight of waste. There will be medium uncertainty with the waste data as a 10% diversity factor is applied to bin volume and frequency of pickups.
All Council	Diesel Petrol	Scope 1, Category 1	Tracey Morgan, Facilities Team Leader provided consumption reports from BP. This detailed all vehicle fuel transactions.	L	Low. The supplier reports are mostly complete for fleet vehicles, but some historical transactions for wildcards may not have been provided.
All Council	LPG	Scope 1, Category 1	LPG usage was extracted from invoices and is based on the number of gas bottles and nominal weight (typically 45kg). Data was provided directly from Council administrators.	kg	Low. Data was based on the number of bottles used at sites multiplied by rated fill weight and is assumed to be accurate.
All Council	Natural Gas	Scope 1, Category 1	Online consumption report downloaded from EnergyPro (holds supplier's invoices). Copies of invoices are available on request.	kWh	Very low. The supplier reports are complete and accurate.
All Council	Electricity	Scope 2, Category 2	Online consumption report downloaded from EnergyPro (holds supplier's invoices). Copies of invoices are available on request.	kWh	Very low. The supplier reports are complete and accurate.
All Council	Enteric Fermentation Agricultural Soils	Scope 1, Category 1	Based on head of cattle shown in invoices relating to the period 30 June 2024. Updated information was provided by Noel Barber, Maintenance and Contract Officer.	Head	Very low. We are confident data is accurate.

Group/Business unit	GHG emissions source	GHG emissions level scope	Data source	Data collection unit	Uncertainty (description)
All Council	Transmission Losses – electricity	Scope 3, Category 4	Online consumption report downloaded from EnergyPro (holds supplier's invoices). Copies of invoices are available on request.	kWh	Very low. We are confident data is accurate.
All Council	Transmission Losses – natural gas	Scope 3, Category 4	Online consumption report downloaded from EnergyPro (holds supplier's invoices). Copies of invoices are available on request.	kWh	Very low. We are confident data is accurate.

8 GHG emissions source exclusions

Waikato District Council recognises the extent of Scope 3 emissions can be significant. We have chosen to declare the following notable emissions sources that have been excluded from the emissions inventory.

Table 6: GHG emissions sources excluded from the inventory

Business unit	GHG emissions source	GHG emissions level scope	Reason for exclusion
All Council	Working From Home	Scope 3	There is no quantifiable data as to how many staff work from home. Historically, estimates have been made and emissions found to be low and de minimis.
All Council	Materials (Concrete, Steel, Aluminium)	Scope 3	The quantity of materials is not monitored on a regular basis. The cost and effort of obtaining the information retrospectively was considered too high.
All Council	HCFC	Scope 3	Staff were not able to provide records of any refrigerant replacement for this reporting period. Refrigerant holdings are available for some systems.
All Council	Indirect Services	Scope 3	Council has not investigated the indirect emissions associated with services supplied to Council.

9 GHG emissions calculations and results

GHG emissions for the organisation in this measurement period are provided in the GHG Inventory summary section at the start of this report. Compared to FY23 emissions of 1,012 tCO_2e, total emissions in FY24 fell **2.3%** to 989 tCO_2e.

The two largest emission sources in FY24 were electricity and natural gas being 254 and 220 tCO_2e respectively. This includes the transmission losses in delivering electricity and natural gas to site.

Electricity

The largest emission source is electricity. In FY24 electricity emissions were 254 tCO_2e compared to 262 tCO_2e in FY23. Electricity is used for many applications, and some of Council's largest loads include streetlighting, the municipal offices building, Raglan holiday park, and the Huntly pool. Electricity use has steadily increased and is now 4.5% higher compared to base year FY20. However, emissions have actually fallen by 25% due to the national grid emissions factor reducing as less fossil fuelled thermal power generation had been needed compared to previous years. The emissions factor can change dramatically depending on the yearly requirement for thermal fired stations, although as more renewable generation is installed, electricity emissions are expected to fall further.

Natural Gas

The second largest emission source is natural gas. In FY24 natural gas emissions were 220 tCO_2e compared to 266 tCO_2e in FY23. Natural gas is mostly used for hot water production and space heating at the indoor swimming pool facility at Huntly, although a small quantity is also used at the Huntly Motor Caravan Park. The reduction in natural gas use in FY24 is due to the replacement of the natural gas fired boiler at Huntly

Aquatic Centre with an electric hot water heat pump system in May 2024. No natural gas has been used since May. The Huntly pool will use more electricity in future, but the emissions will be much less and a net reduction of 153 tCO_2e is estimated and running costs should be reduced.

Cattle

The third largest emission sources are enteric fermentation (methane) and agricultural soils (nitrous oxide) (178 tCO_2e) arising from cattle grazing at Wainu Reserve in Raglan. Cattle numbers have reduced by 17% since Base Year, but emission factors have risen (in particular for Enteric Fermentation) resulting in a slight increase for FY24.

Petrol

The fourth largest emission is petrol. In FY24 petrol emissions reduced from 134 tCO_2e to 129 tCO_2e. There has been a consistent reduction in petrol emissions reflecting the shift of fleet vehicles from internal combustion engine to hybrid, PHEV and full electric.

Diesel

Diesel emissions have been consistent in the last two years (FY23 to FY24) following large reductions across the period FY20 to FY22. For FY24 they were 113 tCO_2e.

LPG

LPG emissions were 44 tCO_2e in FY24 compared to 28 tCO_2e in FY23. This is largely attributed to additional use of LPG at Raglan Holiday Park following an alteration to the hot water heat pump system which improved performance but reduced capacity.

Electricity, natural gas, cattle, diesel, petrol and LPG make up 95% of Council's operational emissions. Travel (including domestic flights) and waste to landfill, make up the remaining 5%.

Travel

Emissions from Travel for F24 are similar to FY23 and appear to have stabilised following the resumption of domestic air travel curtailed during the Covid pandemic. Mileage claims by staff and councillors is a significant contributor to the Travel emissions.

Intensity Metrics

Operational emissions are reported using two indicators, $M revenue and number of Full Time Equivalent (FTE) staff.

- Per FTE, emissions reduced from 3.73 tCO_2e in FY20 to 2.29 tCO_2e in FY24.
- Per $M revenue, emissions reduced from 7.29 tCO_2e in FY20 to 4.39 tCO_2e in FY24.

For each year following FY20, Council has been able to demonstrate an intensity reduction in emissions per FTE and $M revenue.

Figure 6 (overleaf) compares emissions by general activity or source for the Base Year FY20, FY23 and the most recent year FY24. It also shows the magnitude of emissions by source.

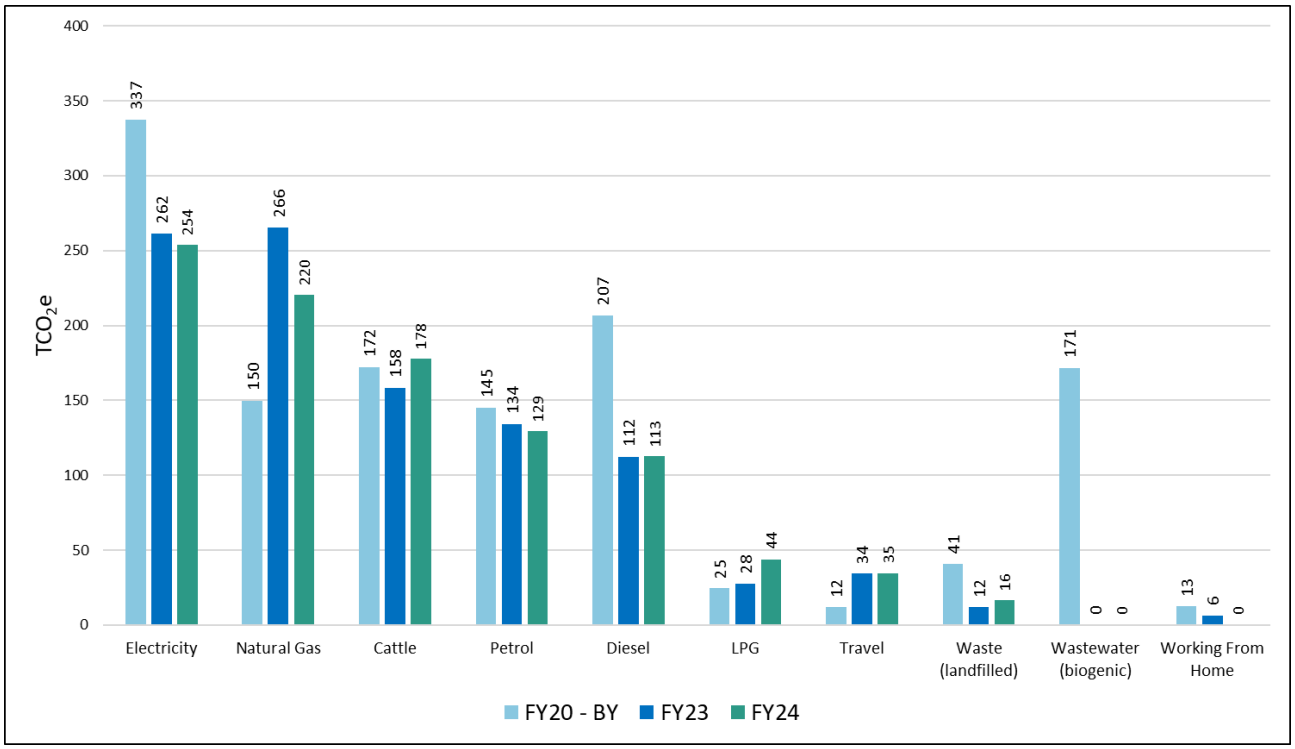


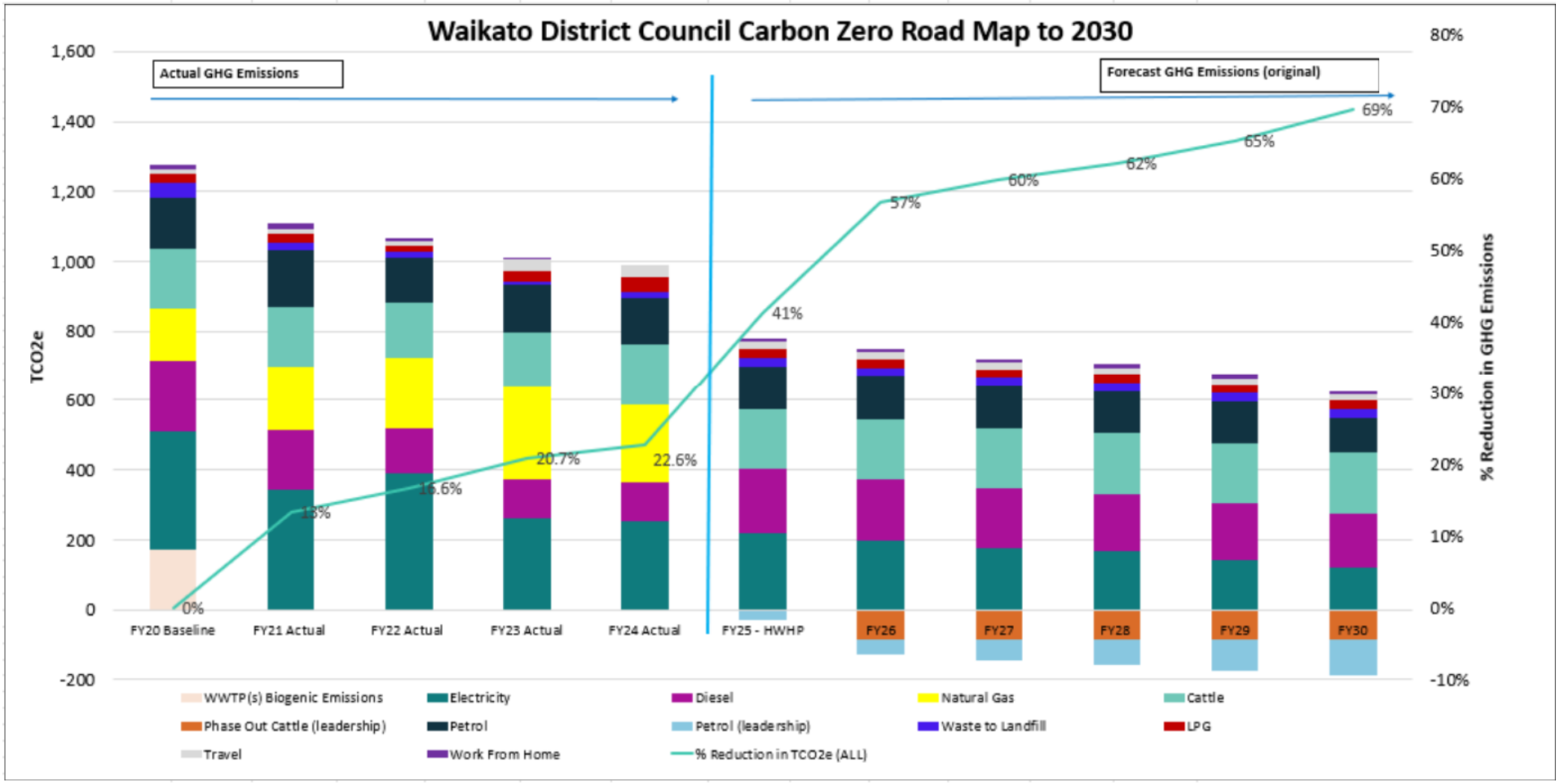
Figure 6: GHG emissions by source/activity (tCO_2e)

Council's Carbon Road Map

Council's carbon road map out to 2030 has been updated and shows how Council's emissions could reduce in line with internationally agreed 1.5 degree warming limits. A critical project to achieve this was the replacement of the Huntly pool gas boiler in May 2024 with an electric hot water heat pump system. Figure 7 (overleaf) shows the impact of future measures in later years.

Council is forecast to achieve a 69% reduction in emissions in FY29-30 compared to Base Year FY20. In FY24, a 22.6% reduction was achieved, and this is expected to improve to a 41% reduction in FY25. Future reductions in Council emissions rely on increased renewable electricity generation, a change in livestock emissions, and reduced use of diesel and petrol.

Figure 7


Waikato District Council Carbon Zero Road Map to 2030
Actual GHG Emissions
Forecast GHG Emissions (original)
TCO2e
% Reduction in GHG Emissions
1,600
1,400
1,200
1,000
800
600
400
200
0
-200
80%
70%
60%
50%
40%
30%
20%
10%
0%
-10%
0%
13%
16.6%
20.7%
22.6%
41%
57%
60%
62%
65%
69%
FY20 Baseline
FY21 Actual
FY22 Actual
FY23 Actual
FY24 Actual
FY25 - HWHP
FY26
FY27
FY28
FY29
FY30
WWTP(s) Biogenic Emissions
Electricity
Diesel
Natural Gas
Cattle
Phase Out Cattle (leadership)
Petrol
Petrol (leadership)
Waste to Landfill
LPG
Travel
Work From Home
% Reduction in TCO2e (ALL)

10 Liabilities

10.1 GHG stocks held

HFCs, PFCs and SF_6 represent GHGs with high global warming potentials. Their accidental release could result in a large increase in emissions for the reporting period. Therefore, any GHG stocks should be included in the greenhouse gas emissions inventory summary section at the start of this report to identify significant liabilities and implement procedures for minimising the risk of their accidental release. The refrigerant stocks shown relate to the new hot water heat pumps installed at Huntly Pool.

Table 7: HFCs, PFCs and SF_6 GHG emissions and liabilities.

GHG gas	Amount held - start of reporting period	Amount held - end of reporting period	Potential Liability tCO2e
Refrigerant (Tonnes)	0.0	30.48	30.48
Diesel Fuel Tank 240L	0.65	0.65	0.65
Total	0.65	31.13	31.13

10.2 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. If a sequestration is claimed, this also represents a liability in future years should fire, flood or other management activities release the stored carbon.

11 References

International Organization for Standardization. ISO14064-1:2006/2018. Greenhouse gases – Part 1: *Specification with guidance at the organisation level for quantification and reporting of greenhouse gas GHG emissions and removals.* Geneva: ISO.

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

Appendix 1 – Supplementary Data

Tables 8 to Table 14 summarise the greenhouse gas (GHG) emissions for Waikato District Council covering the financial year July 2023 to June 2024 as per reporting guidance from the GHG Protocol. Total emissions were 988.58 tCO_2e. This inventory report is part of the framework for ongoing repeatable data collection which will allow Council to develop carbon reduction initiatives and measure progress over time.

Table 8: GHG emissions data summary.

Component Gas (expressed as tCO_2e)								
FY24	**$C0_2$**	**CH_4**	**N_2O**	**HFCs**	**PFCs**	**SF_6**	**Total tCO_2e**	**Percent By Scope**
Scope 1[1]	490	156	26	-	-	-	675.82	68%
Scope 2[2]	228	8	0	-	-	-	236.51	24%
Scope 3[3]	49	25	1	-	-	-	76.24	8%
Total	767	189	27	-	-	-	988.58	100%

Table 9: Biogenic CO_2

Source	Quantity (m^3)	T Biogenic CO_2
Wastewater Treatment Plant	0	0
Total	**0**	**0**

Table 10: Forestry

Source	Quantity	tCO_2e
Carbon lost (deforestation)	0	0
Carbon Sequestered (forest growth)	0	0
Net balance	**n/a**	**0**

[1] **Scope 1 - Direct** GHG emissions from sources that are owned or controlled by the company.

[2] **Scope 2 - Indirect** GHG emissions from the generation of purchased electricity, heat and steam consumed by the company.

[3] **Scope 3 - Indirect** GHG emissions that occur as a consequence of the company's activities but from sources not owned or controlled by the company.

Table 11: GHG stock liability (refrigerants and diesel storage)

Source	Unit	Quantity	Potential Liability tCO_2e
R32	kg	45.0	30.47
CO_2	kg	6.5	0.01
Diesel Fuel Tank Woodlands	l	240	0.65
Total			**31.13**

Table 12: Forestry liabilities.

Type of sequestration	Liability tCO_2e
Contingent liability (carbon sequestered since base year)	0

Table 13: Renewable electricity generation on-site[4]

Renewable generation on-site	kWh generated	tCO_2e avoided
Solar PV	0	0

Table 14: Emissions per KPI

KPI	Quantity					tCO_2e / KPI				
	FY20	FY21	FY22	FY23	FY24	FY20	FY21	FY22	FY23	FY24
Full Time Employees	342	351	376	400	431	3.73	3.16	2.84	2.53	2.29
$M	175	208	230	224	225	7.29	5.32	4.63	4.53	4.39

[4] Solar electricity is generated at the Te Kauwhata Library, however the quantities generated are not monitored.

Appendix 2 – Data Summary Workbook

Detailed GHG emissions data are available on the accompanying spreadsheet(s) to this report:

- Waikato District Council – Carbon Emissions Workbook FY24