



AGENDA

Environmental Services Committee Meeting Tuesday, 13 February 2024

Date Tuesday, 13 February 2024

Time 10.00am

Location Council Chamber
District Council Building
King George Place
Timaru

File Reference 1650116

Timaru District Council

Notice is hereby given that a meeting of the Environmental Services Committee will be held in the Council Chamber, District Council Building, King George Place, Timaru, on Tuesday 13 February 2024, at 10.00am.

Environmental Services Committee Members

Clr Michelle Pye (Chairperson), Clr Owen Jackson (Deputy Chairperson), Clr Sally Parker, Clr Gavin Oliver, Clr Stu Piddington, Clr Allan Booth, Clr Peter Burt, Tewera King (Mana Whenua), Clr Stacey Scott, Clr Scott Shannon and Mayor Nigel Bowen

Quorum – no less than 5 members

Local Authorities (Members' Interests) Act 1968

Committee members are reminded that if you have a pecuniary interest in any item on the agenda, then you must declare this interest and refrain from discussing or voting on this item, and are advised to withdraw from the meeting table.

Paul Cooper

Group Manager Environmental Services

Order Of Business

1	Apologies	5
2	Public Forum	5
3	Identification of Items of Urgent Business.....	5
4	Identification of Matters of a Minor Nature	5
5	Declaration of Conflicts of Interest	5
6	Chairperson’s Report.....	5
7	Confirmation of Minutes	6
7.1	Minutes of the Environmental Services Committee Meeting held on 14 November 2023.....	6
8	Reports	13
8.1	Actions Register Update.....	13
8.2	Carbon Inventory from TDC operations 2022-23 year.....	15
8.3	Adoption of Climate Change Response Policy	48
9	Consideration of Urgent Business Items.....	56
10	Consideration of Minor Nature Matters.....	56
11	Public Forum Items Requiring Consideration.....	56

- 1 Apologies**
- 2 Public Forum**
- 3 Identification of Items of Urgent Business**
- 4 Identification of Matters of a Minor Nature**
- 5 Declaration of Conflicts of Interest**
- 6 Chairperson's Report**

7 Confirmation of Minutes

7.1 Minutes of the Environmental Services Committee Meeting held on 14 November 2023

Author: Jessica Kavanaugh, Corporate Planner

Recommendation

That the Minutes of the Environmental Services Committee Meeting held on 14 November 2023 be confirmed as a true and correct record of that meeting and that the Chairperson’s electronic signature be attached.

Attachments

- 1. Minutes of the Environmental Services Committee Meeting held on 14 November 2023**



MINUTES

Environmental Services Committee Meeting Tuesday, 14 November 2023

Ref: 1650116

**Minutes of Timaru District Council
Environmental Services Committee Meeting
Held in the Council Chamber, District Council Building, King George Place, Timaru
on Tuesday, 14 November 2023 at 10.00am**

Present: Clrs Michelle Pye (Chairperson), Owen Jackson (Deputy Chairperson), Sally Parker, Gavin Oliver, Stu Piddington, Allan Booth, Peter Burt, Stacey Scott, Scott Shannon (via zoom), Mayor Nigel Bowen

In Attendance: **Community Board:** Michael Thomas (Pleasant Point Community Board, Gaye Broker (Temuka Community Board), Rosie Woods (Geraldine Community Board)

Officers: Bede Carran (Chief Executive), Jayson Ellis (Acting Group Manager Environmental Services), Paul Cooper (Acting Group Manager Commercial and Strategy), Beth Stewart (Group Manager Community Services), Andrew Dixon (Group Manager Infrastructure), Stephen Doran (Communications Manager), Nicole Timney (Manager of Property Services and Client Representative), Hamish Barrell (District Planning Manager), Debbie Fortuin (Environmental Compliance Manager), Rhys Taylor (Climate Change Advisor), (Jessica Kavanaugh (Corporate Planner), Rachel Scarlet (Governance Advisor)

Presenters: Paul Hopwood (Principal Implementation Advisor, Environment Canterbury), Angie Scott (Science Team Leader - Air Quality, Environment Canterbury), Teresa Aberkane (Senior Air Quality Analyst, Environment Canterbury), Shirley Hayward (Water Quality Scientist, Environment Canterbury) for item 7.2

1 Apologies

No apologies were received.

2 Identification of Items of Urgent Business

No items of urgent business were received.

3 Identification of Matters of a Minor Nature

No matters of a minor nature were raised.

4 Declaration of Conflicts of Interest

No conflicts of interest were declared.

5 Chairperson's Report

5.1 Presentation of Chairperson's Report

Resolution 2023/31

Moved: Chairperson Michelle Pye

Seconded: Clr Stacey Scott

The Chairperson has attended a number of meetings including; Council meetings and workshops, meeting with council officers and advisors regarding the Proposed District Plan, Workshop hosted by the Mid Canterbury Catchment Collective, South Canterbury Catchment Collective now called Living Landscapes and attended the Annual General Meeting, Orari Temuka Opihi Pareora Water Zone Committee Meeting and field trip, attended LGNZ meeting, meeting with community group concerned with Proposed District Plan, attended the Future for Local Government, the LGNZ Rural and Provincial conference and a final presentation for the Tuia programme.

Carried

6 Confirmation of Minutes

6.1 Minutes of the Environmental Services Committee Meeting held on 5 September 2023

Resolution 2023/32

Moved: Clr Sally Parker

Seconded: Clr Gavin Oliver

That the Minutes of the Environmental Services Committee Meeting held on 5 September 2023 be confirmed as a true and correct record of that meeting and that the Chairperson's electronic signature be attached.

Carried

7 Reports

7.1 Actions Register Update

The Chairperson spoke to the report to provide the Environmental Services Committee with an update on the status of the action requests raised by councillors at previous Environmental Services Committee meetings.

- Action one – No change
- Action two – The committee agree to close this action

Resolution 2023/33

Moved: Mayor Nigel Bowen

Seconded: Clr Gavin Oliver

That the Environmental Services Committee receives and notes the updates to the Actions Register.

Carried

7.2 Environment Canterbury Post Winter Air Briefing

Clr Peter Burt noted a conflict of interest due to working at Environment Canterbury.

This item was heard after item 7.4 to allow Environment Canterbury to provide a presentation.

Paul Hopwood, Teresa Aberkane, Angie Scott and Shirley Hayward spoke to the report to provide the Environmental Services Committee with an update on the Environment Canterbury Post Winter Air Briefing as raised by councillors at a previous Council meeting and an update on the districts groundwater quality.

Discussions from the presentation included the state of the freshwater reservoirs. The ability for Environment Canterbury to focus on wood burners that are over 15 years of age and the ability to keep a register, promotion and education piece on old burners. The air quality of Washdyke and the social cost of this.

Resolution 2023/34

Moved: Clr Owen Jackson

Seconded: Mayor Nigel Bowen

That the Environmental Services Committee receives and notes the update on the Environment Canterbury Post Winter Air Briefing and district ground water quality.

Carried

Attachments

- 1 Environment Canterbury - Timaru Air Quality - Presentation

7.3 Climate Response Policy

The Group Manager Infrastructure and Climate Change Advisor spoke to the report for the Environmental Services Committee to consider a draft Climate Change Policy that will provide a link between strategy and plans, timed to inform the Long-Term Plan 2024–34 (LTP).

Discussion included the work plan within the policy, the inclusion of Council Controlled Organisations and the resilience of Infrastructure. The importance of the first phrase in the policy needs to reflect what the Timaru District Council can control.

Resolution 2023/35

Moved: Chairperson Michelle Pye

Seconded: Mayor Nigel Bowen

That Environmental Services Committee endorse a draft Climate Change Response Policy for Council and to bring back to the Environmental Services Committee to adopt in February 2024 to help inform the Long Term Plan 2024-34.

In Favour: Clrs Michelle Pye, Owen Jackson, Sally Parker, Gavin Oliver, Stu Piddington, Peter Burt, Stacey Scott, Scott Shannon and Mayor Nigel Bowen

Against: Clr Allan Booth

Carried 9/1

Carried

7.4 Second Report on Timaru District Climate Change Strategy

The Group Manager Infrastructure and Climate Change Advisor spoke to the report to present the draft Commercial Food Resilience SubStrategy based material from the July 2023 public workshop that was independently facilitated and secondly a set of suggested actions for Timaru District Council to deliver that has been derived from the two Reports as requested by this Committee.

The discussion included the themes for Councillors' consideration as follows;

- (i) Supportive of the Strategy process principles.
- (ii) Update Coastal hut holders - supportive
- (iii) Combine (ii) and (iii) from the report which are - to update coastal hut holders on the likelihood of managed retreat and examine managed retreat options, and include adjacent landowners.
- (iv) Collate robust information on the economic, social, environmental and cultural risks and impacts. The committee requests more work on this point before endorsing, to allow a 'South Canterbury' focus.
- (v) Consider how to ensure resilient food supplies for the District population in the event of extreme weather (or major earthquake) events. This was referred to Emergency Management.
- (vi) Enable and inspire some food production and foraging on selected public land. This is not a priority area for this committee.
- (vii) Enable and inspire reduction in non-commercial transport's carbon emissions. This is not of the highest importance but the committee is supportive of community education.
- (viii) Enable and inspire property-based water management such as rainwater tanks, to increase drought resilience and strengthen disaster preparedness. The committee is supportive of this.
- (ix) Enable and inspire personal actions on climate change to 'double the good and halve the bad'. The committee agreed to integrate into point (vii) which is an education piece.
- (x) Explore climate-resilient commercial-scale food production options for the District. The committee discussed referring this to Venture Timaru and the Chamber of Commerce

General discussion included the importance of the communication with Coastal Communities.

The view of the committee is that an entity or trust for further work on District Strategy is not set up directly by the Council, but an external entity could be formed and apply for the usual funding available through other donations and loans, including making submissions to the Long Term Plan.

Resolution 2023/36

Moved: Mayor Nigel Bowen

Seconded: Cllr Sally Parker

That Timaru District Council Environmental Services Committee:

Receive the Second Report from the District-wide Climate Change Strategy community process (TDCCS, attached) assembled by facilitator Dr Phil Driver, which has been made publicly available with the committee's meeting papers on the Timaru District Council website ,which was received by this Committee in May 2023.

Carried

Resolution 2023/37

Moved: Chairperson Michelle Pye

Seconded: Mayor Nigel Bowen

That Timaru District Council Environmental Services Committee:

Make governance-level decisions on up to 10 actions proposed in response to the Timaru District Community Climate Change Strategy, mostly from the First Report and some from the Second.

Carried

8 Consideration of Urgent Business Items

No items of urgent business were received.

9 Consideration of Minor Nature Matters

No matters of a minor nature were raised.

The Meeting closed at 11.19am.

.....
Clr Michelle Pye
Chairperson

8 Reports

8.1 Actions Register Update

Author: Rachel Scarlett, Governance Advisor

Authoriser: Paul Cooper, Acting Group Manager Commercial and Strategy

Recommendation

That the Environmental Services Committee receives and notes the updates to the Actions Register.

Purpose of Report

- 1 The purpose of this report is to provide the Environmental Services Committee with an update on the status of the action requests raised by Councillors at previous Environmental Services Committee meetings.

Assessment of Significance

- 2 This matter is assessed to be of low significance under the Council's Significance and Engagement Policy as there is no impact on the service provision, no decision to transfer ownership or control of a strategic asset to or from Council, and no deviation from the Long Term Plan.

Discussion

- 3 The Actions register is a record of actions requested by councillors. It includes a status and comments section to update the Environmental Services Committee on the progress of each item.

Attachments

1. **Environmental Services Committee Actions Required**  

Information Requested from Councillors (Environmental Services Committee)

Information Requested	Scope of second Climate Change role		
Date Raised:	25 July 2023	Status:	Ongoing
Issue Owner	Group Manager Infrastructure	Completed Date:	
<p>Background: It is requested the role for a second Climate Change Officer is progressed and the scope discussed with the Mayor, Chairperson and Deputy Chairperson of Environmental Services. Update: A review is being undertaken on the scope, actions required and how best to resource this. Funding and priorities are also a consideration.</p>			
Information Requested	Rakitata Revival Programme update		
Date Raised:	25 July 2023	Status:	Ongoing
Issue Owner	Group Manager Infrastructure	Completed Date:	
<p>Background: Update: A review is being undertaken on the scope, actions required and how best to resource this. Funding and priorities are also a consideration.</p>			

8.2 Carbon Inventory from TDC operations 2022-23 year

Author: Rhys Taylor, Climate Change Advisor

Authoriser: Paul Cooper, Group Manager Environmental Services

Recommendation

That Environmental Services Committee:

- (a) Receive the 2022-23 (Baseline Year) Carbon Inventory for Council operations; and
- (b) Consider the 2022-23 (Baseline Year) Carbon Inventory as a foundation and use it to inform policy decisions about future mitigation of carbon emissions.

Purpose of Report

- 1 The Environmental Services Committee has previously discussed the value of better understanding greenhouse gas emissions (described as carbon equivalent or CO₂e) attributed to Council operations. The Climate Change Advisor has compiled this report, with technical assistance and independent verification from Toitu Envirocare, as a baseline for future analyses. National context for this work includes *The First National Emission Reductions Plan, 2022*, from Ministry for the Environment.

Assessment of Significance

- 2 The report is principally for internal use but may interest the public and aid in subsequent staff and wider community education and engagement. Greenhouse gas emissions contribute to climate warming, so the Council has recognised that the impact of these should be mitigated. This report is therefore of low significance in terms of the Significance and Engagement Policy.

Discussion

- 3 Our largest greenhouse gas emissions come from the services provided by the Council to the wider public across the District: solid waste to landfill and wastewater treatment. Organic components of the landfilled waste break down in the absence of oxygen, to generate methane gas, which is a much more damaging greenhouse gas per molecule than carbon dioxide, although shorter-lived in the atmosphere. The Council's technical response has been installation of a gas collection network of buried pipes and a flare which burns off the methane-containing 'landfill gas' at Redruth to create the 30x less damaging carbon dioxide. The Council's educational response has been to encourage households and businesses to keep organic wastes (i.e. natural materials capable of decay) out of the red bins and into the green bins, so that less of that waste gets buried in the landfill. The aerated composting system converts decaying material from green bins, plus garden prunings, into water and carbon dioxide.
- 4 Wastewater treatment releases carbon dioxide, methane, ammonia, and nitrous oxide. The provision of mechanical aeration pumps and growth of benign algae and bacteria in treatment ponds help to reduce unwanted emissions, as do initiatives by manufacturing industry to clean waste flows before they are sent to Trade Sewers. In this baseline year, the wastewater

treatment plant emissions are estimated using Ministry for the Environment 'emission factor' calculations based simply on volumes of water flow, so are approximate and not site-specific. It may be possible to use chemical monitoring data to inform site-specific calculations in future.

- 5 Within other Council operations, the next largest emissions are attributed to engineering works by contractors on roads, pipes and buildings, and at a smaller scale to direct emissions from Council Fleet and EnviroNZ contractor diesel vehicles and from staff commuting to work (where estimated commuting impact, from a voluntary survey of staff, exceeds annual emissions from the TDC work-day Fleet use).
- 6 Ensuring that future building projects are more carbon-efficient in construction and operation will help reduce carbon emissions and probably reduce operating costs. There are opportunities coming up in Council house renovations and in facility upgrades or replacements during the next Long Term Plan.
- 7 Electricity use generates some emissions, as power generation in NZ is not entirely from renewable sources, although at times can be as high as 90% renewable. Coal or gas burning at peak demand times generates emissions. There will be efficiency opportunities to reduce Council's power bills, and correspondingly some emissions, but with only small cumulative effect on overall emission volume.
- 8 Council forestry plays a useful role in capturing carbon dioxide as the trees grow, providing an offset to part of the Council's direct emissions. Any future increases in managed forestry area will increase carbon capture attributable to the Council, made more valuable when the trees are also protecting drinking water catchments and natural biodiversity.

Attachments

1. **IMR 2223 Timaru District Council Carbon Inventory 2022-23 Final** [↓](#) 



GREENHOUSE GAS EMISSIONS INVENTORY AND MANAGEMENT REPORT

Prepared in accordance with ISO 14064-1:2018



Timaru District Council

Prepared by (lead author): Rhys Taylor, Climate Change Advisor

Dated: 22 January 2024

Verification status: **Toitū Envirocare certification team to complete.**

Measurement period: 01 July 2022 to 30 June 2023

Reporting base year period: 01 July 2022 to 30 June 2023

Approved for release by:

Paul Cooper, General Manager, Environmental Services



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 14064-1:2018, 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 14064-1:2018 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.

AVAILABILITY

Internal use, with view to subsequent publication online and use in Council's Long-Term Planning

REPORT STRUCTURE

The Inventory Summary contains a high-level summary of this year’s results and from year 2 onwards a brief comparison to historical inventories.

Chapter 1, the Emissions Inventory Report, includes the inventory details and forms the measure step of the organisation’s application for verification. The inventory is a complete and accurate quantification of the amount of GHG emissions and removals 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 Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (2004) and ISO 14064-1:2018 Specification with Guidance at the Organization Level for Quantification and Reporting of Greenhouse Gas Emissions and Removals¹. Where relevant, the inventory is aligned with industry or sector best practice for emissions measurement and reporting.

Chapter 2, the reduction plan and progress report.

See Appendix 1 and the related Spreadsheet for detailed emissions inventory results, including a breakdown of emissions by source and sink, emissions by greenhouse gas type, and non-biogenic and bio-genic emissions. Appendix 1 also contains detailed context on the inventory boundaries, inclusions and exclusions, calculation methodology, liabilities, and supplementary results.

This overall report provides emissions information that is of interest to most users but must be read in conjunction with the inventory workbook for covering all of the requirements of ISO 14064-1:2018.

¹ Throughout this document ‘GHG Protocol’ means the *GHG Protocol Corporate Accounting and Reporting Standard* and ‘ISO 14064-1:2018’ means the international standard *Specification with Guidance at the Organizational Level for Quantification and Reporting of Greenhouse Gas Emissions and Removals*.



CONTENTS

Disclaimer2

Availability2

Report Structure2

Contents3

Tables.....4

Figures4

Executive summary.....5

Chapter 1: Emissions Inventory Report7

1.1. Introduction.....7

1.2. Emissions inventory results7

1.3. Organisational context10

1.3.1. Organisation description.....10

1.3.2. Statement of intent11

1.3.3. Person responsible.....11

1.3.4. Reporting period.....12

1.3.5. Organisational boundary and consolidation approach.....12

1.3.6. Excluded business units14

Chapter 2: Emissions Management and Reduction Report.....15

2.1. Emissions reduction results.....15

2.2. Significant emissions sources18

2.3. Emissions reduction targets19

2.5. Staff engagement19

Appendix 1: Detailed greenhouse gas inventory.....20

A1.1 Reporting boundaries.....23

A1.1.1 Emission source identification method and significance criteria23

A1.1.2 Included sources and activity data management23

A1.1.3 Excluded emissions sources and sinks27

A1.2 Quantified inventory of emissions and removals.....27

A1.2.1 Calculation methodology27

A1.2.2 GHG Storage and liabilities28

A1.2.2.1 GHG stocks held on site28

A1.2.2.2 Land-use liabilities.....28

A1.2.3 Supplementary results.....28

A1.2.3.1 Purchased or developed reduction or removal enhancement projects28

A1.2.3.2 Double counting and double offsetting28

Appendix 2: Significance criteria used.....30

Appendix 3: Certification mark use31

Appendix 4: References31



TABLES

Table 1: Inventory summary5

Table 2: GHG emissions inventory summary for this measurement period..... 7

Table 3. Brief description of business units, sites and locations included in this emissions inventory ...13

Table 4: Comparison of historical GHG inventories..... 15

Table 10. Direct GHG emissions and removals, quantified separately for each applicable gas 20

Table 11. Non-biogenic, biogenic anthropogenic and biogenic non-anthropogenic CO₂ emissions and removals by category 22

Table 12. GHG emissions activity data collection methods and inherent uncertainties and assumptions 24

Table 13. GHG emissions sources excluded from the inventory 27

Table 14. Total storage as of year end with potential GHG emissions liabilities..... 28

Table 15. Land-use liabilities (total)..... 28

Table 16. Significance criteria used for identifying inclusion of indirect emissions 30

FIGURES

Figure 1: Emissions (tCO₂e) by Category for this measurement period 6

Figure 2: GHG emissions (tonnes CO₂e) by category 9

Figure 3: GHG emissions (tonnes CO₂e) by business unit..... 9

Figure 4: Top 10 GHG emissions (tonnes CO₂e) by source 10

Figure 5: Organisational structure 13

Figure 7: Comparison of gross emissions by subcategory between the reporting periods..... 17



EXECUTIVE SUMMARY

This is the annual greenhouse gas (GHG) emissions inventory and management report for Timaru District Council covering the measurement period 01 July 2022 to 30 June 2023.²

The scale of emissions associated with civil engineering and waste treatment (solid and liquid) greatly exceeds the emissions from administrative activity, electricity and vehicle use. Infrastructure creation and maintenance are an aspect of Council work which is both contributing to global climate change through emissions and responding to its effects during adaptation or replacement of the infrastructure (of roads, structures and pipes) to be better adapted to climate change. There will be areas where, now knowing the likely scale of carbon impact, interventions will be higher or lower priority for Council effort.

Table 1: Inventory summary

Category (ISO 14064-1:2018)	Scopes (ISO 14064-1:2006)	2023, tonnes
Category 1: Direct emissions	Scope 1	16,138.86
Category 2: Indirect emissions from imported energy (location-based method*)	Scope 2	656.16
Category 3: Indirect emissions from transportation	Scope 3	511.01
Category 4: Indirect emissions from products used by organisation		14,220.52
Category 5: Indirect emissions associated with the use of products from the organisation		0.00
Category 6: Indirect emissions from other sources		0.00
Total direct emissions		16,138.86
Total indirect emissions*		15,387.70
Total gross emissions*		31,526.55
Category 1 direct removals		-3,235.00
Purchased emission reductions		0.00
Total net emissions		28,291.55

*Emissions are reported using a location-based methodology. This is the baseline year.

² Throughout this document "emissions" means "GHG emissions, totalled in carbon dioxide equivalent".

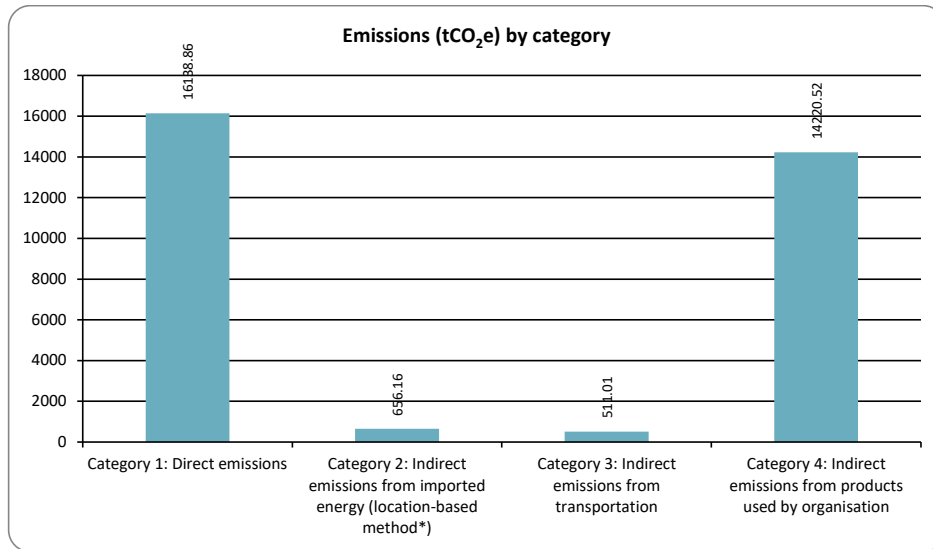


Figure 1: Emissions (tCO₂e) by Category for this measurement period



CHAPTER 1: EMISSIONS INVENTORY REPORT

1.1. INTRODUCTION

This report is the annual greenhouse gas (GHG) emissions inventory and management report for Timaru District Council.

2022-2023 was selected as baseline year for a carbon inventory or 'footprint' for Timaru District Council operations. As a learning opportunity, it focusses attention on the most significant areas of activity, inviting future attention focus by showing relative scales of impact across this complex organisation.

Not all activity could be measured in this first edition, so some aspects are based on proxy information, such as the total value of spending on contractors by category, multiplied by per dollar 'emission factors'(supplied by Ministry for the Environment as being representative for those business sectors). Where we had reliable data in detail, such as litres of fuel consumed in the vehicle fleet, or kilowatt hours of electricity consumed, we have used that.

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

1.2. EMISSIONS INVENTORY RESULTS

Table 2: GHG emissions inventory summary for this measurement period

Measurement period: 01 July 2022 to 30 June 2023.

Category	Toitū carbon mandatory boundary (tCO ₂ e)	Additional emissions (tCO ₂ e)	Total emissions (tCO ₂ e)
Category 1: Direct emissions	16,138.86 Diesel stationary combustion, vehicle Diesel, HCFC-22 (R-22, Genetron 22 or Freon 22 refrigerants), LPG stationary commercial, Petrol regular, Composting, Waste landfilled - Redruth - LFGR Mixed waste, WasteWaterTP sewage (tCO ₂ e)	0.00	16,138.86
Category 2: Indirect emissions from imported energy (location-based method*)	656.16 Electricity	0.00	656.16
Category 3: Indirect emissions from transportation	23.50 Pre-calculated (tCO ₂ -e) - Business travel by air and road, accommodation	487.52 Car Average (unknown fuel type), Pre-calculated (tCO ₂ -e) - Purchased goods and services	511.01
Category 4: Indirect emissions from products used by organisation	94.62 Electricity distributed T&D losses	14,125.90	14,220.52

Category	Toitū carbon mandatory boundary (tCO ₂ e)	Additional emissions (tCO ₂ e)	Total emissions (tCO ₂ e)
		Libraries, museums, and art (spend-based), Paper use - specific supplier - Australian Paper, Road transport freight services (spend-based), Architectural and engineering services (spend-based), Civil engineering services (spend-based), Computers, parts, and office machinery (spend-based), Non-residential building construction (spend-based)	
Category 5: Indirect emissions associated with the use of products from the organisation	0.00	0.00	0.00
Category 6: Indirect emissions from other sources	0.00	0.00	0.00
Total direct emissions	16,138.86	0.00	16,138.86
Total indirect emissions*	774.28	14,613.42	15,387.70
Total gross emissions*	16,913.14	14,613.42	31,526.55
Category 1 direct removals (forestry)	-3,235.00	0.00	-3,235.00
Purchased emission reductions	0.00	0.00	0.00
Total net emissions	13,678.14	14,613.42	28,291.55
Emissions intensity		Mandatory list emissions	Total emissions
Operating revenue (gross tCO ₂ e / \$Millions)		148.77	277.31

*Emissions are reported using a location-based methodology.

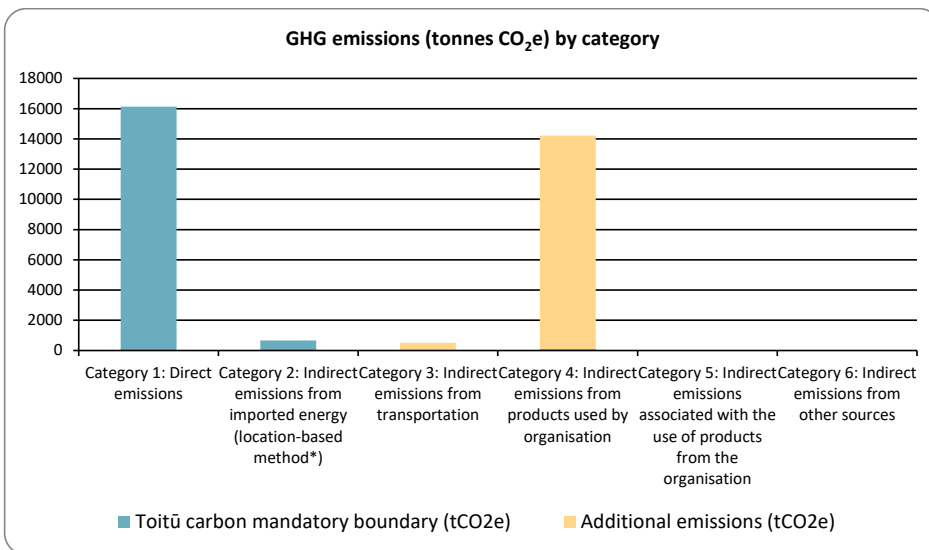


Figure 2: GHG emissions (tonnes CO₂e) by category

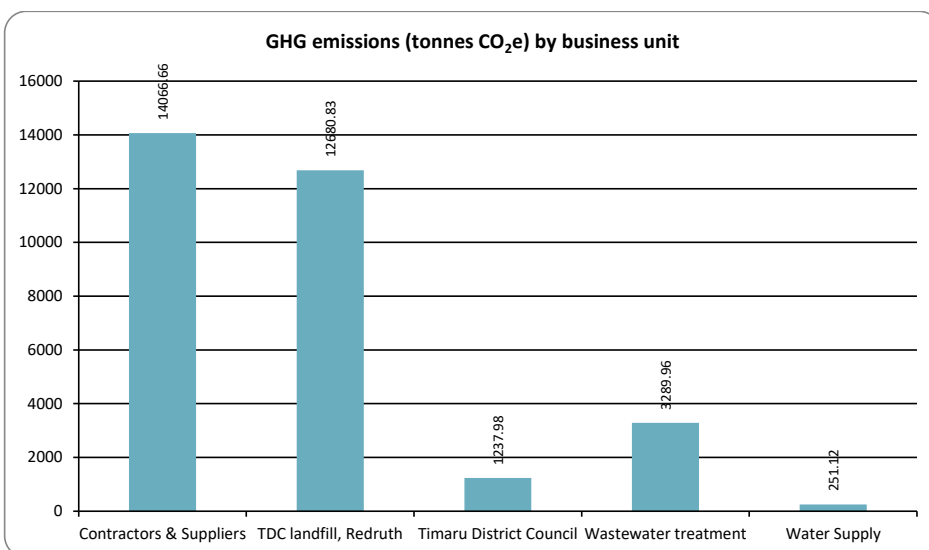


Figure 3: GHG emissions (tonnes CO₂e) by business unit



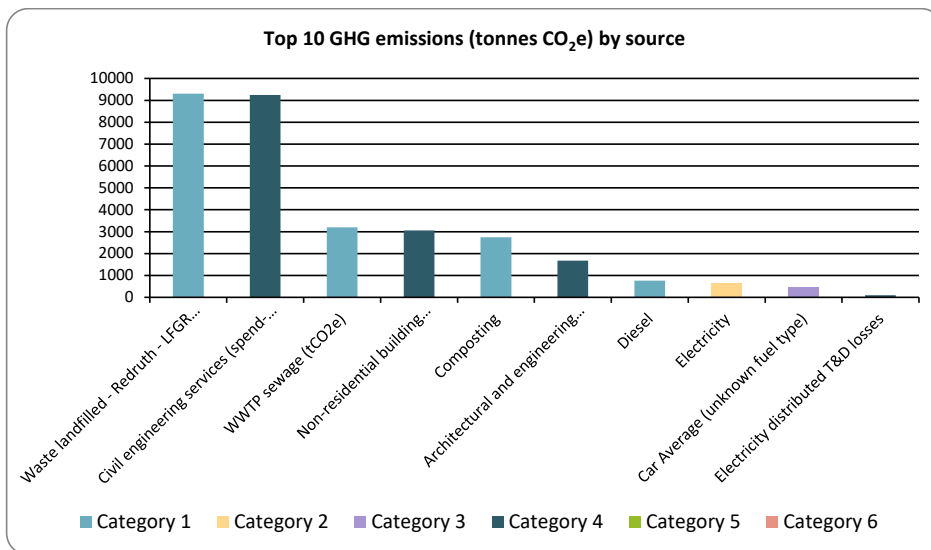


Figure 4: Top 10 GHG emissions (tonnes CO₂e) by source. Staff commuting is labelled 'Car Average' data. Diesel data includes TDC fleet vehicles and EnvirowasteNZ waste collection and transport vehicles.

1.3. ORGANISATIONAL CONTEXT

1.3.1. Organisation description

The Timaru District Council is a territorial authority, providing local government services to Ratepayers and the wider community of South Canterbury, including the towns of Timaru, Temuka, Pleasant Point and Geraldine plus smaller communities from Milford Huts on the coast, to Peel Forest- inland near the Rangitata River. It manages two Council-Controlled Organisations which are not included in this baseline carbon report: Venture Timaru and Timaru District Holdings Ltd.

The Regional Council (Environment Canterbury) shares a Rates billing arrangement with TDC. For information on their carbon inventory, see <https://www.ecan.govt.nz/get-involved/news-and-events/2019/positive-emissions-report-sets-tone-for-behaviour-change/>

District Council services include waste collection and processing into compost, recyclables and a Council-managed landfill; libraries and sports facilities, swimming pools, museum, theatre (awaiting re-build), meeting halls, street lighting and traffic lights, road and footway maintenance, urban stormwater management, drinking water supply networks, urban sewage and trade waste networks, waste water treatment and ocean outfall, various community services, some social housing and more.

Commitment to certification

In this baseline report we are beginning to 'measure to better manage' in future. We are not seeking certification but recognise that independent verification gives us confidence in using robust methodology to analyse the available information and guide us towards better measurement in future.

GHG Reporting

The Long-Term Plan adopted in 2021 committed the Council to beginning work on climate change adaptation and mitigation. This inventory is a key early step in helping the Council to address its carbon impacts from business as usual, after which a lower-carbon future can be envisaged.



Climate Change Impacts

TDC expects to see faster coastal erosion, more frequent floods (especially in La Nina ocean heat pattern, with wet Easterly winds) and in other years droughts with some wildfires (in the El Nino ocean heat pattern, where predominantly westerly winds are dried by crossing the Alps). Some of the population will experience summer heat stress, exacerbating certain health conditions and most endangering the very young and elderly. Homes will prove poorly adapted to summer overheating and to more frequent rain plus unventilated humidity. Snowfields may miss out on adequate winter snow. Farmers, and the South Canterbury processors dependent upon them, will have crops and livestock affected by climate change plus rapid technology changes (driven in part by need to decarbonise). Power supply networks will be stretched (a) as firms decarbonise by electrifying to replace solid-fuel boilers and some factory processes, (b) as solar generators seek grid input access and (c) vehicle fleets switch to battery power. The Council may have to bring forward infrastructure replacements and modifications to cope with likely floods and be prepared to repair structures more-often damaged by flood or storm events, as seen in other parts of NZ recently.

National Targets

Government expects local authorities to engage with carbon measurement and mitigation. See Ministry for the Environment. 2022. "Towards a productive, sustainable and inclusive economy: Aotearoa New Zealand's First Emissions Reduction Plan 2022-2025".

1.3.2. Statement of intent

The intended uses of this inventory are:

Intended use and users

The inventory is mostly for use by staff and councillors to inform policy and investment planning, starting with 2024 Long Term Plan. It could help procurement policy and contract drafting with suppliers. Summary information may interest the wider public, media, education and businesses.

Other schemes and requirements

Inventory results will be shared with other Councils, through the Mayoral Forum Climate partnership, with the media and find use internally as baseline for future decarbonisation.

1.3.3. Person responsible

Rhys Taylor (Climate Change Advisor) is responsible for emission inventory measurement. Paul Cooper is responsible for reporting results to top management and has financial authority to authorise budget for the Programme, including Management projects and any emission Mitigation objectives.

State any other people/entities involved

Nigel Howarth leads on Council's procurement policy.

The first Climate Change Advisor led the information assembly. Rhys Taylor has a Lincoln University Masters Degree in Resource Management, and prior to joining Council staff worked for local government in 'community education for sustainability' and social/environmental research in Aotearoa-NZ for over 25 years and previously in county and national-level rural community development and environmental projects in the UK.

Top management commitment

In June 2022 the TDC Environmental Services Committee resolved to "Be a climate-friendly council. We will adapt to climate change and reduce greenhouse gas emissions from Council's operations wherever feasible." Read more at www.timaru.govt.nz/climatechange

Management involvement

The Environmental Services Committee has received and approved two progress reports on the carbon inventory process as a follow up to the 2021 Long Term Plan public commitment. They will also receive this inventory report following verification.

1.3.4. Reporting period

Base year measurement period: 01 July 2022 to 30 June 2023

Base year set by Long Term Plan commitment in 2021, by the practical consideration of employing new staff, and data availability. Some Councils began this journey earlier, whilst some Canterbury neighbours have yet to commence. We anticipated in 2022 that a government requirement to report annually was imminent.

Measurement period of this report: 01 July 2022 to 30 June 2023

TDC financial and annual reporting year runs from July to June, so this carbon inventory covers the same interval.

Annual or Biannual reporting is proposed subsequently. Budget included in the draft Long-Term Plan proposal, awaiting adoption later in 2024.

1.3.5. Organisational boundary and consolidation approach

An operational control consolidation approach was used to account for emissions.³

Organisational boundaries were set with reference to the methodology described in the GHG Protocol and ISO 14064-1:2018 standards.

Justification of consolidation approach

The baseline year is focussed on operational emissions rather than carbon emissions embodied within structures. TDC staff and everyday public services are included, but not the two main Council Controlled Organisations: Venture Timaru and Timaru District Holdings Ltd (TDHL) which will be invited to undertake their own carbon inventories from the following year, either independently or as distinct sections of this repeated reporting process.

Much work by the Council is implemented by contractors, so in this first year an approximation of carbon impact based on the annual spend (sorted by category of work) has been used, applying emission factors derived by Ministry for Environment from study of contractors in Auckland. Longer-term it would be preferable to use real data such as fuel and electricity consumed, for these contractors, as we have done for in-house activity.

A small part of the emissions we accounted for is from neighbouring districts Mackenzie and Waimate, as they send solid waste to our Redruth landfill as part of a joint contract with EnviroNZ. Their inputs are labelled within the detail of waste data inputs.

Organisational structure

Figure 5 shows what has been included in the context of the overall structure.

³control: the organisation accounts for all GHG emissions and/or removals from facilities over which it has financial or operational control.

Timaru District Council is a statutory territorial authority operating under Local Government Acts, located within Canterbury Region. Chart indicates senior levels/groups of administration at 2023 (which has some changes subsequently in 2024). Governance is by an elected body of Councillors.

Tier 1, 2 and 3

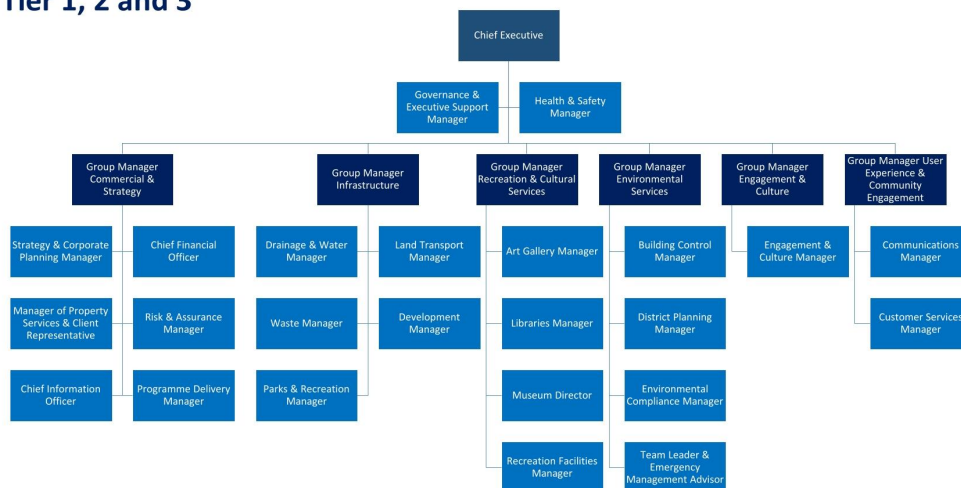


Figure 5: Organisational structure

Table 3. Brief description of business units, sites and locations included in this emission inventory.

Company/Business unit/Facility	Physical location	Description
Solid Waste (part of Infrastructure group)	Redruth Landfill and materials recovery, contract with EnviroNZ.	Composting of green waste, sorting of recoverable materials for recycling, landfill of remainder. Gas collection for a flare being installed 2023 but not operational within 2022-2023 financial year. (high emissions sites)
Drainage and Water (part of infrastructure group)	Municipal offices, Timaru CBD and Washdyke, Timaru	Waste initial treatment at Pleasant Point, Temuka, Geraldine and main facility at Timaru (fed from the other sites by pipeline), where Timaru trade wastes are also directed. (high emissions sites). Water team also responsible for urban stormwater and fresh water supply & treatment. (lower emissions)
Infrastructure group- includes Land Transport, roading network, contracts	Municipal offices, Timaru CBD	Design and construction of horizontal infrastructure; design and construction of non-residential buildings. External contractors rather than direct works. (estimated high emissions - but lack detail)
Infrastructure - airport operations	Levels, north of Timaru	Council-managed regional airport, Air NZ flights daily (fuel for flights not included)



Company/Business unit/Facility	Physical location	Description
Recreational and Cultural Services group	mostly in urban Timaru, Temuka, Geraldine	Recreational facilities, pools, libraries, museum, gallery, cinema, community halls.
Commercial and Strategy team	Municipal Offices, Timaru CBD	Property management, Computing/IT, Finance, Policy, etc.
Environmental services group	Municipal Offices, Timaru CBD	Building compliance, resource consents & plans, animal control, Environmental health, planning.

1.3.6. Excluded business units

Venture Timaru and Timaru District Holdings Ltd are the main independently operated Council Controlled Organisations, which are excluded in 2022-2023 but could be invited to join this carbon inventory activity in 2023-2024 year, unless they have made independent but equally informative inventory/footprint plans. Timaru District Holdings manages the Council's shareholdings including 50% in Prime Port Timaru and 47.5% in Alpine Energy.

All other business units are included but it has not been possible to analyse all aspects of Council expenditure in the time and budget available. Our review of other Councils' reporting experience indicated source areas of likely high emissions, which have been found and included.

CHAPTER 2: EMISSIONS MANAGEMENT AND REDUCTION REPORT

2.1. EMISSIONS REDUCTION RESULTS

TDC had no formal targets set for emission reduction across the organisation prior to 2023. However, some opportunities to reduce emissions whilst reducing costs were previously identified and acted upon. For example in converting yellow sodium streetlamps to light-emitting diode bulbs (LED), and in installing landfill gas capture pipes at Redruth, to supply a 2023-installed flare which will burn otherwise leaked methane into at least 30x less-intensely global-warming carbon dioxide and water.

Table 4: GHG inventories

Category	2023
Category 1: Direct emissions	16,138.86
Category 2: Indirect emissions from imported energy (location-based method*)	656.16
Category 3: Indirect emissions from transportation	511.01
Category 4: Indirect emissions from products used by organisation	14,220.52
Category 5: Indirect emissions associated with the use of products from the organisation	0.00
Category 6: Indirect emissions from other sources	0.00
Total direct emissions	16,138.86
Total indirect emissions*	15,387.70
Total gross emissions*	31,526.55
Category 1 direct removals	-3,235.00
Purchased emission reductions	0.00
Total net emissions	28,291.55

Category	2023
Emissions intensity	
Operating revenue (gross tCO ₂ e / \$Millions)	277.31
Operating revenue (gross mandatory tCO ₂ e / \$Millions)	148.77

*Emissions are reported using a location-based methodology.



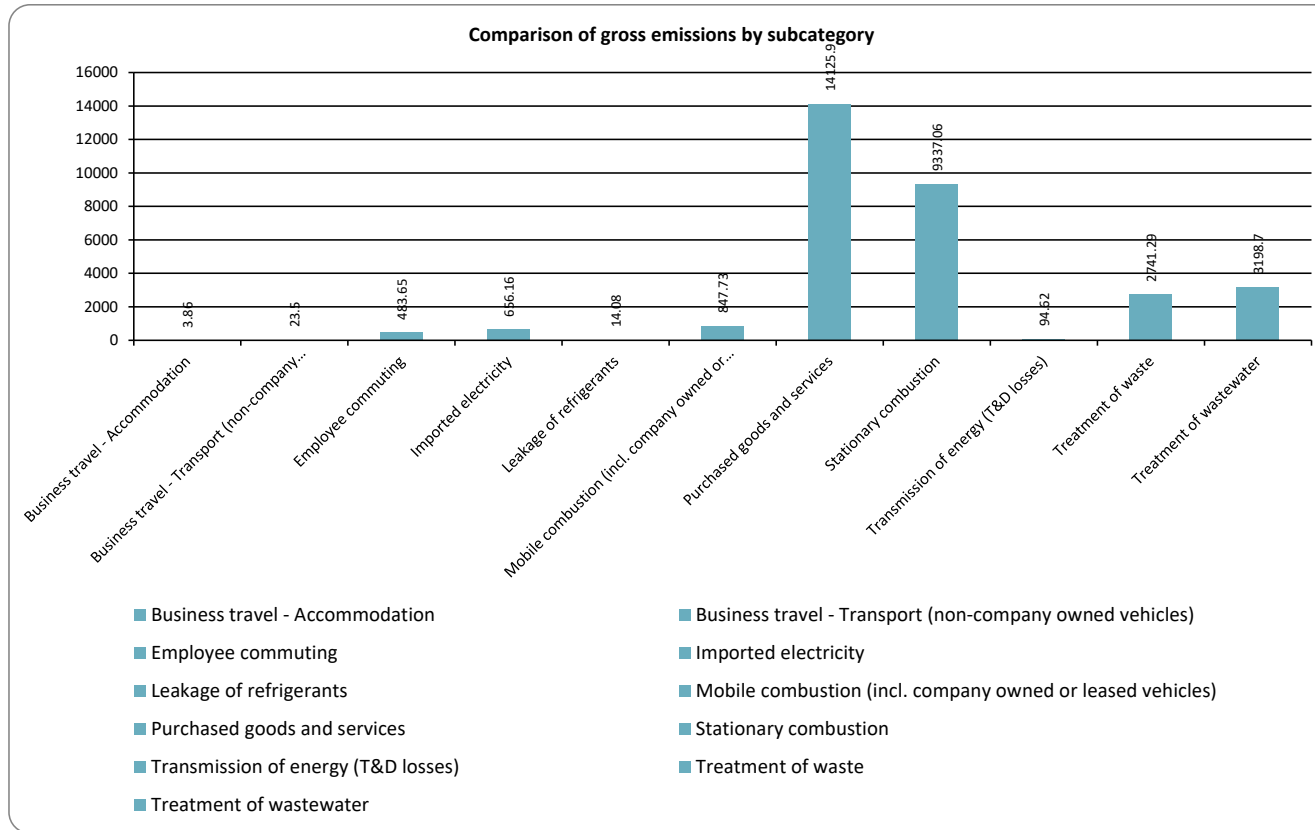


Figure 6: gross emissions by subcategory, in this baseline year



2.2. SIGNIFICANT EMISSIONS SOURCES

Significant sources

1. Landfill gas from the sealed Redruth Landfill (principal GHG component is methane);
2. Methane and nitrous oxides from Washdyke Timaru wastewater treatment, its feeder smaller urban systems (Pleasant Point, Temuka, Geraldine) and Trade Wastes discharge to ocean;
3. Contractor-associated emissions, at this early stage calculated from contract spend as a proxy, so not yet very accurate. The largest component is civil engineering-related, for infrastructure work.
4. Directly burned fuels, mostly for vehicles, both for staff commuting and for in-work pool vehicle use. No fuel used for boilers and very little used for stationary emergency generators or space heating.
5. Aerobic composting of green-wastes, at Redruth (which diverts large volumes of putrescible waste from the anaerobic landfill, avoiding methane production)

Activities responsible for generating significant emissions

1. Decay without oxygen of organic matter within water-sealed but not gas-tight landfill.
2. Decay of organic matter including proteins, in water-borne waste.
3. Fuel for contractors' vehicles, potentially some embodied emissions in construction materials used.
4. Fuel for vehicles in TDC Fleet, for staff commuting, and a small amount of LPG for stationary heat at one facility.
5. Aerobic composting of greenwaste and food scraps into carbon dioxide, nitrous oxides and water as a lower-impact alternative to sealed landfill *anaerobic* decay, also produces a usable compost product which enriches soil carbon store.

Influences over the activities above

1. Flare used from 2023-2024 to convert (burn with oxygen) molecules of landfill gas particularly CH₄ methane into CO₂ and H₂O. Also divert maximum proportion of green wastes into EnviroWaste's additional 'enclosed' composting plant, in construction 2024. Encourage diversion of more putrescible items from landfill, such as untreated timber, in long-term.
2. Investigation of alternative treatment processes for future use on waste water, also influence upstream input of trade wastes through commercial initiatives in waste redirection (May be scope to link with Venture Timaru 'Sustainable is Attainable' project?)
3. Contractors encouraged through future competitive contracts to use lower-emission vehicles, processes and construction materials.
4. We note that the emissions from fuel used in TDC staff commuting exceed those from the day-time work vehicle fleet use. There may be scope to influence staff commuting practices voluntarily over time: e.g. by sharing of vehicles, choosing more active transport options, changes to low emission private vehicles when replaced, etc.
5. Increasing household participation in the green bin separation of organic wastes at source and keeping such waste out of the landfill red bins.

Significant sources that cannot be influenced

Reducing electrical generation's carbon emissions is related to the minority proportion of NZ grid power generation which is from non-renewable sources, such as coal or gas turbines. Decisions on size of this non-renewable proportion, as overall demand for electricity grows, are beyond TDC control.

Improving the efficiency of electricity use can be influenced when larger scale equipment is replaced (e.g. street lighting conversion to LED, more efficient water pumps & controls) and at the margins by behavioural choices (turning off when unused).

2.3. EMISSIONS REDUCTION TARGETS

The organisation is committed to managing and reducing its emissions. Detailed planning by staff to follow consideration of this baseline inventory.

2.4. STAFF ENGAGEMENT

An early activity has been establishing a working group of staff from several units, on staff commuting. (Active transport, Communications, HR, Health & Safety, Wellbeing, Climate).

Staff travel to work survey completed in April 2023 (included a prize draw made from all entries providing email) and will be repeated at least once next year. Workshop for staff proposing & informing actions including active transport options, how vehicle shared ownership and/or use works, electric vehicle user experiences - based on the staffs' own stories.

Proposed circular to managers summarising the carbon inventory findings and relating it to the next Long Term Plan process.

'Low Carbon Living' workshop at the November 2023 Sustainability Festival (held at South Canterbury Eco Centre) and repeat sessions arranged for other audiences such as South canterbury Chamber of Commerce.

Advice from Climate Change Advisor direct to specialists in other units during LTP process 2023-2024



APPENDIX 1: DETAILED GREENHOUSE GAS INVENTORY

Additional inventory details are disclosed in the tables below, and further GHG emissions data is available on the accompanying spreadsheet to this report (Appendix1-Data Summary Timaru District Council.xls).

Table 5. Direct GHG emissions and removals, quantified separately for each applicable gas

Category	CO ₂	CH ₄	N ₂ O	NF ₃	SF ₆	HFC	PFC	Desflurane	Sevoflurane	Isoflurane	Emissions total (tCO ₂ e)
Stationary combustion	36.40	9,300.60	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9,337.06
Mobile combustion (incl. company owned or leased vehicles)	832.36	2.23	13.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	847.73
Emissions - Industrial processes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Removals - Industrial processes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Leakage of refrigerants	0.00	0.00	0.00	0.00	0.00	14.08	0.00	0.00	0.00	0.00	14.08
Treatment of waste	0.00	1,748.43	992.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2,741.29
Treatment of wastewater	3,198.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3,198.70
Emissions - Land use, land-use change and forestry	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Removals - Land use, land-use change and forestry (carbon capture)	-3,235.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-3,235.00
Fertiliser use	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Addition of livestock waste to soils	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Addition of crop residue to soils	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Addition of lime to soils	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Enteric fermentation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Category	CO ₂	CH ₄	N ₂ O	NF ₃	SF ₆	HFC	PFC	Desflurane	Sevoflurane	Isoflurane	Emissions total (tCO ₂ e)
Open burning of organic matter	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electricity generated and consumed onsite	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medical gases	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Exported electricity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total net emissions	832.46	11,051.26	1,006.05	0.00	0.00	14.08	0.00	0.00	0.00	0.00	12,903.86



Table 6. Non-biogenic, biogenic anthropogenic and biogenic non-anthropogenic CO₂ emissions and removals by category

Category	Anthropogenic biogenic CO ₂ emissions	Anthropogenic biogenic (CH ₄ and N ₂ O) emissions (tCO ₂ e)	Non-anthropogenic biogenic (tCO ₂ e)
Category 1: Direct emissions	0.00	12,041.76	0.00
Category 2: Indirect emissions from imported energy	0.00	0.00	0.00
Category 3: Indirect emissions from transportation	0.00	0.00	0.00
Category 4: Indirect emissions from products used by organisation	0.00	0.00	0.00
Category 5: Indirect emissions associated with the use of products from the organisation	0.00	0.00	0.00
Category 6: Indirect emissions from other sources	0.00	0.00	0.00
Total gross emissions	0.00	12,041.76	0.00

A1.1 REPORTING BOUNDARIES

A1.1.1 Emission source identification method and significance criteria

The GHG emissions sources included in this inventory are those required for verification and were identified with reference to the methodology described in the GHG Protocol and ISO 14064-1:2018 standards.

Landfill visit (prior year and recent), Waste water treatment works visits (this year), meetings with staff in transport unit, infrastructure and roading, water team, parks and forestry. Access to recent stock-take of Council forestry land.

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 sources that are significant.

Additional detail on significance criteria used, by source and sink, is included in Appendix 2.

A1.1.2 Included sources and activity data management

As adapted from ISO 14064-1, the emissions sources deemed significant for inclusion in this inventory were classified into the following categories:

- **Direct GHG emissions (Category 1):** GHG emissions from sources that are owned or controlled by the company.
- **Indirect GHG emissions (Category 2):** GHG emissions from the generation of purchased electricity, heat and steam consumed by the company.
- **Indirect GHG emissions (Categories 3-6):** GHG emissions that occur as a consequence of the activities of the company but occur from sources not owned or controlled by the company.

Table 7 provides detail on the categories of emissions included in the GHG emissions inventory, an overview of how activity data were collected for each emissions source, and an explanation of any uncertainties or assumptions made based on the source of activity data. Detail on estimated numerical uncertainties are reported in Appendix 1.

Data needs identified by Climate Change Advisor then requested from appropriate staff by email or at meetings. Generous cooperation from staff colleagues. Access arranged to financial records including copy invoices. An analysis of electricity retailer invoices into spreadsheets by category of power use. Contracted expenditure analysed by Procurement Officer within broad categories.

Table 7. GHG emissions activity data collection methods and inherent uncertainties and assumptions

GHG emissions category	GHG emissions source or sink subcategory	Overview of activity data and evidence	Explanation of uncertainties or assumptions around your data and evidence	Use of default and average emissions factors	Pre-verified data
Category 1: Direct emissions and removals	Stationary combustion	LPG stationary commercial, Waste landfilled - Redruth - LFGR Mixed waste	Small quantity, single location, as invoiced.		
	Mobile combustion (incl. company owned or leased vehicles)	Diesel, Petrol regular	Actual fuel use records are accurate. All fuel purchases made in same charge card system.		
	Leakage of refrigerants	HCFC-22 (R-22, Genetron 22 or Freon 22)	Very small quantities involved. Very few heat pump purchases or maintenance visits in the year.		
	Landfill gas emissions		Large emission, uses MfE emission factors.	same waste tonnage data used for emission return to MfE and for carbon unit liability calculation.	
	Treatment of wastewater	WWTP sewage (tCO ₂ e)	tLarge emission, but based on MfE emission factors by volume of wastewater, derived from representative sampling elsewhere in NZ.	More accurate data would require different data sets based on biochemical analysis of water samples - could be considered for future year?	
	Removals - Land use, land-use change and forestry	Forests - removals (tCO ₂) (presented as a negative emission)	Accurate land area and tree variety data, applied removal factors from MfE . No variation for tree age applied but forests are still growing in height and bulk.		



GHG emissions category	GHG emissions source or sink subcategory	Overview of activity data and evidence	Explanation of uncertainties or assumptions around your data and evidence	Use of default and average emissions factors	Pre-verified data
Overall assessment of uncertainty for Category 1 emissions and removals		58%	Very high		
Category 2: Indirect emissions from imported energy	Imported electricity	Electricity	kWhr figures extracted from invoices for year		
Overall assessment of uncertainty for Category 2 emissions and removals		3%	Low		
Category 3: Indirect emissions from transportation	Business travel - Transport (non-company owned vehicles)	Pre-calculated (tCO ₂ -e) - Business travel	Source Orbit Travel records.		Orbit Travel data for flights, hotels was pre-verified by Toitū.
	Employee commuting	Car Average (unknown fuel type)	In next year we could distinguish between fuel types in the survey of commuters.	main source of inaccuracy may be the scaling up of sample 137 commuters data to the full staff size, as assumed they were representative in distance travelled, ,mode mix, etc. Survey participation was voluntary.	



GHG emissions category	GHG emissions source or sink subcategory	Overview of activity data and evidence	Explanation of uncertainties or assumptions around your data and evidence	Use of default and average emissions factors	Pre-verified data
Overall assessment of uncertainty for Category 3 emissions and removals		56%	Very high		
Category 4: Indirect emissions from products used by organisation	Purchased goods and services	Paper use - specific supplier - Australian Paper, Architectural and engineering services (spend-based), Civil engineering services (spend-based), Computers, parts, and office machinery (spend-based), Libraries, museums, and art (spend-based), Non-residential building construction (spend-based), Road transport freight services (spend-based), Pre-calculated (tCO ₂ -e) - Purchased goods and services	The spend-based proxies for purchased services use emission factors per dollar calculated for MfE from NZ research but are not specific to TDC work. They provide a baseline from more accurate reporting methods can be developed.	No other method available for contractors' services in this baseline year	
	Disposal of solid waste - Not landfilled	Composting			
	Transmission of energy (T&D losses)	Electricity distributed T&D losses			
Overall assessment of uncertainty for Category 4 emissions and removals		39%	High		



A1.1.3 Excluded emissions sources and sinks

Emissions sources in Table 8 have been identified and excluded from this inventory.

Table 8. GHG emissions sources excluded from the inventory

Business unit	GHG emissions source or sink	GHG emissions category	Reason for exclusion
Timaru District Council	source - a few electric vehicles used in staff commuting	Electricity and transmission	small number, no data.
TDC	source - taxi use	indirect emissions	occasional, no data
Redruth landfill	source -electricity use	Indirect emissions	no data, but negligible
TDC	source - paper purchase to use as handtowels and toilet tissue	indirect emissions from manufacture	since all goes to TDC composting, the destination is covered within this inventory
TDC	source - N fertilisers	indirect emissions (nitrous oxides)	none used within forestry, negligible amount on parks
TDC	embodied emissions in purchases of vehicles, and some structures	indirect emissions	no data

A1.2 QUANTIFIED INVENTORY OF EMISSIONS AND REMOVALS

A1.2.1 Calculation methodology

A calculation methodology has been used for quantifying the emissions inventory based on the following calculation approach, unless otherwise stated below:

$$Emissions = activity\ data \times emissions\ factor$$

The following alternative emissions quantification approaches have been used in this inventory:

- Forest removals using Toitū Envirocare supplied template based on MPI growth rate lookup tables.

All emissions were calculated using Toitū emanage software with emissions factors and Global Warming Potentials provided by the Toitū emanage software (see Appendix 1 - data summary.xls). Global Warming Potentials (GWP) from the IPCC fifth assessment report (AR5) are the preferred GWP conversion⁴.

Where applicable, unit conversions applied when processing the activity data has been disclosed.

There are systems and procedures in place that will ensure applied quantification methodologies will continue in future GHG emissions inventories.

⁴ If emission factors have been derived from recognised publications approved by the Toitū Envirocare, which still use earlier GWPs, the emission factors have not been altered from as published.



A1.2.2 GHG Storage and liabilities

A1.2.2.1 GHG STOCKS HELD ON SITE

Refrigerants and fuels may be stored on site, but their accidental leakage or release could result in a large increase in emissions for that period. Refrigerants such as HFCs, PFCs and SF₆ are GHGs with high global warming potentials, so material volumes of these or fuel are reported as potential liabilities.

Table 9. Total storage as of year end with potential GHG emissions liabilities.

GHG gas stock held	Quantity	Unit	Potential liability (tCO ₂ e)
Diesel commercial	10,580.00	litres	28.45
LPG stationary commercial	405.00	kilograms	1.20
Pre-calculated (tCO ₂ -e) - Forest contingent liability	3,235.00	tonnes	3,235.00
Pre-calculated (tCO ₂ -e) - Forest potential liability	58,087.00	tonnes	58,087.00
Total potential liability			61,351.65

A1.2.2.2 LAND-USE LIABILITIES

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

Table 10. Land-use liabilities (total)

Site name	Total sequestration during reporting period (tCO ₂ e)	Contingent liability (tCO ₂ e)	Total potential liability (tCO ₂ e)
Timaru District Council	-3,235	0	0

A1.2.3 Supplementary results

Holdings and transactions in GHG-related financial or contractual instruments such as permits, allowances, verified offsets or other purchased emissions reductions from eligible schemes recognised by the Toitū Envirocare are reported separately here.

A1.2.3.1 PURCHASED OR DEVELOPED REDUCTION OR REMOVAL ENHANCEMENT PROJECTS

Removal by TDC's forestry holding has been estimated using MPI emission factors for removals by hectare for the various growing tree types. No carbon 'credit' units were earned under the ETS in this financial year, for TDC forestry growth.

A1.2.3.2 DOUBLE COUNTING AND DOUBLE OFFSETTING

There are various definitions of double counting or double offsetting. For this report, it refers to:

- When parts of the organisation have been prior offset.

- The same emissions sources have been reported (and offset) in both an organisational inventory and product footprint.
- 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 (Categories 2 and 3) emissions sources.
- Toitū Envirocare approved 'pre-offset' products or services that contribute to the organisation inventory
- 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.

Details

The only carbon offsetting by TDC is that required by MfE and EPA for landfill gas emissions.



APPENDIX 2: SIGNIFICANCE CRITERIA USED

Table 11. Significance criteria used for identifying inclusion of indirect emissions

Emission source	Magnitude	Level of influence	Risk or opportunity	Sector specific guidance	Outsourced	Employee engagement	Intended Use and Users	Include in inventory?
Staff commuting vehicle emissions	small part	voluntary basis - annual staff survey	reputational positive value as a Council staff showing climate impact concern, if they do.	Government identifies vehicle carbon emission reduction of 20% as a target		Opportunity for employee engagement	yes	include
LPG (stationary) emissions	very small	could potentially substitute electrical power?	low	businesses locally also seek decarbonisation, so this is consistent. Coal boilers already removed.			yes	include but seek to eliminate
Paper (handtowels, toilet paper in workplaces)	not included	difficult to avoid, required for hygiene, would be required wherever they work, and we cover environmental/carbon impact already within the TDC responsibility for composting and for wastewater treatment for whole town.	not double-counted. Changes to 'standard' NZ composting inputs may exclude paper towels?	MfE guidance awaited.			no	at composting stage, yes
aircraft fuel supplied at airport	not included	TDC provides airport facility but is not responsible for the emissions of flights (as in providing roads, where user has carbon responsibility)		Flight emissions are significant in NZ, especially with a lack of alternative long-distance modes such as passenger rail.			yes	no

APPENDIX 3: CERTIFICATION MARK USE

The Council is not seeking Toitu Certification.

APPENDIX 4: REFERENCES

International Organization for Standardization, 2018. ISO 14064-1:2018. Greenhouse gases – Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals. 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.

World Resources Institute and World Business Council for Sustainable Development, 2015 (revised). The Greenhouse Gas Protocol: Scope 2 Guidance. An amendment to the GHG Protocol Corporate Standard. WBCSD: Geneva, Switzerland.



8.3 Adoption of Climate Change Response Policy

Author: Rhys Taylor, Climate Change Advisor

Authoriser: Paul Cooper, Group Manager Environmental Services

Recommendation

That the Environmental Services Committee:

1. Approves and adopts the Climate Change Response Policy

Purpose of Report

- 1 To provide to the Environmental Services Standing Committee, for approval and adoption, the Climate Change Response Policy, following earlier consideration of a draft in November 2023.

Assessment of Significance

- 2 This matter is deemed of low significance under Council's Significance and Engagement Policy, as it follows extensive public engagement on Climate Strategy principles in 2023 and has received invited consultation input since the Committee considered an earlier draft in November 2023.

Background

- 3 This Policy builds on previous commitments made in the Timaru District Council Long Term Plan 21021-2031 and on the public engagement in 2022-2023 beginning work on a District-wide Climate Strategy (on which further work is required during the next LTP period)
- 4 External input has been invited and received from Te Runanga o Arowhenua, from Community and Public Health officials and Environment Canterbury's climate team, each of whom remain available to advise on Policy development when and where appropriate.

Discussion

- 5 The purpose of the Policy is to provide a sufficiently robust guide as to how Council operations and facilities will deal with and incorporate action plans to mitigate and adapt to climate change.
- 6 The Policy provides several response statements which will enable Council to guide and monitor actions and decision-making across its services and functions.
- 7 It is expected that, once this Policy is adopted, a comprehensive Climate Change Action Plan for the decade ahead can be resolved, building on officer work in preparation for the Long-Term Plan.
- 8 Separate work will be required to develop a District-wide strategy involving the wider residents and business community, to identify climate change response actions of significance to community wellbeings which are not central to District Council services and facilities. Proposed new legislation on Climate Change Adaptation will influence this work.

Options and Preferred Option

- 9 The attached Policy document is an updated draft from that considered by the Committee in November 2023, following consultation with relevant organisations. It is presented ready for adoption and this is the preferred option.
- 10 The alternative option is for the Committee to recommend further changes to the policy for subsequent adoption at a future date.

Consultation

- 11 External input has been received from Te Runanga o Arowhenua, from community and public health officials and Environment Canterbury's climate team.

Relevant Legislation, Council Policy and Plans

- 12 This the Council's first Policy compilation on climate issues. It has been informed by a start made in 2023 on public engagement towards a District wide Climate Strategy, by the Proposed District Plan, direction set in the Council's Long-Term Plan 2021 and national guidance from the Ministry for the Environment (further references in the Policy paper).

Financial and Funding Implications

- 13 The future implementation of a Climate Response Plan will be subject to budget planning in the Long Term Plan and Annual Plans. The Policy itself sets a direction and focus.

Other Considerations

- 14 It is recommended, now the Climate Response Policy is completed, that Council's Carbon Policy, 2020, is reviewed.

Attachments

1. **Climate Change Response Policy -version6 - 24 Jan 2024** [↓](#) 

Climate Change Response Policy



For Approval by:	Environmental Services Committee
Group:	Council-wide application
Responsibility:	GM Environmental Services. Author: Rhys Taylor, Climate Change Advisor
Date to be adopted:	Environmental Services Committee endorsed in draft November 2023, this final text presented for adoption February 2024
Review:	Review to commence May 2026 for completion September 2026 This Policy does not cease to have effect because it is due for review, or being reviewed
Public Consultation:	This Policy builds on previous commitments in LTP 2021-2031 and on 2022-23 public-engagement work aimed towards a Timaru District Climate Change Strategy. External comments received from Te Rūnanga o Arowhenua (as Manawhenua) and Community and Public Health.
Policy Type	Internal focus, Corporate Management

Introduction

Policy Purpose & Context

1. **To provide a framework for Timaru District Council to adapt to and help mitigate climate change within its operations**, in order to meet community expectations and expected audit obligations.
2. The Policy is consistent with the Council's initial governance statements adopted at the Council meeting in June 2022. This was:
 - i) *to be a climate-friendly council* (adapt to Climate Change and reduce greenhouse gas emissions from Council's operations wherever feasible),
 - ii) *to lead or facilitate mitigation and adaptation projects with others* (We will help enable, empower and inspire substantial climate change actions by many stakeholders in the district, including collaborations with our Tiriti partners) and
 - iii) *to help others to learn and adapt* (We will guide and encourage communities that are most vulnerable to climate change, i.e., those who are: most exposed to climate change; those badly impacted by climate change and, those least resilient).
3. The policy responds to central government direction as set forth in Section 5ZW of the Climate Change Response (Zero Carbon) Amendment Act 2019 which outlines requirements for councils when choosing to voluntarily report on climate change risks and planning. The Office of the Auditor General draws all councils' attention to an urgent need to respond to climate change, referencing two Ministry for the Environment 2022 publications: *First National Adaptation Plan* and *First National Emissions Reduction Plan*. Our work follows up the Canterbury Regional Climate Change Risk Assessment 2021 and also research and community engagement

Page 1 of 6

Climate Change Response Policy #1647651

begun locally towards a Timaru District Climate Change Strategy (see Reports on TDCCS presented to Environmental Services Committee in May and November 2023). An internal Risk Assessment for TDC in 2023 identified high risk that “adaptation and mitigation actions may not be adequate to respond, absorb and and reduce impacts of climate change.”

4. The Policy aligns with Council’s own Community Wellbeings, identified in *Thriving Together – Long Term Plan 2021-3*, being:
environmental e.g. by aiming to reduce TDC carbon emissions to the atmosphere,
economic e.g. by promoting business efficiency and assisting adaptation of homes and businesses,
cultural e.g. by seeking compatibility with runanga and iwi aspirations, and
social e.g. by better protection of critical public assets and community facilities;
and by recognising community health impacts of climate change.
5. The Policy leverages:
 - (i) Some community concerns and ideas for resilience raised in initial stages of the Timaru District-wide Climate Change Strategy (TDCCS) facilitated process 2022-2023, especially where these relate to internal operation and powers of the District Council;
 - (ii) Comment from Manawhenua and the already-published concerns on climate change of Ngai Tahu;
 - (iii) Information from the carbon emissions baseline year inventory of Council operations 2022-2023;
 - (iv) Government priorities expressed in both the National Adaptation Plan and National Carbon Emission Reduction Plan, 2022; and
 - (v) Auditor General advice to all Councils following review of previous 2021 Long Term Plans across New Zealand.

Scope

This Policy is limited to all of Council operations, including:

- All employees of the TDC, including short-term employees and independent contractors acting as agents on behalf of the TDC; and
- Any person who is involved in the governance and management of the TDC; and
- Every business, service, or activity of the TDC, except those functions that are purely procedural, constitute emergency works, or provide regulatory functions where this policy is not relevant; and
- It establishes the TDC’s position in relation to proposals or activities that are enabled or supported by the TDC (to include Council Controlled Organisations), where they may impact carbon emissions and/or climate response adaptations, and where the Council is able to influence activity via statements of intent or similar.

Definitions

Council (TDC)	Timaru District Council, in South Canterbury, NZ
Climate change	<p>“A change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods.” (from <i>UN Framework Convention on Climate Change</i>).</p> <p>It concerns mostly addition of greenhouse gases to the atmosphere, accumulating faster than they can break down (see below)</p>
Greenhouse gas emissions	<p>Conversion of fossilised carbon - from coal, oil and methane gas previously locked in the Earth’s crust - burned into carbon dioxide in the atmosphere, where it is a long-lasting ‘greenhouse gas’ (i.e. is trapping solar-sourced heat). Other greenhouse gases released through human-led activity include some refrigerants, nitrous oxides, and methane from the gut of ruminant animals such as cattle and sheep. The warming effect of varied gases on global atmosphere is expressed in carbon dioxide equivalent (CO₂e).</p>
Climate change adaptation	<p>Human response to rapid climate change impacts that seeks to avoid or reduce harm and also take up beneficial opportunities created.</p>
Climate change mitigation	<p>Actions that reduce the human-led emission of carbon dioxide, methane or other greenhouse gases. E.g. Seeking alternatives to fossil fuels such as the use of renewable energy.</p>
Action Plan	<p>Detailed steps, processes or projects consistent with Council Policy and informed by emerging Regional and District Climate Strategy. To include but not limited to actions within the Long Term Plan (2024-).</p>
Resilience	<p>The capacity of systems to cope with external sudden events or more gradual/cumulative changes, in ways that maintain essential functions and allow for manageable and socially just transformations.</p>

Background References

Climate Change and Local Government - what the National Adaptation Plan means for you. Ministry for the Environment. 2022. Publication Info 1080.

Adaptation preparedness: 2020/21 baseline. A summary of local government responses to the first information request under the Climate Change Response Act 2002. Ministry for the Environment. 2021.

Climate Change Response Policy Statement.

(Draft 6, January 18th 2024) para numbering needs fix, when in InfoCouncil.

In order to adapt to climate change and reduce operational greenhouse gas emissions, the Timaru District Council will:

Begin resilience action planning at TDC:

1. Develop, adopt and implement a first *Resilience Action Plan* for both mitigation and climate change adaptation within Council operations, to include:
 - a. actions to reduce direct emissions, starting with fuel use at Council.
 - b. incorporate climate change adaptation, resilience and emission mitigation into urban development and land use decisions and future updates of the District Plan (as guided by a Government proposed 2024 *Climate Adaptation Bill*) including identification of opportunities presented by climate change.
 - c. develop longer term security of energy and water supplies, lower-emission waste treatments, more-durable roads, and resilient infrastructure asset renewals.
 - d. beyond risk area mapping, plan in collaboration with Environment Canterbury for adaptive response to observed accelerating risk of coastal inundation and erosion in higher risk areas, such as on industrial or storage land and TDC wastewater treatment facility near the port, the main trunk rail-line coastal sections, vulnerable landfill sites, coastal natural environment, and residences close to river-mouths (such as Milford, Waipopo and Rangitata Huts).
 - e. when making investment decisions: improve electrical energy-use efficiency of Council owned housing, of community and sports facilities and Council work premises, water pumping and street lighting.
 - f. where appropriate, provide information to help the public and businesses adapt; for example, develop local capacity to advise Timaru District's homeowners, ratepayers and tenants on potential modifications to and uses of buildings that make them less prone to winter under-heating and summer over-heating, generally drier, healthier and also more-efficient use of clean energy.
 - g. Integrate climate change response objectives into the Council's procurement policy.

Make an emissions inventory for TDC, for a better understanding of the impact of its operations

2. Prepare and publicly-report, at intervals of no greater than two financial years, a carbon emissions inventory or 'footprint' consistent with the Global Protocol for Community-Scale Greenhouse Gas Inventories, completed to a verifiable standard (currently ISO 14064-1). Noting that the baseline inventory has been completed for 2022-2023.

3. Encourage extension of carbon inventory processes to Council-Controlled Organisations.
4. Prioritise gross (absolute) carbon emissions reduction actions over net emissions reduction, such as the purchase of carbon emission units as offsets.

Use collaborative working within District and Region

5. Extend collaboration to Manawhenua, through Te Rūnanga o Arowhenua and their agency Aoraki Environmental Consultancy Limited, noting a strategic commitment to climate response expressed by Ngai Tahu iwi.
6. Collaborate with neighbouring councils in Canterbury to share agreed research effort and results on risk analysis, adaptation, mitigation, and public education, with a view to avoiding duplication of effort and achieving efficiency for investment.
7. Explore how the Council and external partner bodies may contribute to district-wide climate change information gathering, public communication and further district-wide Strategy development, building on the initial community-based ‘Climate Action’ work initiated by TDC in 2022-2023.
8. Engage with communities most affected by climate change to help ascertain priorities for community-led, Council and/or external, such as central Government, involvement.

Next Review in 2026

9. Review this Policy before mid-2026, to assist the next LTP three-yearly preparation cycle. At that point, have reviewed emission reductions on baseline achieved and set local carbon emission reduction targets for 2050, compatible with New Zealand’s national targets made under UN International Agreements.

Monitoring and Reporting

10. An annual or more frequent monitoring report is requested from Climate Change Advisor(s), to include short case studies of effective behavioural or technical changes made, and summary of staff survey results.

Delegations, References and Revision History	
Delegations Identify here any delegations related to the policy for it to be operative or required as a result of the policy	
Delegation	Delegations Register Reference
To ‘Climate Change Manager’ position (sic)	7.22 (non-statutory) and for carbon unit trading see delegation to Chief Financial Officer 6.4
References Include here reference to any documents related to the policy (e.g. operating guidelines, procedures)	
Title	Relevant Reference within Document

Risk Assessment (at TDC)	Paragraph 3 in introduction above. See R2 in CM document #1615867				
<i>Climate Change and Local Government - what the National Adaptation Plan means for you. Ministry for the Environment. 2022.</i>	Background information				
<i>Adaptation preparedness: 2020/21 baseline. A summary of local government responses to the first information request under the Climate Change Response Act 2002. Ministry for the Environment. 2021.</i>	Background information				
Revision History Summary of the development and review of the policy					
Revision	Owner	Date Approved	Approval By	Next Review	Doc Ref
This is Draft 6 of 26 Jan 2024.	Climate Change Advisor				

9 Consideration of Urgent Business Items

10 Consideration of Minor Nature Matters

11 Public Forum Items Requiring Consideration