



GREENHOUSE GAS EMISSIONS INVENTORY REPORT

Toitū carbonreduce and Toitū carbonzero programme



Masterton District Council

Person responsible: Natasha Tomic, Senior Policy Advisor Climate Change and Environment, Masterton District Council

Prepared by: Julie Shakespeare, Financial Accountant, Masterton District Council

Dated: 18 December 2020

For the period: 01 July 2018 to 30 June 2019

Base year: 01 July 2015 to 30 June 2016

Verification status: Reasonable

DISCLAIMER

The template has been provided by Enviro-Mark Solutions Limited trading as Toitū Envirocare. While every effort has been made to ensure the template is consistent with the requirements of ISO 14064-1:2006, Toitū Envirocare does not accept any responsibility whether in contract, tort, equity or otherwise for any action taken, or reliance placed on it, or for any error or omission from this report. The template should not be altered (i.e. the black text); doing so may invalidate the organisation's claim that its inventory is compliant with the ISO 14064-1:2006 standard.

This work shall not be used for the purpose of obtaining emissions units, allowances, or carbon credits from two or more different sources in relation to the same emissions reductions, or for the purpose of offering for sale carbon credits which have been previously sold.

The consolidation approach chosen for the greenhouse gas inventory should not be used to make decisions related to the application of employment or taxation law.

This report shall not be used to make public greenhouse gas assertions without independent verification and issue of an assurance statement by Toitū Envirocare.

CONTENTS

Disclaimer	2
Greenhouse Gas Emissions Inventory summary	5
1 Introduction	8
2 Statement of intent.....	8
3 Organisation description.....	8
4 Organisational boundaries included for this reporting period	9
5 Organisational business units excluded from inventory	10
6 GHG emissions source inclusions.....	10
6.1 Other emissions – HFCs, PFCs and SF ₆	31
6.2 Other emissions – biomass	31
6.3 Other emissions – deforestation.....	31
6.4 Pre-verified data	31
7 GHG emissions source exclusions	31
8 Data collection and uncertainties	32
9 GHG emissions calculations and results	32
10 emissions reductions and removals enhancement	34
11 Liabilities	36
11.1 GHG stocks held	36
11.2 Land-use change	36
12 Purchased reductions	37
13 Double counting / double offsetting.....	37
14 References	37
15 Appendix 1: GHG emissions data summary	Error! Bookmark not defined.
Table 1: GHG emissions data summary.	5
Table 2: Gross organisation GHG emissions by scope for current measurement year.	5
Table 3: GHG emissions inventory summary by scope and business unit.	6
Table 4: Mobile and stationary combustion of biomass.	6
Table 5: Deforestation of two hectares or more.	6
Table 6: GHG stock liability (see Table 13: for mass of individual gases).	6
Table 7: Land-use liabilities.....	7
Table 8: Renewable electricity generation on-site.	7
Table 9: Purchased emissions reductions.....	7
Table 10: Brief description of business units in the certifying entity.	10
Table 11: GHG emissions sources included in the inventory.....	12
Table 12: GHG emissions sources excluded from the inventory	31
Table 13: HFCs, PFCs and SF ₆ GHG emissions and liabilities.....	36

Figure 1: Organisational structure.9

Figure 2: GHG emissions (tonnes CO₂e) by scope33

Figure 3: GHG emissions (tonnes CO₂e) by business activity.33

Figure 4: GHG emissions sources by source.34

Figure 5: Comparison of GHG operational emissions by scope between the reporting periods.35

Figure 6: Comparison of GHG operational emissions by emissions sources between the reporting periods.....35

Figure 7: Comparison of emissions by business unit between the reporting periods.....36

GREENHOUSE GAS EMISSIONS INVENTORY SUMMARY

Table 1: GHG emissions data summary.

NOTE: For the 2018/19 period, the wastewater estimates were calculated using Toitū's updated wastewater template based on the IPCC method. This change significantly impacted MDC's carbon emissions for the 2018/19 and 2019/20 reporting periods making the direct comparison difficult and the reduction efforts less obvious.

	2016	2017	2018	2019
Scope 1	163.57	176.59	158.07	3,215.51 ¹
Scope 2	624.00	570.03	560.71	375.86
Scope 3 Mandatory	30.38	20.70	36.18	15.15
Scope 3 Additional	0.00	0.00	0.00	0.00
Scope 3 One time	0.00	0.00	0.00	0.00
Total gross emissions	817.95	767.32	754.96	3,606.52
Certified green electricity	0.00	0.00	0.00	0.00
Purchased emission reductions	0.00	0.00	0.00	0.00
Net GHG emissions (all scopes)	817.95	767.32	754.96	3,606.52
Total gross GHG emissions per Emissions per Head of Populations	0.035	0.030	0.029	0.13
Total mandatory GHG emissions per Emissions per Head of Populations	0.035	0.030	0.029	0.13
Total gross GHG emissions per FTE	8.89	7.83	7.70	34.02
Total mandatory GHG emissions per FTE	8.89	7.83	7.70	34.02
Total gross GHG emissions per Turnover/revenue (\$Millions)	20.45	18.40	15.47	74.28
Total mandatory GHG emissions per Turnover/revenue (\$Millions)	20.45	18.40	15.47	74.28

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

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

Indicator	tCO ₂ e
Scope 1	
Other fuels	21.91
Passenger vehicles - default age	65.61

¹ A formula for calculating wastewater GHG emissions was changed in 2018/19 reporting period.

Indicator	tCO ₂ e
Water & Wastewater	3,128.00
Scope 2	
Electricity	375.86
Scope 3	
Passenger vehicles - default age	9.82
Transport - other	1.84
Waste	3.49
Total	3,606.52

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

Component gas	Scope 1	Scope 2	Scope 3	Total	Removals	After removals
CH ₄	0.32	16.89	3.60	20.81	0.00	20.81
CO ₂	3,213.84	358.63	11.21	3,583.68	0.00	3,583.68
HFCs	0.00	0.00	0.00	0.00	0.00	0.00
N ₂ O	1.35	0.35	0.34	2.04	0.00	2.04
NF ₃	0.00	0.00	0.00	0.00	0.00	0.00
PFCs	0.00	0.00	0.00	0.00	0.00	0.00
SF ₆	0.00	0.00	0.00	0.00	0.00	0.00
Total	3,215.51	375.86	15.15	3,606.52	0.00	3,606.52

Table 4: Mobile and stationary combustion of biomass.

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

Table 5: Deforestation of two hectares or more.

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

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

Source	Units	Quantity	Potential Liability tCO ₂ e
Diesel stationary combustion	litres	300.00	0.81

Table 7: Land-use liabilities.

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

Table 8: Renewable electricity generation on-site.

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

Table 9: Purchased emissions reductions.

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

1 INTRODUCTION

This report is the annual greenhouse gas (GHG) emissions² 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**-step³ 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*⁴. 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.

3 ORGANISATION DESCRIPTION

Masterton District Council (MDC) is the territorial authority for the Masterton District.

In meeting its purpose, Council has a variety of responsibilities including, but not limited to:

- formulating the Masterton district's strategic direction in partnership with the community - through the Long-Term Plan (LTP);
- determining the services and activities to be undertaken by Council;
- administering regulations, as well as developing and enforcing bylaws;
- managing local network and community infrastructure;
- advocating on behalf of the local community with central government, other local authorities and agencies;
- mitigating and managing environmental impacts;
- encouraging community involvement in Council's decision making processes; and
- ensuring effective succession of elected members.

The environmental development section of MDC's 'Our People, Our Land Strategy' identifies the environment as the foundation for the strategy. We rely on the environment for clean air, water and for the food we grow. It supports industries and our economy, and can provide opportunities for social connection. The environment also contributes to cultural development through better understanding of Iwi values/kaupapa, the preservation of our natural heritage and through our national icons like the kiwi, silver fern, and koru.

Our aspiration is for Masterton/Whakaoriori to be a leader in environmental development, with Council, Iwi, stakeholders and our community working together as kaitiaki/stewards to preserve and enhance our natural environment and to create a better future for our people. Council is committed to reducing its impact on climate change (mitigation actions) and preparing for future changes (adaptation actions). One of our mitigation actions is to manage and reduce our carbon footprint.

² Throughout this document "emissions" means "GHG emissions".

³ Programme refers to the Toitū carbonreduce and the Toitū carbonzero programme.

⁴ 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*.

4 ORGANISATIONAL BOUNDARIES INCLUDED FOR THIS REPORTING PERIOD

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

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

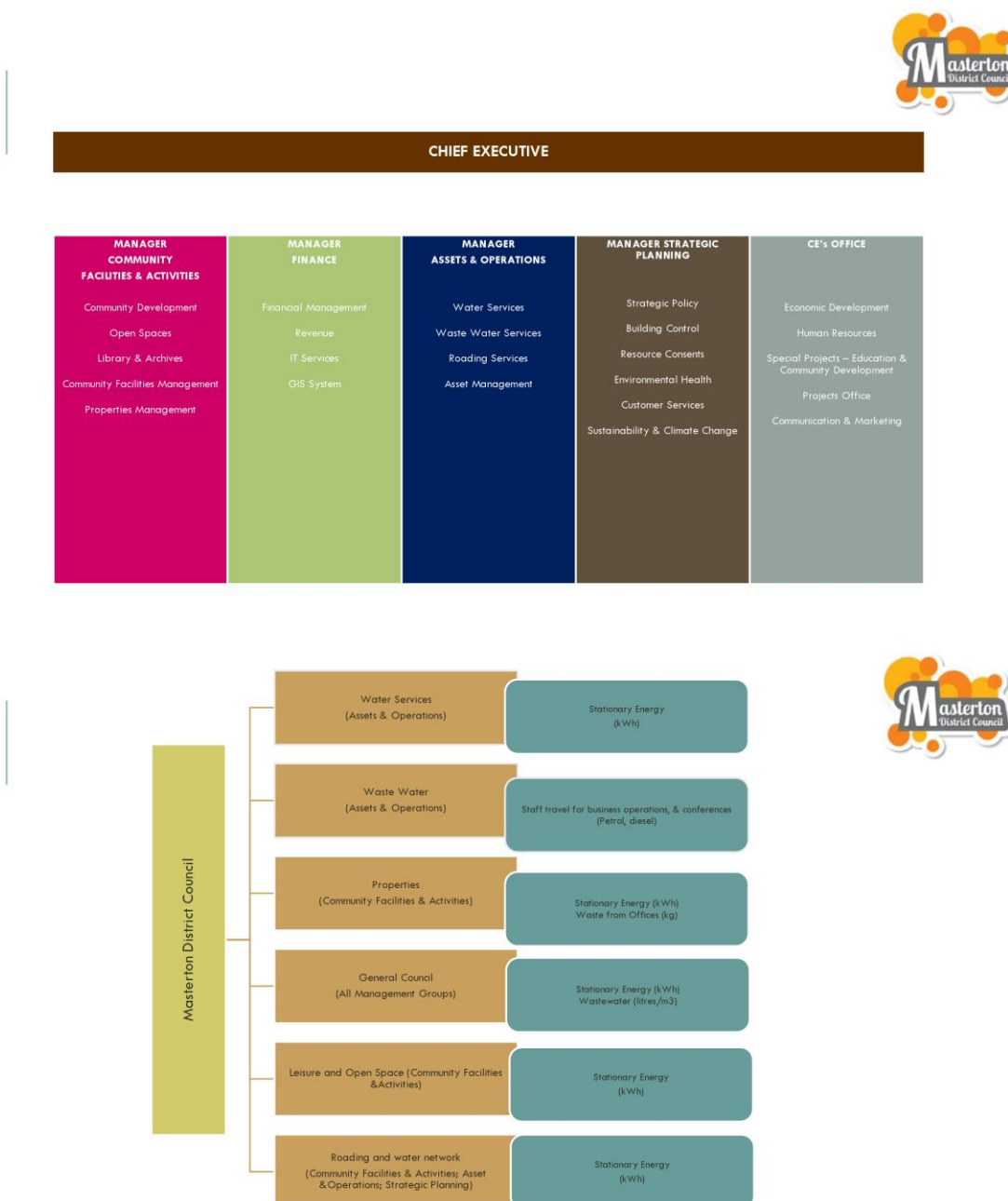


Figure 1: Organisational structure.

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

Business unit	Purpose
Water Services	Purpose: Water supply and treatment Contact: Manager Assets & Operations
Waste Water	Purpose: Treatment and disposal of sewage Contact: Manager Assets & Operations
Properties	Purpose: Manages the majority of council - owned buildings including offices, library, archives and community halls Contact: Manager Community Facilities & Activities
General Council	Purpose: Catch all reporting units for emission sources that are across Council groups and are not linked to a specific site - e.g. business travel in pool cars, business travel in private cars, operational travel in council - owned cars, flights etc. Contact: All Management Groups
Roading and water network	Purpose: Manages maintenance and of local roads, water services network and streetlighting (rural & urban) Contact: Manager Assets & Operations
Leisure and Open Space	Purpose: Manages park, reserves and recreation centre Contact: Manager Community Facilities & Activities

5 ORGANISATIONAL BUSINESS UNITS EXCLUDED FROM INVENTORY

Operations (Assets & Operations) - waste management is outside MDC operational control as it is operated by a separate company.

Properties (Community Facilities & Activities) - Pensioner Housing Electricity has been excluded as all council tenants pay their own power accounts.

Properties (Community Facilities & Activities) - Mawley Holiday Park, 5 Oxford Street, Lansdowne, Masterton, has been excluded as the tenant pays the power accounts.

Refrigerants (Community Facilities & Activities) - Service provider look at the air-conditioning system on 4 occasions during this period of time but no leak was detected/ air - conditioning system hasn't been recharged.

Properties (Communities Facilities & Activities) - Genealogical Society building has been excluded as all paid by the tenant.

Properties (Communities Facilities & Activities) - 18 Manaia Road Homebush Masterton buildings have been excluded as all paid by the tenants.

Operations (Assets & Operations) - Waste management is outside MDC operational control and it is operated by a separate company.

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 ISO14064-1:2006 standards. Identification of emissions sources was achieved via personal communications with Masterton District 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.

The UK Water Industry Research (UKWIR) has produced a spreadsheet based standardised approach for estimating greenhouse gas emissions from operations of water and wastewater industry facilities which has been used to calculate the wastewater emissions. The approach was developed in accordance with both United Kingdom Department of Environment Food and Rural Affairs (Defra) Guidelines and Carbon Reporting Commitment (CRC) requirements. The inputs for the calculation are total population and wastewater flow into the system. This method is currently used by other councils in the CEMARS programme.

For the 2018/19 period, the wastewater estimates were calculated using Toitū's updated wastewater template based on the IPCC method. This change significantly impacted MDC's carbon emissions for the 2018/19 and 2019/20 reporting periods making the direct comparison difficult and the reduction efforts less obvious.

Table 11: GHG emissions sources included in the inventory

Business Unit	SCOPE	GHG Emission source	Data collection unit	Data source	Council departments	Location	Uncertainty
Water Services (Assets & Operations)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Asset Operations &	Water supply	Low - Meter Data
Waste Water (Assets & Operations)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Asset Operations &	Wastewater treatment and stormwater management 379 TE WHITI ROAD (HOMEBUSH)	Low - Meter Data
Waste Water (Assets & Operations)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Asset Operations &	Waste Water Treatment Plant at CASTLEPOINT	Low - Meter Data
Waste Water (Assets & Operations)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Asset Operations &	Waste Water Treatment Plant at RIVERSDALE	Low - Meter Data
Waste Water (Assets & Operations)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Asset Operations &	Tinui Sewerage Blackhill Road TINUI	Low - Meter Data
Waste Water (Assets & Operations)	SCOPE 1	Wastewater	litres/m ³	Data recording system - SCADA	Asset Operations &	Wastewater treatment and stormwater management HOMEBUSH	Low - SCADA data recording system

Business Unit	SCOPE	GHG Emission source	Data collection unit	Data source	Council departments	Location	Uncertainty
Waste Water (Assets & Operations)	SCOPE 1	Wastewater	litres/m ³	Data recording system - SCADA	Asset & Operations	Wastewater treatment and stormwater management RIVERSDALE	Low - SCADA data recording system
Waste Water (Assets & Operations)	SCOPE 1	Wastewater	litres/m ³	Data recording system - SCADA	Asset & Operations	Wastewater treatment and stormwater management CASTLEPOINT	Low - SCADA data recording system
Waste Water (Assets & Operations)	SCOPE 1	Wastewater	litres/m ³	Data recording system - SCADA	Asset & Operations	Wastewater treatment and stormwater management TINUI	Low - SCADA data recording system
General Council (All Management Groups)	SCOPE 1	Operations	Kilometres	invoice data/Finance Team	Asset & Operations; Strategic Planning	Operations - Dog Control Vehicles	Low /Moderate - it assumed that data source is an appropriate representation of activities.
General Council (All Management Groups)	SCOPE 1	Operations	Kilometres	invoice data/Finance Team	Asset & Operations; Strategic Planning	Operations - Engineers' Utes	Low /Moderate - it assumed that data source is an appropriate representation of activities.
General Council (All Management Groups)	SCOPE 1	Operations	Kilometres	invoice data/Finance Team	Asset & Operations; Strategic Planning	Operations - Water Treatment Vehicles	Low /Moderate - it assumed that data source is an appropriate representation of activities.

Business Unit	SCOPE	GHG Emission source	Data collection unit	Data source	Council departments	Location	Uncertainty
Properties (Community Facilities & Activities)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Community Facilities & Activities	Council Offices and Operational Blds Airport Terminal	Low - Meter Data
Properties (Community Facilities & Activities)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Community Facilities & Activities	Council Offices and Operational Blds ANZ 157-161 Queen Street Masterton 5810	Low - Meter Data
Properties (Community Facilities & Activities)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Community Facilities & Activities	Council Offices and Operational Blds Archives 77 Queen Street Masterton East Masterton	Low - Meter Data
Properties (Community Facilities & Activities)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Community Facilities & Activities	Council Offices and Operational Blds Aviary/Fernery Park Avenue Masterton East Masterton	Low - Meter Data
Properties (Community Facilities & Activities)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Community Facilities & Activities	Council Offices and Operational Blds Boat Shed Dixon Street Masterton East Masterton	Low - Meter Data
Properties (Community Facilities & Activities)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Community Facilities & Activities	Council Offices and Operational Blds Community Room 118 Ngaumutawa Road	Low - Meter Data

Business Unit	SCOPE	GHG Emission source	Data collection unit	Data source	Council departments	Location	Uncertainty
Properties (Community Facilities & Activities)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Community Facilities & Activities	Council Offices and Operational Blds Grandstand Dixon Street Masterton East Masterton	Low - Meter Data
Properties (Community Facilities & Activities)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Community Facilities & Activities	Council Offices and Operational Blds Jubilee Museum 16 Dixon Street Masterton East Masterton	Low - Meter Data
Properties (Community Facilities & Activities)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Community Facilities & Activities	Council Offices and Operational Blds Kuripuni Toilets Waltons Ave, Masterton	Low - Meter Data
Properties (Community Facilities & Activities)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Community Facilities & Activities	Council Offices and Operational Blds Laundry Shed 118 Ngaumutawa Road	Low - Meter Data
Properties (Community Facilities & Activities)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Community Facilities & Activities	Council Offices and Operational Blds Library 60 Queen Street Masterton West Masterton	Low - Meter Data

Business Unit	SCOPE	GHG Emission source	Data collection unit	Data source	Council departments	Location	Uncertainty
Properties (Community Facilities & Activities)	SCOPE 3	Electricity	kWh	Invoice data/Finance Team	Community Facilities & Activities	Council Offices and Operational Blds new Library Learning centre Queen Street Masterton West Masterton	Low - Meter Data
Properties (Community Facilities & Activities)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Community Facilities & Activities	Council Offices and Operational Blds MDC Office 64 Chapel Street Masterton	Low - Meter Data
Properties (Community Facilities & Activities)	SCOPE 3	Electricity	kWh	Invoice data/Finance Team	Community Facilities & Activities	Council offices and Operational Blds MDC Office Waiata House	Low - Meter Data
Properties (Community Facilities & Activities)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Community Facilities & Activities	Council Offices and Operational Blds Offices Bannister Street Masterton 5810	Low - Meter Data
Properties (Community Facilities & Activities)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Community Facilities & Activities	Council Offices and Operational Blds Offices Bannister Street Masterton 5811	Low - Meter Data
Properties (Community Facilities & Activities)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Community Facilities & Activities	Council Offices and Operational Blds Pound 79 Ngaumutawa Road Masterton	Low - Meter Data

Business Unit	SCOPE	GHG Emission source	Data collection unit	Data source	Council departments	Location	Uncertainty
Properties (Community Facilities & Activities)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Community Facilities & Activities	Council Offices and Operational Blds Public Trust Power - 2/20 Perry Street - old	Low - Meter Data
Properties (Community Facilities & Activities)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Community Facilities & Activities	Council Offices and Operational Blds Public Trust Power - 2/20 Perry Street	Low - Meter Data
Properties (Community Facilities & Activities)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Community Facilities & Activities	Council Offices and Operational Blds Public Trust Power -1/20 Perry Street	Low - Meter Data
Properties (Community Facilities & Activities)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Community Facilities & Activities	Council Offices and Operational Blds Recycle Plant Nursery Road Homebush Masterton	Low - Meter Data
Properties (Community Facilities & Activities)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Community Facilities & Activities	Council Offices and Operational Blds Workshop 767 Upper Plain Road Matahiwi Masterton	Low - Meter Data
Properties (Community Facilities & Activities)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Community Facilities & Activities	Council Offices and Operational Blds Refrigerated Container 1 Nursery Road Homebush	Low - Meter Data

Business Unit	SCOPE	GHG Emission source	Data collection unit	Data source	Council departments	Location	Uncertainty
Properties (Community Facilities & Activities)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Community Facilities & Activities	community Hall Bideford Hall Mangapurupuru Road Bideford	Low - Meter Data
Properties (Community Facilities & Activities)	SCOPE 3	Electricity	kWh	Invoice data/Finance Team	Community Facilities & Activities	community hall Old Tinui Depo	Low - Meter Data
Properties (Community Facilities & Activities)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Community Facilities & Activities	community Hall Rangitumau Hall	Low - Meter Data
Properties (Community Facilities & Activities)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Community Facilities & Activities	community Hall Taueru Hall 84 Masterton Castlepoint Road Tauweru	Low - Meter Data
Properties (Community Facilities & Activities)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Community Facilities & Activities	community Hall Tinui Hall Black Hill Road	Low - Meter Data
Properties (Community Facilities & Activities)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Community Facilities & Activities	community Hall Wainuioru Hall & Wainuioru Fire Stn Masterton Stronvar Road	Low - Meter Data

Business Unit	SCOPE	GHG Emission source	Data collection unit	Data source	Council departments	Location	Uncertainty
Properties (Community Facilities & Activities)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Community Facilities & Activities	community Hall Whangaehu Hall	Low - Meter Data
Properties (Community Facilities & Activities)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Community Facilities & Activities	community Hall Whareama Hall Langdale Road	Low - Meter Data
Roading and water network (Community Facilities & Activities; Asset & Operations; Strategic Planning)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Community Facilities & Activities; Asset & Operations; Strategic Planning;	Parking/site Lighting Cenotaph Lighting Dixon Street Masterton East Masterton	Low - Meter Data
Roading and water network (Community Facilities & Activities; Asset & Operations; Strategic Planning)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Community Facilities & Activities; Asset & Operations; Strategic Planning;	Parking/site Lighting Runway Lighting 12 Manaia Road	Low - Meter Data

Business Unit	SCOPE	GHG Emission source	Data collection unit	Data source	Council departments	Location	Uncertainty
Roading and water network (Community Facilities & Activities; Asset & Operations; Strategic Planning)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Community Facilities & Activities; Asset & Operations; Strategic Planning;	Parking/site Lighting Skating Rink Lights Dixon Street Masterton East Masterton	Low - Meter Data
Roading and water network (Community Facilities & Activities; Asset & Operations; Strategic Planning)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Community Facilities & Activities; Asset & Operations; Strategic Planning;	Parking/site Lighting Bentley Street Yard Masterton 5810	Low - Meter Data
Roading and water network (Community Facilities & Activities; Asset & Operations; Strategic Planning)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Community Facilities & Activities; Asset & Operations; Strategic Planning;	Parking/site Lighting Parking Mtr Cntrl Point 229 Queen Street Masterton East Masterton	Low - Meter Data
Roading and water network (Community Facilities & Activities; Asset & Operations; Strategic Planning)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Community Facilities & Activities; Asset & Operations; Strategic Planning;	Parking/site Lighting Parking Mtr Cntrl Point 52 Queen Street Masterton West Masterton	Low - Meter Data

Business Unit	SCOPE	GHG Emission source	Data collection unit	Data source	Council departments	Location	Uncertainty
Roading and water network (Community Facilities & Activities; Asset & Operations; Strategic Planning)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Community Facilities & Activities; Asset & Operations; Strategic Planning;	Parking/site Lighting Parking Mtr Cntrl Point 55 Queen Street Masterton East Masterton	Low - Meter Data
Roading and water network (Community Facilities & Activities; Asset & Operations; Strategic Planning)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Community Facilities & Activities; Asset & Operations; Strategic Planning;	Parking/site Lighting Library Square 66-76 Queen Street Masterton	Low - Meter Data
Leisure and Open Space (Community Facilities & Activities)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Community Facilities & Activities	Parks Event Connection QE Park Playground field	Low - Meter Data
Leisure and Open Space (Community Facilities & Activities)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Community Facilities & Activities	Parks Clarke Memorial Domain Mauriceville Masterton	Low - Meter Data
Leisure and Open Space (Community Facilities & Activities)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Community Facilities & Activities	Parks Henley Lake Colombo Road Lansdowne Masterton	Low - Meter Data

Business Unit	SCOPE	GHG Emission source	Data collection unit	Data source	Council departments	Location	Uncertainty
Leisure and Open Space (Community Facilities &Activities)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Community Facilities &Activities	Parks Irrigation P Memorial Park Dixon Street Masterton East Masterton	Low - Meter Data
Leisure and Open Space (Community Facilities &Activities)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Community Facilities &Activities	Parks Irrigation P Park Dixon Street Masterton East Masterton	Low - Meter Data
Leisure and Open Space (Community Facilities &Activities)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Community Facilities &Activities	Parks McJorow Playground - old	Low - Meter Data
Leisure and Open Space (Community Facilities &Activities)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Community Facilities &Activities	Parks McJorow Playground - current	Low - Meter Data
Leisure and Open Space (Community Facilities &Activities)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Community Facilities &Activities	Parks Sports Bowl Connection Blair Street Lansdowne Masterton	Low - Meter Data
Leisure and Open Space (Community Facilities &Activities)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Community Facilities &Activities	Parks Sunken Garden Dixon Street Masterton East Masterton	Low - Meter Data

Business Unit	SCOPE	GHG Emission source	Data collection unit	Data source	Council departments	Location	Uncertainty
Roading and water network (Asset &Operations)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Asset & Operations	Pump stations Park Lake Pump Villa Street Masterton West Masterton	Low - Meter Data
Roading and water network (Asset &Operations)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Asset & Operations	Pump stations 135 Blue Pacific Parade	Low - Meter Data
Roading and water network (Asset &Operations)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Asset & Operations	Pump stations 136 Blue Pacific Parade	Low - Meter Data
Roading and water network (Asset &Operations)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Asset & Operations	Pump stations 288 Riversdale Road	Low - Meter Data
Roading and water network (Asset &Operations)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Asset & Operations	Pump stations 73 Blue Pacific Parade	Low - Meter Data
Roading and water network (Asset &Operations)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Asset & Operations	Pump stations 95 Blue Pacific Parade	Low - Meter Data
Roading and water network (Asset &Operations)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Asset & Operations	Pump stations Bodle Drive	Low - Meter Data
Roading and water network (Asset &Operations)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Asset & Operations	Pump stations Boost Pump Shed 673 Upper Plain Road Matahiwi Masterton	Low - Meter Data

Business Unit	SCOPE	GHG Emission source	Data collection unit	Data source	Council departments	Location	Uncertainty
Roading and water network (Asset &Operations)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Asset & Operations	Pump stations Cnr Opaki and Second St Sewer Pump	Low - Meter Data
Roading and water network (Asset &Operations)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Asset & Operations	Pump stations Irrigation Pump, 379A Te Whiti Road, Homebush, Masterton 5810	Low - Meter Data
Roading and water network (Asset &Operations)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Asset & Operations	Pump stations Main Sewer Pump Station Jetty Road Castlepoint	Low - Meter Data
Roading and water network (Asset &Operations)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Asset & Operations	Pump stations Motumati Pump Station	Low - Meter Data
Roading and water network (Asset &Operations)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Asset & Operations	Pump stations Patakawa Pump Station	Low - Meter Data
Roading and water network (Asset &Operations)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Asset & Operations	Pump stations Pump 122 Chapel Street Masterton West Masterton	Low - Meter Data
Roading and water network (Asset &Operations)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Asset & Operations	Pump stations Pumping Station Colombo Road Lansdowne Masterton	Low - Meter Data
Roading and water network (Asset &Operations)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Asset & Operations	Pump stations Pump Station John McDonald Mews	Low - Meter Data

Business Unit	SCOPE	GHG Emission source	Data collection unit	Data source	Council departments	Location	Uncertainty
Roading and water network (Asset &Operations)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Asset & Operations	Pump stations Sewer Pump Station Jetty Road Castlepoint	Low - Meter Data
Roading and water network (Asset &Operations)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Asset & Operations	Pump stations Te Kopi Pump Station - two meters	Low - Meter Data
Roading and water network (Asset &Operations)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Asset & Operations	Pump stations Watsons Road Pump Station - two meters	Low - Meter Data
Roading and water network (Asset &Operations)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Asset & Operations	Pump stations Weraiti Pump Station - two meters	Low - Meter Data
Roading and water network (Asset &Operations)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Asset & Operations	Pump stations Westmere Pump Station	Low - Meter Data
Roading and water network (Asset &Operations)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Asset & Operations	Pump stations IRRIGATION PUMP 374 Lees Pakaraka Road RD 4 Masterton 5884	Low - Meter Data
Roading and water network (Asset &Operations)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Asset & Operations	Pump stations IRRIG PUMPS 49 MASTERTON-MARTINBOROUGH ROAD Masterton 5886	Low - Meter Data
Roading and water network (Asset &Operations)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Asset & Operations	Pump stations Watsons Road Pump Station - two meters	Low - Meter Data

Business Unit	SCOPE	GHG Emission source	Data collection unit	Data source	Council departments	Location	Uncertainty
Roading and water network (Asset &Operations)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Asset & Operations	Pump stations Water Plant Tinui Annedale Road Tinui	Low - Meter Data
Roading and water network (Asset &Operations)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Asset & Operations	Pump stations Water Syphon Plant Upper Waingawa Road Carterton Masterton	Low - Meter Data
Roading and water network (Asset &Operations)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Asset & Operations	Pump stations Treatment Ponds - Access Opp 1790 Homewood Road RD 12	Low - Meter Data
Leisure and Open Space (Community Facilities &Activities)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Community Facilities &Activities	Reservoirs Manuka Street Reservoir	Low - Meter Data
Leisure and Open Space (Community Facilities &Activities)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Community Facilities &Activities	Reservoirs Old Reservoir Upper Plain Road Masterton West Masterton	Low - Meter Data
Leisure and Open Space (Community Facilities &Activities)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Community Facilities &Activities	Reservoirs Reservoir Titoki Street Lansdowne Masterton	Low - Meter Data

Business Unit	SCOPE	GHG Emission source	Data collection unit	Data source	Council departments	Location	Uncertainty
Leisure and Open Space (Community Facilities &Activities)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Community Facilities &Activities	Reservoirs Upper Plain Reservoir	Low - Meter Data
Leisure and Open Space (Community Facilities &Activities)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Community Facilities &Activities	Toilets North End Toilet Riversdale Bodle Drive Riversdale Beach	Low - Meter Data
Leisure and Open Space (Community Facilities &Activities)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Community Facilities &Activities	Toilets Rest Rooms 14 Bannister Street Masterton East Masterton	Low - Meter Data
Leisure and Open Space (Community Facilities &Activities)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Community Facilities &Activities	Toilets Toilet Block- Church End Jetty Road Castlepoint	Low - Meter Data
Leisure and Open Space (Community Facilities &Activities)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Community Facilities &Activities	Toilets Toilet Block-Shop End Jetty Road Castlepoint	Low - Meter Data
Leisure and Open Space (Community Facilities &Activities)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Community Facilities &Activities	Toilets T1509 Pinedale Cres Masterton	Low - Meter Data

Business Unit	SCOPE	GHG Emission source	Data collection unit	Data source	Council departments	Location	Uncertainty
Leisure and Open Space (Community Facilities &Activities)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Community Facilities &Activities	Toilets Toilets/Workshops Dixon Street Masterton East Masterton	Low - Meter Data
Leisure and Open Space (Community Facilities &Activities)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Community Facilities &Activities	Toilets Kuripuni Toilets Waltons Ave, Masterton	Low - Meter Data
Properties (Community Facilities & Activities; Asset & Operations; Strategic Planning)	SCOPE 3	Waste from offices	Kg	frequency of bin collections/approx. weight of a bin/Staff Knowledge	Community Facilities &Activities; Asset & Operations; Strategic Planning; Office of the CE	Council - owned buildings including offices, library and community halls	Moderate - details provided by the facilities management staff. Mass calculated from bin volume, density determined by waste audit and number of removals.
Leisure and Open Space (Community Facilities &Activities)	SCOPE 2	Electricity	kWh	Invoice Data	Community Facilities &Activities	Recreation Centre/Swimming Pool	Low - Meter Data
Leisure and Open Space (Community Facilities &Activities)	SCOPE 1	Gas	kg	Invoice Data	Community Facilities &Activities	Recreation Centre/Swimming Pool	Low - invoice Data
Roading and water network (Asset &Operations)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Asset & Operations	Streetlighting Rural	Low - Meter Data

Business Unit	SCOPE	GHG Emission source	Data collection unit	Data source	Council departments	Location	Uncertainty
Roading and water network (Asset & Operations)	SCOPE 2	Electricity	kWh	Invoice data/Finance Team	Asset & Operations	Streetlighting Urban	Low - Meter Data
Properties (Community Facilities & Activities)	SCOPE 1	Refrigerant	kg	Invoice data - Estimate of annual system recharges/Finance Team	Community Facilities & Activities	Council - owned buildings including offices, library and community halls	Moderate - details provided by the service provider
General Council (All Management Groups)	SCOPE 1	Business Travel	km	invoice data/fuel cards/Finance Team	Community Facilities & Activities; Asset & Operations; Strategic Planning; Office of the CE	Pool Cars - business travel	Low /Moderate - it assumed that data source is an appropriate representation of activities.
General Council (All Management Groups)	SCOPE 3	Business Travel	km	Credit card transactions/Finance Team	Community Facilities & Activities; Asset & Operations; Strategic Planning; Office of the CE	Taxis	Low /Moderate - it assumed that data source is an appropriate representation of activities.

Business Unit	SCOPE	GHG Emission source	Data collection unit	Data source	Council departments	Location	Uncertainty
General Council (All Management Groups)	SCOPE 3	Business Travel	pkm	Credit card transactions/Finance Team	Community Facilities &Activities; Asset & Operations; Strategic Planning; Office of the CE	Air Travel Domestic	High - some booking details missing from credit card transactions and need to be assumed
General Council (All Management Groups)	SCOPE 3	Business Travel	km	Expense claims/Finance system search	Community Facilities &Activities; Asset & Operations; Strategic Planning; Office of the CE	Private car business travel	Low /Moderate - it assumed that data source is an appropriate representation of activities.

6.1 Other emissions – HFCs, PFCs and SF₆

We use HFCs but they are excluded (e.g. due to de minimis or operational control reasons).

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

6.2 Other emissions – biomass

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

6.3 Other emissions – deforestation

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

6.4 Pre-verified data

No pre-verified data is included within the inventory.

7 GHG EMISSIONS SOURCE EXCLUSIONS

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

Table 12: GHG emissions sources excluded from the inventory

Business unit	GHG source	GHG emissions level scope	Reason for exclusion
Properties (Community Facilities & Activities)	Pensioner Housing	Scope 2	Pensioner Housing Electricity has been excluded as all council tenants pay their own power accounts.
Properties (Community Facilities & Activities)	Genealogical Society building	Scope 2	Genealogical Society building has been excluded as all paid by the tenant.
Properties (Community Facilities & Activities)	Mawley Holiday Park	Scope 2	Mawley Holiday park has been excluded as the Operator/tenant pays their own power accounts.
Properties (Community Facilities & Activities)	18 Manaia Road Homebush Masterton buildings	Scope 2	18 Manaia Road Homebush Masterton buildings have been excluded as all paid by the tenants.
General Management Group (All)	Rental cars	Scope 3	Considered <i>de minimis</i>

Business unit	GHG emissions source	GHG emissions level scope	Reason for exclusion
General Management Group) (All	Taxi	Scope 3	Considered <i>de minimis</i> , only used on very few occasions, mainly linked to air travel
General Management Group) (All	Freight	Scope 3	Contract for supply specifies product is responsibility of supplier until delivered

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.

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.

GHG emissions for the organisation for this measurement period are provided in Figures 2-4 where they are stated by greenhouse gas by scope, by business unit and as the top 10 emissions by source.

By far the biggest GHG emission source is from the wastewater sewage 3128 t CO₂e followed by the recreation centre energy and gas consumption GHG emissions 180.1 tCO₂e due to significant energy requirements to provide and maintain the services.

The upgrade of the street lights to LED was completed in 2019 resulting in a significant decrease in electrical load resulting in noticeable reduction in GHG emissions.

In August 2019, MDC moved into its new office building, Waiata House. The rented offices were progressively terminated after the move to the new premises.

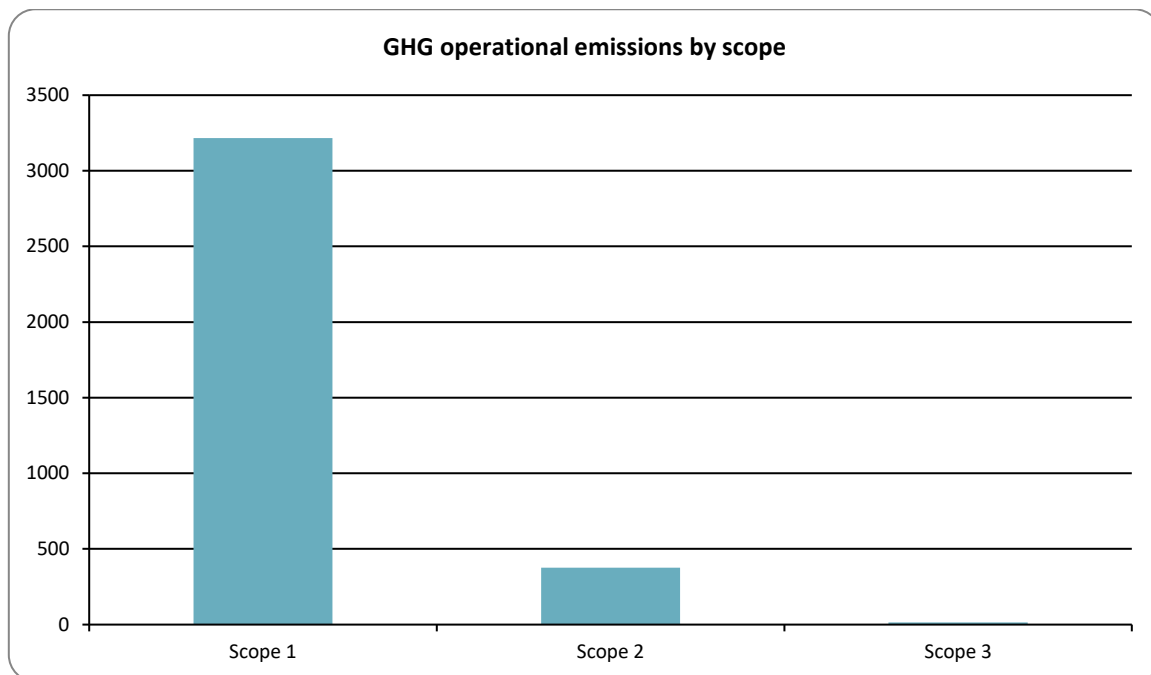


Figure 2: GHG emissions (tonnes CO₂e) by scope

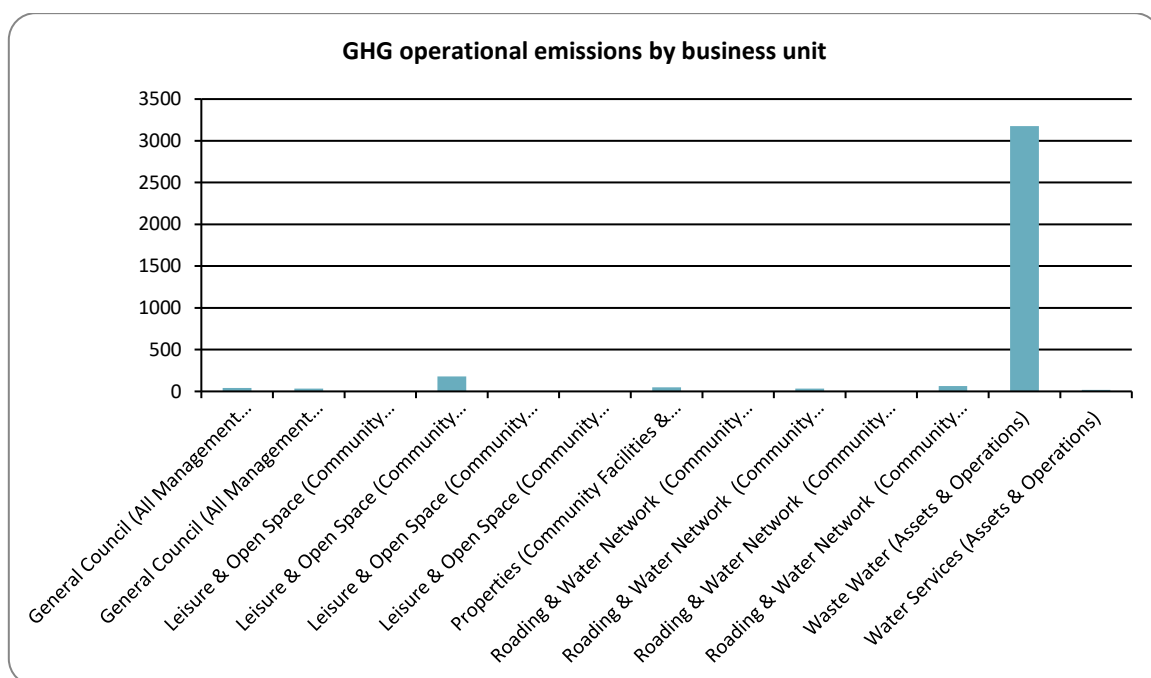


Figure 3: GHG emissions (tonnes CO₂e) by business activity.

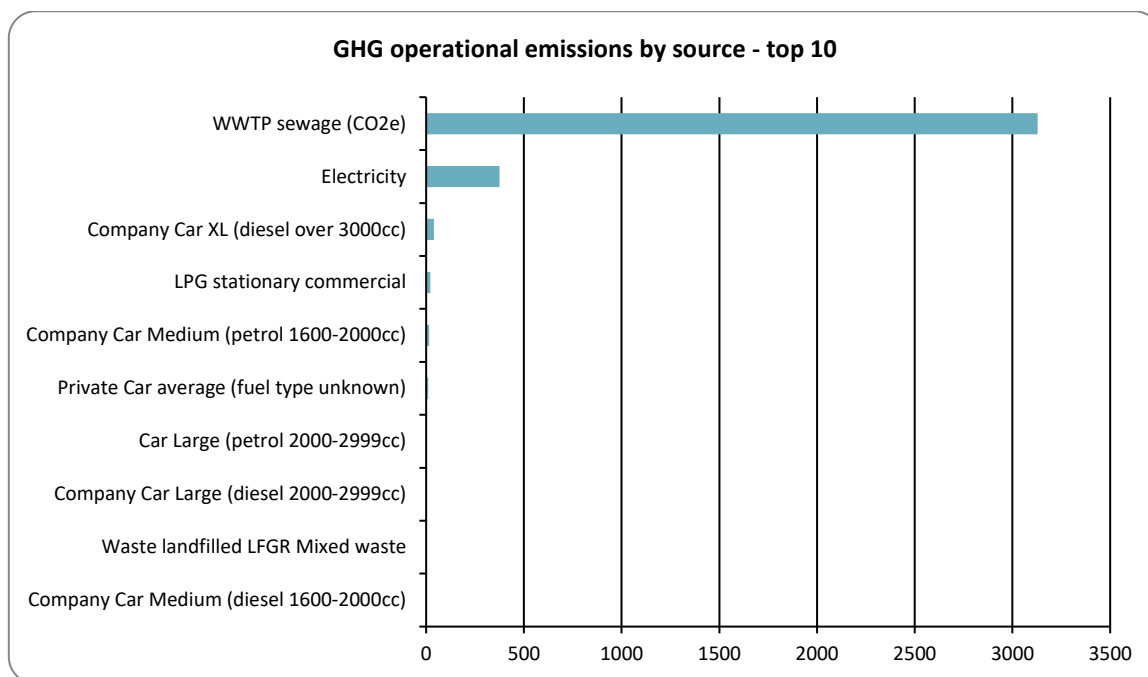


Figure 4: GHG emissions sources by source.

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

10 EMISSIONS REDUCTIONS AND REMOVALS ENHANCEMENT

The management and reduction plan has not changed since certification.

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

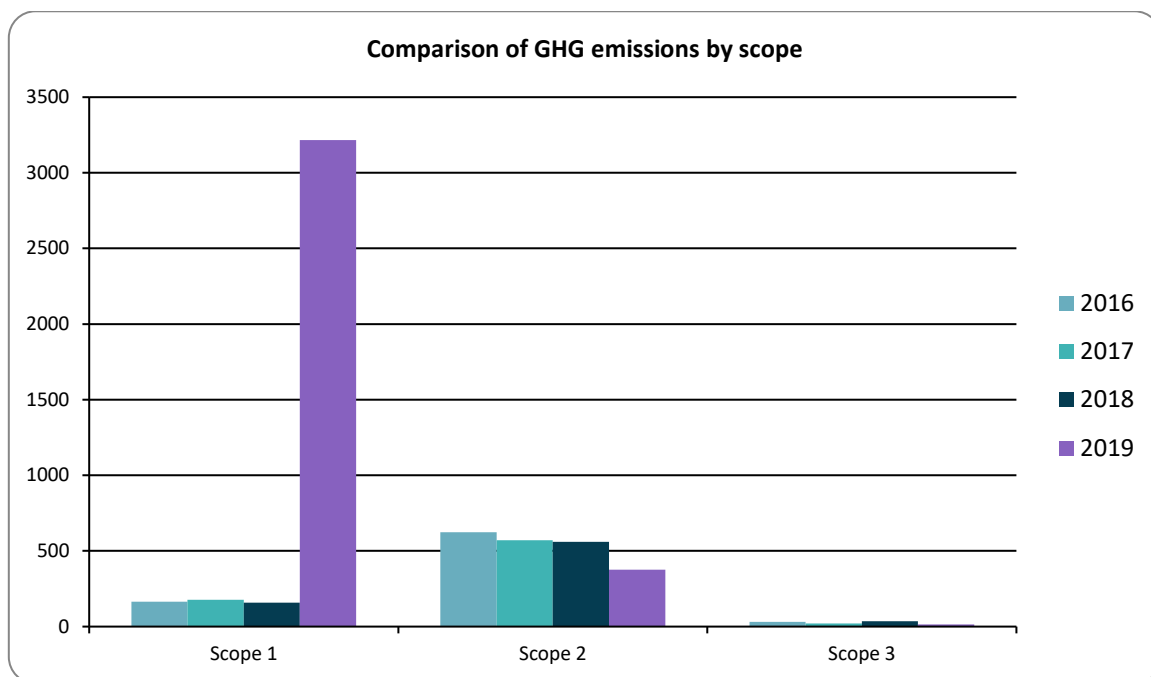


Figure 5: Comparison of GHG operational emissions by scope between the reporting periods.

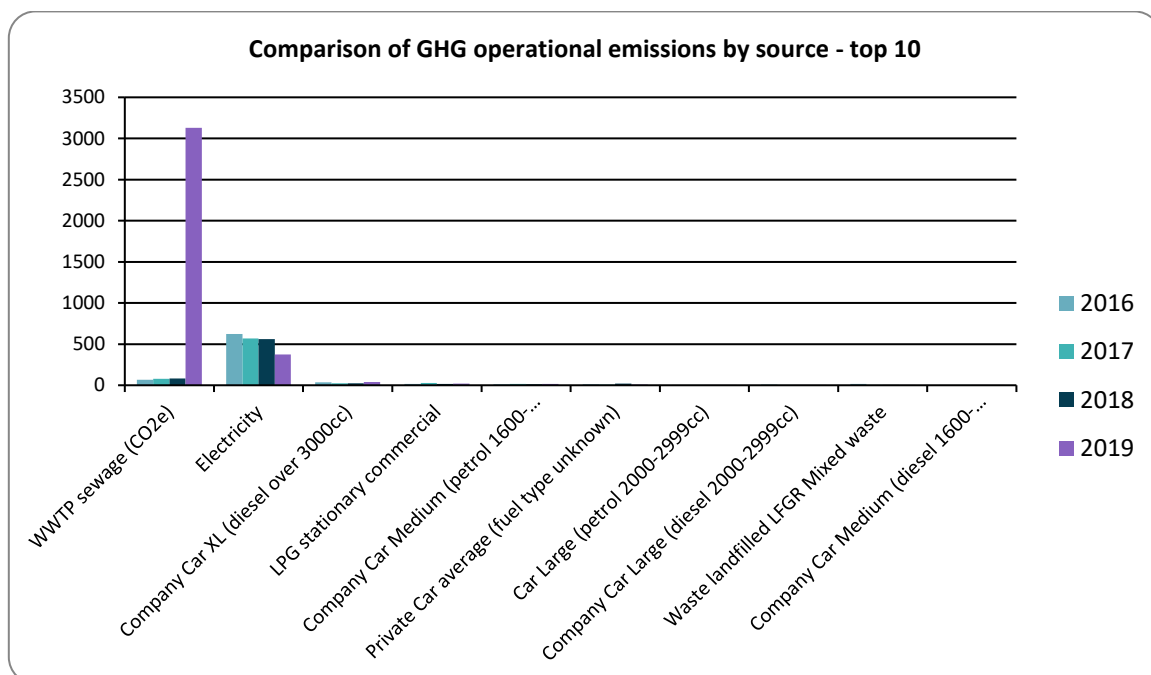


Figure 6: Comparison of GHG operational emissions by emissions sources between the reporting periods.

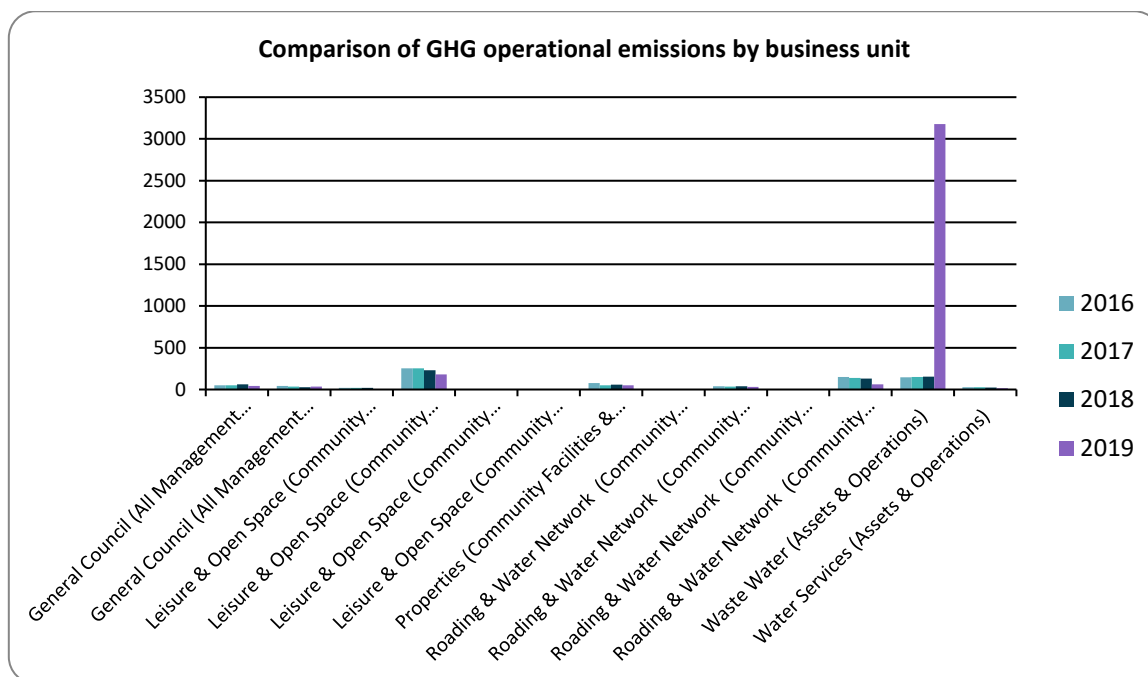


Figure 7: Comparison of emissions by business unit between the reporting periods.

11 LIABILITIES

11.1 GHG stocks held⁵

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

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

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

Business Unit	Source	Units	Amount held - start of reporting period	Amount held - end of reporting period	Potential Liability tCO ₂ e
Masterton District Council	Diesel stationary combustion	litres	(no data)	300	0.81292

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.

⁵ HFC stock liabilities for systems under 3 kg can be excluded.

12 PURCHASED REDUCTIONS

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

Purchased emission reductions have not been included in this inventory.

Certified green electricity has not been included in this inventory.

We do not generate on-site renewable electricity.

13 DOUBLE COUNTING / DOUBLE OFFSETTING

Double counting/offsetting refers to situations where:

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

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

14 REFERENCES

International Organization for Standardization, 2006. ISO14064-1:2006. 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.