Notice of Meeting:

I hereby give notice that an ordinary meeting of the Policy and Planning Committee will be held on:

Date:	**Thursday 2 April 2026**
Time:	**9.00 am**
Venue:	**Council Chamber, Level 2, Dunedin Public Art Gallery, The Octagon, Dunedin**

Sandy Graham
Chief Executive Officer

Policy and Planning Committee

PUBLIC AGENDA

MEMBERSHIP

Chairperson	Mayor Sophie Barker	
Deputy Chairperson	Deputy Mayor Cherry Lucas	
Members	Cr John Chambers	Cr Christine Garey
	Cr Doug Hall	Cr Marie Laufiso
	Cr Russell Lund	Cr Mandy Mayhem
	Cr Benedict Ong	Cr Andrew Simms
	Cr Mickey Treadwell	Cr Lee Vandervis
	Cr Steve Walker	Cr Brent Weatherall
	Nadia Wesley-Smith	Emma Wyeth
Senior Officer	David Ward, General Manager 3 Waters, Property and Urban Development	
Governance Support Officer	Rebecca Murray	

Rebecca Murray
Governance Support Officer

Telephone: 03 477 4000
governance.support@dcc.govt.nz
www.dunedin.govt.nz

Note: *Reports and recommendations contained in this agenda are not to be considered as Council policy until adopted.*

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1 KARAKIA TIMATANGA

The meeting will open with a Karakia Timatanga.

2 PUBLIC FORUM

AT THE CLOSE OF THE AGENDA PUBLIC FORUM REGISTRATIONS WERE STILL BEING TAKEN. THE SPEAKERS WILL BE CONFIRMED FOLLOWING THE CLOSURE OF REGISTRATIONS 24 HOURS BEFORE THE MEETING BEGINS I.E. 9.00 AM ON WEDNESDAY, 1 APRIL 2026.

3 APOLOGIES

At the close of the agenda no apologies had been received.

4 CONFIRMATION OF AGENDA

Note: Any additions must be approved by resolution with an explanation as to why they cannot be delayed until a future meeting.

DECLARATION OF INTEREST

EXECUTIVE SUMMARY

1. Members are reminded of the need to stand aside from decision-making when a conflict arises between their role as an elected or independent representative and any private or other external interest they might have.

2. Elected or independent members are reminded to update their register of interests as soon as practicable, including amending the register at this meeting if necessary.

RECOMMENDATIONS

That the Committee:

a) **Notes/Amends** if necessary the Elected or Independent Members' Interest Register attached as Attachment A; and

b) **Confirms/Amends** the proposed management plan for Elected or Independent Members' Interests.

Attachments

	Title	Page
⇩A	Policy and Planning Committee Register of Interest	6

Policy and Planning Committee Interest Register 3 March 2026				
Name	**Responsibility (i.e. Chairperson etc)**	**Declaration of Interests**	**Nature of Potential Interest**	**Member's Proposed Management Plan**
Mayor Sophie Barker	Shareholder	Ayrmed Limited	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Shareholder	Various publicly listed companies	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Property Owner	Residential Property Owner - Dunedin	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Beneficiary	Sans Peur Trust (Larnach Castle)	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Mentor	Business Mentors NZ	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	Dunedin Vegetable Growers Club	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Trustee	Alexander McMillan Trust	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Patron	New Zealand International Science Festival	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Patron	Dunedin Horticultural Society	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	Institute of Directors	No conflict Identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Chairperson	Dunedin Heritage Fund (Council Appointment)	No conflict Identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	Grow Dunedin Partnership (Council Appointment)	No conflict Identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	Heritage Avisory Group (Council Appointment)	No conflict Identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	Local Government New Zealand (Zone 6) (Council Appointment)	No conflict Identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Co-Chair	Ōtepoti Dunedin Destination Management Plan Advisory Panel (Council Appointment)	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Family Member	Family Member employed at Wilkinson Rogers	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	Tertiary Precinct Planning Group (Council Appointment)	No conflict Identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
Cr John Chambers	Owner	Residential Property	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Owner	Rental Property	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	Otakau Golf Club	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	Opera Otago	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	Hereweka Harbour Cone Trust (Council Appointment)	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	Okia Reserve Management Committee (Council Appointment)	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.

Name	Responsibility (i.e. Chairperson etc)	Declaration of Interests	Nature of Potential Interest	Member's Proposed Management Plan
Cr John Chambers (Cont)	Member	Waikouaiti Coast Community Board (Council Appointment)	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
Cr Christine Garey	Trustee	Garey Family Trust - Property Ownership - Dunedin	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Daughter employee	Halo Project	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Trustee	Ashburn Hall Charitable Trust Board	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	Creative Dunedin Partnership (Council Appointment)	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	Performing Arts Advisory Group (Council Appointment)	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
		Sophia Charter (Council Appointment)	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	St Paul's Cathedral Foundation (Council Appointment)	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	Theomin Gallery Management Committee (Olveston) (Council Appointment)	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
Cr Doug Hall	Trustee	Cronus Trust	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Owner	Clickfix Ltd	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	District Licensing Committee (Council Appointment)	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	Dunedin Public Art Gallery Society (Council Appointment)	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	Toitū Otago Settlers Museum Board (Council Appointment)	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	West Harbour Community Board (Council Appointment)	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
Cr Marie Laufiso	Property Owner	Residential Property	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Trustee	Moray Place Community Building Trust - which owns property 111 Moray Place	Duty to Trust may conflict with duties of Council Office	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	Women of Ōtepoti Recognition Initiative	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Trustee	Corso Ōtepoti Dunedin Trust	Potential grants recipient	Withdraw from discussion and leave the table. If in public excluded leave the room. Seek advice prior to the meeting.
	Dunedin Branch Treasurer	P.A.C.I.F.I.C.A Inc	Potential grants recipient	Withdraw from discussion and leave the table. If in public excluded leave the room. Seek advice prior to the meeting.
	Expert Panel Member	Health Coalition Aotearoa Public Health Infrastructure Committee	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Trustee	The Ōtepoti Community Builders Charitable Trust	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Trustee/Secretary	Refugee Support Group	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	Dunedin Abrahamic Interfaith Group (Council Appointment)	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	Dunedin Former Refugee Steering Committee (Council Appointment)	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.

Name	Responsibility (i.e. Chairperson etc)	Declaration of Interests	Nature of Potential Interest	Member's Proposed Management Plan
Cr Marie Laufiso (Cont)	Member	Puketai Residential Centre Liaison Committee (Council Appointment)	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	Social Wellbeing Advisory Group (Council Appointment)	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
Cr Cherry Lucas	Trustee	Otago Farmers Market	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Partner	Southway Enterprises	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Trustee	Henderson Lucas Family Trust - Residential Dunedin Property	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	NZ Institute of Chartered Accountants	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	Dunedin Shanghai Association (Council Appointment)	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	Local Government New Zealand (Zone 6) (Council Appointment)	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	Tūhura Otago Museum Trust Board (Council Appointment)	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	Ōtepoti Dunedin Destination Management Plan Advisory Panel (Council Appointment)	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	Taieri Airport Trust (Council Appointment)	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	Tertiary Precinct Planning Group (Council Appointment)	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	Te Poāri a Pukekura (Council Appointment)	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	Mosgiel-Taieri Community Board (Council Appointment)	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
Cr Russell Lund	Shareholder	Loan & Mercantile Trust includes:	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Director	Produce Place Ltd	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Director	Dunedin Grain Store Ltd	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Director/Shareholder	Loan & Mercantile 2000 Ltd	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Shareholder	Lund South Trust includes:	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Director/Shareholder	Lund South Ltd	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Director/Shareholder	Lund Dunedin Ltd	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Director/Shareholder	Resource Values Ltd	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Director	Sherwood Manor Properties Ltd	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Director/Shareholder	Lund Central Ltd	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Director/Shareholder	Lund South Administration Ltd	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.

Name	Responsibility (i.e. Chairperson etc)	Declaration of Interests	Nature of Potential Interest	Member's Proposed Management Plan
Cr Russell Lund (Cont)	Director	Construction Operatives Ltd	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Director	Lund South Properties Ltd	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Trustee	RV Lund Trust	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Trustee	BDCRS Trust	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Director	Lund Frankton Ltd	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	President	Ariki Amateur Athletic & Harrier Club	Ariki is a member of Athletics Otago which receives grant funding from DCC.	Withdraw from discussion and leave the table. If in public excluded leave the room. Seek advice prior to the meeting.
	Member	Heritage Avisory Group (Council Appointment)	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	Otago Theatre Trust (Council Appointment)	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
Cr Mandy Mayhem	Chairperson	Waitati Hall Society Inc	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Chairperson	Keep Ōtepoti Dunedin Beautiful	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Co-ordinator	Emergency Response Group, Blueskin area	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	~~Member~~	~~FENZ Local Advisory Committee for Otago~~	~~No conflict identified~~	~~Seek advice prior to the meeting if actual or perceived conflict of interest arises.~~
	Member	Blueskin Bay Amenities Society	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	Blueskin A & P Society	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Zone Representative and Board Member	Keep New Zealand Beautiful	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	Coastal Community Cycleway Network	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	Waitati Music Festival Committee	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Property Owner	Residential Property	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	Disability Issues Advisory Group (Council Appointment)	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	Dunedin Gasworks Museum Trust (Council Appointment)	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	Keep Dunedin Beautiful (Council Appointment)	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	Performing Arts Advisory Group (Council Appointment)	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	Social Wellbeing Advisory Group (Council Appointment)	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
Cr Benedict Ong	Owner	Residential Property	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Shareholder	Listed Stocks	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.

Name	Responsibility (i.e. Chairperson etc)	Declaration of Interests	Nature of Potential Interest	Member's Proposed Management Plan
Cr Benedict Ong (Cont)	Member	Otago Settlers Association (Council Appointment)	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	Toitū Otago Settlers Museum Board (Council Appointment)	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
Cr Andrew Simms	Director	Landseer Motor Investments Limited	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Director	Landseer Motor Investments Auckland Limited t/a Andrew Simms - Motor vehicle retail	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Director	Stephen Duff Motors Limited t/a Andrew Simms Dunedin - Motor vehicle retail	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Director	Three Diamond Automotive t/a Ralliart NZ - Race car preparation	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Director	Cambridge Finance Limited - Financial Services	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Director	The Landseer Group Limited - Investments	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Director	Otago Motorhome Centre Limited - Motor vehicle retail	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Director	Landseer Motor Investments Henderson Limited - Motor vehicle retail	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Director	Landseer Motor Investments Moorhouse Limited - Motor vehicle retail	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Director	Minaret Property Investments Limited - Property Investment	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Trustee	The Newfoundland Trust	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Trustee	The Moturata Trust	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	Taieri Trails Group	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	Taieri Cricket Club	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	Mosgiel AFC	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Owner	Residential Property	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Owner	Commercial Property. Andersons Bay Road, Dunedin	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	Dunedin Heritage Fund (Council Appointment)	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	Heritage Avisory Group (Council Appointment)	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	Tūhura Otago Museum Trust Board (Council Appointment)	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	Taieri Airport Trust (Council Appointment)	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
Cr Micky Treadwell	Director	Atawhai Interactive Tapui Ltd	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Contractor	Otago Polytechnic	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Co-owner	Residential Property	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	Green Party of Aotearoa	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.

Name	Responsibility (i.e. Chairperson etc)	Declaration of Interests	Nature of Potential Interest	Member's Proposed Management Plan
Cr Mickey Treadwell (Cont)	Member	Dunedin Otaru Sister City Society (Council Appointment)	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	Ice Sports Dunedin Incorporated (Council Appointment)	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	Ōtepoti Dunedin Live Music Advisory Panel (Council Appointment)	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	Te Ao Tūroa Partnership (Council Appointment)	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	Otago Peninsula Community Board (Council Appointment)	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
Cr Lee Vandervis	Director	Lee Vandervis, Antonie Alm-Lequeux and Cook Allan Gibson Trustee Company Ltd - Residential Property Ownership - Dunedin	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Director	Bunchy Properties Ltd - Residential and Lifestyle Farm Property Ownership - Dunedin	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Owner	Various publicly Audio and Lighting - Hire, Sales and Service Business	May contract and provide service to DCC	Withdraw from discussion and leave the table. If the meeting is in public excluded leave the room. Seek advice prior to the meeting.
	Member	District Licensing Committee (Council Appointment)	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	Dunedin Heritage Fund (Council Appointment)	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	Okia Reserve Management Committee (Council Appointment)	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
Cr Steve Walker	Trustee	Dunedin Wildlife Hospital Trust	Potential grants recipient	Withdraw from discussion and leave the table. If the meeting is in public excluded leave the room. Seek advice prior to the meeting.
	Member	Orokonui Ecosanctuary	Potential grants recipient	Withdraw from discussion and leave the table. If the meeting is in public excluded leave the room. Seek advice prior to the meeting.
	Member	New Zealand Labour Party	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Owner	Residential Property - Dunedin	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Shareholder	Various publicly listed companies	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	NZ Sea Lion Trust	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Justice of the Peace		No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Trustee	Predator Free Dunedin	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	Dunedin Edinburgh Sister City Society (Council Appointment)	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	Dunedin Heritage Fund (Council Appointment)	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	Dunedin Art Gallery Acquisitions Committee (Council Appointment)	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	Hereweka Harbour Cone Trust (Council Appointment)	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	NZ Masters Games Trust Board (Council Appointment)	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	Otago Regional Transport Committee (Council Appointment)	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.

Name	Responsibility (i.e. Chairperson etc)	Declaration of Interests	Nature of Potential Interest	Member's Proposed Management Plan
Cr Steve Walker (Cont)	Member	Ōtepoti Dunedin Live Music Advisory Panel	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	Predator Free Dunedin (Council Appointment)	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
Cr Brent Weatherall	Owner	Residential Property	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Owner	Business George Street, Dunedin	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Trustee	Brent Weatherall Jeweller Limited	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Trustee	Weatherall Trustee Company	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Trustee	Residential Rental Properties	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	Dunedin Club	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	Dunedin Public Art Society (Council Appointment)	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	Keep Dunedin Beautiful (Council Appointment)	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	Toitū Otago Settlers Museum Board (Council Appointment)	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
	Member	Strath Taieri Communtiy Board (Council Appointment)	No conflict identified	Seek advice prior to the meeting if actual or perceived conflict of interest arises.
Nadia Wesley-Smith		To be advised		
Emma Wyeth		To be advised		

CONFIRMATION OF MINUTES

POLICY AND PLANNING COMMITTEE MEETING - 5 FEBRUARY 2026

RECOMMENDATIONS

That the Committee:

a) **Confirms** the public part of the minutes of the Policy and Planning Committee meeting held on 05 February 2026 as a correct record.

Attachments

	Title	Page
A⇩	Minutes of Policy and Planning Committee meeting held on 5 February 2026	14

DUNEDIN CITY COUNCIL | kaunihera a-rohe o Ōtepoti

Policy and Planning Committee

MINUTES

Minutes of an ordinary meeting of the Policy and Planning Committee held in the Council Chamber, Level 2, Dunedin Public Art Gallery, The Octagon, Dunedin on Thursday 05 February 2026, commencing at 9.00 am

PRESENT

Chairperson	Mayor Sophie Barker	
Deputy Chairperson	Deputy Mayor Cherry Lucas	
Members	Cr John Chambers	Cr Doug Hall
	Cr Marie Laufiso	Cr Russell Lund
	Cr Mandy Mayhem	Cr Benedict Ong
	Cr Andrew Simms	Cr Mickey Treadwell
	Cr Lee Vandervis	Cr Steve Walker
	Cr Brent Weatherall	
IN ATTENDANCE	David Ward (General Manager 3 Waters, Property and Urban Development), Mike Costelloe (General Manager Arts, Culture & Economic Development), Carolyn Allan (Chief Financial Officer), Dr Anna Johnson (Manager City Development), Tony Nelmes (Project Accountant, Financial Services), Bede Morrisey (Senior Planner City Development), Brandy Saxton (Senior Advisor Climate Adaptation and Resilience) and Jackie Harrison (Manager Governance)	
Governance Support Officer	Jean Cockram	

1 KARAKIA TIMATANGA

The Mayor opened the meeting with a karakia timatanga.

2 PUBLIC FORUM

There was no Public Forum.

3 APOLOGIES

Apologies were received from Cr Christine Garey for absence, and from Crs Mandy Mayhem and Steve Walker for early departure.

Moved (Mayor Sophie Barker/Cr Cherry Lucas):

That the Committee:

Accepts the apologies from Cr Christine Garey for absence and from Crs Mandy Mayhem and Steve Walker for early departure.

Motion carried (PAPCC/2026/001)

4 CONFIRMATION OF AGENDA

Moved (Mayor Sophie Barker/Cr Cherry Lucas):

That the Committee:

Confirms the agenda without addition or alteration.

Motion carried (PAPCC/2026/002)

5 DECLARATIONS OF INTEREST

Members were reminded of the need to stand aside from decision-making when a conflict arose between their role as an elected representative and any private or other external interest they might have.

Moved (Mayor Sophie Barker/Cr Cherry Lucas):

That the Committee:

a) **Notes** the Elected Members' Interest Register; and

b) **Confirms** the proposed management plan for Elected Members' Interests.

Motion carried (PAPCC/2026/003)

Cr Mickey Treadwell entered the meeting at 9.02am.

Cr Benedict Ong entered the meeting at 9.04am.

PART A REPORTS

6 DUNEDIN CITY COUNCIL SUBMISSION ON THE INFRASTRUCTURE FUNDING AND FINANCE ACT AMENDMENT BILL

A report from City Development, Finance and Corporate Policy sought approval of a draft Dunedin City Council (DCC) submission to the Finance and Expenditure Committee on the Infrastructure Funding and Financing Amendments Bill.

The General Manager, 3 Waters, Property and Urban Development (Dave Ward), Manager, City Development (Dr Anna Johnson), Project Accountant, Financial Services (Tony Nelmes) and Senior Planner, City Development (Bede Morrisey) responded to questions.

Cr Mandy Mayhem left the meeting at 10.02am.

Moved (Cr Mickey Treadwell/Cr Marie Laufiso):

That the Committee:

a) **Approves** the draft Dunedin City Council Submission, with any amendments, on the Infrastructure Funding and Finance Act Amendment Bill.

b) **Authorises** the Chief Executive to make any minor editorial amendments to the submission.

c) **Notes** that the Mayor or delegate will speak to the submission at any hearings.

Motion carried (PAPCC/2026/004) with Cr Lee Vandervis and Cr Russell Lund recording their vote against.

7 DUNEDIN CITY COUNCIL SUBMISSION ON THE LOCAL GOVERNMENT (INFRASTRUCTURE FUNDING) AMENDMENT BILL

A report from City Development, Finance and Corporate Policy sought approval of a draft Dunedin City Council (DCC) submission on the partial exposure draft of the Local Government (Infrastructure Funding) Amendment Bill, and the associated Supporting Growth Through a Development Levies System consultation document.

The General Manager, 3 Waters, Property and Urban Development (Dave Ward), Manager, City Development (Dr Anna Johnson), Project Accountant, Financial Services (Tony Nelmes) and Senior Planner, City Development (Bede Morrisey) responded to questions.

Cr Benedict Ong left the meeting at 10.14am and returned at 10.34am.

Moved (Mayor Sophie Barker/Cr Steve Walker):

That the Committee:

Adjourns the meeting for 10 minutes.

Motion carried

The meeting adjourned at 10.52am and reconvened at 11.03am.

Cr Steve Walker left the meeting at 10.56am.

Moved (Mayor Sophie Barker/Cr Lee Vandervis):

That the Committee:

a) **Approves** the draft Dunedin City Council Submission on the partial exposure draft of the Local Government (Infrastructure Funding) Amendment Bill with an additional point, consistent with the Taituarā submission, regarding in-house water services and their ability to recover levies.

b) **Authorises** the Chief Executive to make any minor editorial amendments to the submission.

Motion carried (PAPCC/2026/005)

8 DUNEDIN CITY COUNCIL SUBMISSION ON THE EMERGENCY MANAGEMENT BILL (NO 2)

A report from Corporate Policy sought approval of a draft Dunedin City Council (DCC) submission to the Governance and Administration Committee on the Emergency Management Bill (No. 2) (the Bill).

The General Manager, Arts, Culture & Economic Development (Mike Costelloe) and the Senior Advisor – Climate Adaptation and Resilience (Brandy Saxton) spoke to the report and responded to questions.

Moved (Mayor Sophie Barker/Cr Cherry Lucas):

That the Committee:

a) **Approves** the Dunedin City Council submission, with any amendments, to the Governance and Administration Committee on the Emergency Management Bill (No. 2).

b) **Authorises** the Chief Executive to make any minor editorial amendments to the submission.

c) **Authorises** the Mayor or delegate to speak at any hearings.

Motion carried (PAPCC/2026/006)

9 ITEMS FOR CONSIDERATION BY THE CHAIR

Mayor Sophie Barker:

With respect to Item 7 Dunedin City Council submission on the Local Government (Infrastructure Funding) Amendment Bill

Staff were requested to compare DCCs development contributions against other major cities and the percentage of Dunedin's growth costs that are funded by these contributions.

10 KARAKIA WHAKAMUTUNGA

The Mayor closed the meeting with a karakia whakamutunga.

The meeting concluded at 11.33am.

.....
MAYOR

PART A REPORTS

DCC EMISSIONS MANAGEMENT AND REDUCTION PLAN & ZERO CARBON IMPLEMENTATION PLAN 2025/26 - Q1/2 REPORTING

Department: Zero Carbon

EXECUTIVE SUMMARY

1 This report presents to Council DCC's organisational emissions (for sources with data available) for the period July 2025 – December 2025 (Q1/2). This report also updates progress on specific time-bound projects in the Zero Carbon implementation plan 2025/26.

2 DCC emissions reporting for the period is based on preliminary data and excludes several emissions sources that are monitored on an annual basis. It is a provisional snapshot of trends for the sources reported, rather than a complete and final picture of DCC emissions for the period.

3 Overall, the provisional data suggests DCC emissions from the sources included are 34% lower than the same period in baseline year, and 5% higher than the same period last year. Relative to the same period last year, increased certified emissions associated with waste to Green Island landfill (partially reflecting a technical change in regulations that affects emissions accounting) and electricity use were partially offset by reductions in emissions from wastewater treatment processes and LPG use.

4 Of the 54 specific timebound projects anticipated to be advanced in 2025/26, 20 are on track ('green'), 27 are subject to delays or minor scope contractions ('amber'), and 7 are subject to major delays or scope contractions ('red', several of these being on hold).

5 Delays associated with projects designed to improve waste diversion rates (particularly timber) may negatively affect achievement of DCC's 2029/30 emissions reduction target.

6 Other delayed/descoped actions that may impact on target achievement (if no replacement action is identified) include projects to reduce LPG consumption at Moana Pool, and to support changes in DCC staff travel choices.

RECOMMENDATIONS

That the Committee:

a) **Notes** DCC's Q1/2 2025/26 organisational emissions

b) **Notes** reported progress on specific time-bound projects in the Zero Carbon implementation plan 2025/26

c) **Notes** that delays on several projects designed to improve waste diversion rates may negatively affect achievement of DCC's 2029/30 emissions reduction target

BACKGROUND

The DCC's Zero Carbon Policy directs that the organisation measure and aim to reduce emissions at two scales

7 In July 2022 Council adopted the Zero Carbon Policy (CNL/2022/049). The Policy formalises DCC's intention to pursue emissions reduction at two scales – organisational (DCC emissions), and Dunedin-wide (city emissions).

DCC emissions are monitored and reported using a standard organisational methodology

8 DCC's Zero Carbon Policy states that 'the DCC will monitor, measure, report, manage, verify and publicly report DCC emissions on a regular basis in line with the requirements of ISO 14064'. ISO 14064 is a widely used standard methodology for measuring and reporting emissions at the organisational scale.

9 The Zero Carbon Policy also states that the DCC will contribute to achieving emissions reduction targets including through implementing DCC emission reduction plans. It directs the DCC to prioritise gross emissions reductions.

10 The Zero Carbon work programme guiding principles adopted by Council in February 2022 (CNL/2022/004) are also of relevance to management of DCC emissions. They emphasise alignment with best practice.

11 To give effect to the Zero Carbon Policy, the DCC maintains an Emissions Management and Reduction Plan (EMRP) which sets out organisational targets and DCC's intended approach to reduce emissions (actions required to achieve targets). The DCC EMRP 2025/26-2029/30, reflecting the 9 year plan, was adopted by ELT and noted by Council in September 2025 (CNL/2025/277).

12 The scope of the DCC emissions managed and reported on are determined using the 'operational control' methodology. This includes activities undertaken by DCC staff (such as driving fleet cars, electricity usage) and emissions from DCC assets or services (such as LPG burnt at DCC pools, landfill gas from Green Island Landfill). It also includes emissions generated by significant suppliers undertaking work on behalf of the DCC, and emissions associated with some goods/consumables used during DCC activities (e.g. chemicals for water treatment).

13 The DCC's organisational emissions reduction targets (as set out in the EMRP) represent best practice, aligning with Science Based Targets Initiative (SBTi) guidance. The DCC's 'baseline year' (the year against which progress is measured) is 2018/19[1]. Targets are relative to baseline and are as follows:

a) a 2026/27 interim emissions target of a 34.2% reduction in annual tCO2e emissions compared with baseline year; and

b) a 2029/30 target of a 46.2% reduction in emissions compared with baseline year, and

[1] For some emissions sources the reporting methodology has changed since 2018/19, or data is unavailable due to the emissions source being recently added to the inventory. Where this is the case, the earliest data available has been assumed to represent baseline.

c) a commitment to achieving net zero no later than 2050, with confirmation of target date subject to decisions of Council on the city target, in early 2026.

The DCC has made progress on organisational emissions reduction, but sustained effort will be required to meet EMRP targets

14 Emissions modelling completed at time of ERMP adoption estimated that completion of all EMRP projects would deliver a 45% reduction in emissions to 2029/30. This falls slightly short of achieving the DCC's 2029/30 target, however staff are investigating additional measures that may help reduce this gap, whilst also reducing costs for the organisation.

15 Data for the 2024/25 financial year shows DCC achieved a 30.7% reduction in overall emissions compared to 2018/19. This reduction represented significant progress towards the 2026/27 interim emissions target, with the may shore up achievement of the 2029/30 target while also delivering cost savings for the organisation.

Adherence to the EMRP is a condition of participation in the Local Government Financing Agency's (LGFA) Climate Action Loans programme

16 The DCC's Zero Carbon Policy EMRP and annual Inventory Management Report are submitted to the Local Government Financing Agency's (LGFA) Climate Action Loans programme to enable borrowing at a discounted rate[2]. Aligning the EMRP and targets with best practice, and remaining on track to achieve EMRP targets are prerequisites to maintaining access to the programme[3].

DISCUSSION

Provisional DCC emissions data Q1/Q2 2025/26

17 Attachment A presents a summary of DCC's emissions (for sources with data available) over the first two quarters of 2025/26 financial year, broken down by emissions source. Attachment B presents a detailed breakdown of for specific emissions sources by location/group. Where possible, performance is compared with the same period in both the baseline year and the 2024/25 financial year.

18 The 6 month results are not directly comparable with, or able to be extrapolated to, an end of year position. The reporting is based on preliminary data and excludes several emissions sources that are monitored on an annual basis. Ministry for the Environment (MfE) emissions factors have been used – once 2026 factors are released, these will be applied and are likely to materially change results for some emissions sources (e.g., electricity consumption). The data

[2] Saving on interest on debt under the Climate Action Loans is 0.02% per annum; interest saved over FY 2025 was approximately $63,000.

[3] This is primarily a reputational rather than financial consideration. If DCC does not continue to meet programme criteria, any existing CALs would be declassified. The CAL margin discount will continue to apply for the duration of that CAL. However, declassification means: (a) LGFA will remove the Borrower's name from the list of CAL Borrowers on LGFA's website; (b) LGFA will name the Borrower on LGFA's website as a borrower which has had its CAL declassified as a result noncompliance with the CAL criteria; and (c) the Borrower will be ineligible to apply for new CALs until LGFA is satisfied (in its sole discretion) that the Borrower and the declassified CALs meet the CAL eligibility criteria.

presented is therefore a provisional snapshot of trends for the sources reported, rather than a complete and final picture of DCC emissions for the period.

Summary of emissions changes for sources included in report

19 Overall, the provisional data suggests DCC emissions from the sources included in this 6 month snapshot are:

a) 34% lower than the same period in baseline year

b) 5% higher than the same period last year

20 Overall, relative to the same period last year, increased certified emissions associated with waste to Green Island landfill and electricity use were partially offset by reductions in emissions from wastewater treatment processes and LPG use. The identified drivers of these observed changes are set out below.

21 **Waste to Landfill** emissions over the period were 48% lower than baseline but 15% up compared with same period 2024/25. Landfill gas management improved slightly in 2025, with 49.8% of landfill gas collected and destroyed in 2025 compared with 49.1% in 2024. These gains were outweighed by the impact of a higher Unique Emissions Factor for Green Island landfill, and a slight increase in waste volumes.

- **Changes in the Unique Emissions Factor**: The MfE has recently updated the Landfill Unique Emissions Factor regulations. This technical accounting change affects calculation of certified Green Island landfill emissions, as the default emissions per tonne of waste (before landfill gas capture and destruction efficiency is considered) are 12% higher in 2025 compared with 2022-2024. The result is that certified Green Island landfill emissions for the 2025 calendar year were 0.513tCO2e per tonne of waste, higher than the 0.463tCO2e per tonne of waste applied to calculations in previous years. If the new default emissions per tonne of waste was applied to historic calculations, then waste emissions for Q1/2 would only be 2% higher than the same period in 2024 (due to increased waste tonnages).

- **Changes in waste volumes**: An expanded kerbside collection service began on 1 July 2024, including offering weekly organics collection and a switch from rubbish bags to red wheelie bins for general waste. This change in kerbside service increased the number of households using DCC kerbside waste collections. Tonnage of waste to Green Island landfill in July to December 2025 increased 3.6% compared with July to December 2024. This was a predicted side-effect of changes that will increase the overall rate of waste diversion of waste from all landfills.

- DCC internal waste volumes (DCC's direct contribution to Green Island landfill volumes) have steadily decreased since baseline. In line with this trend, DCC internal waste entering the landfill decreased 15% compared with the same period last year.

22 Emissions from **electricity consumption** were 17% lower than baseline; 6% up compared with the same period 2024/25. Increased electricity usage was caused by the landfill gas engine at Green Island Wastewater Treatment Plant (WWTP) not being operational between July 2025 and December 2025.

- **Landfill gas engine use**: In previous years the gas engine provided almost all the electricity required by the Green Island WWTP, with considerable electricity also exported to the national grid. Between July 2025 and December 2025 landfill gas was destroyed solely using the new enclosed gas flare at Green Island landfill, leading to a saving in ETS costs at the landfill. The new enclosed gas flare has a higher gas destruction certification than the gas engine, which results in lower reported landfill emissions under the ETS than if the gas engine was used instead of the flare. Moving forward, the gas engine will be used to meet the baseline electricity requirements of the Green Island WWTP, with all other landfill gas flared using the enclosed flare.

- **Results subject to change**: Emissions from this source are a function of DCC electricity usage and the proportion of renewables in the national grid. Electricity usage (kWh) is 6% up on the same period last year and 20% lower than baseline. Results will change once MfE emissions factors are updated.

23 Emissions from the **biological treatment of wastewater** were 9% down compared with the same period 2024/25. At Tahuna Wastewater Treatment Plant influent was down 20%, and sludge incineration down 7%, compared with the same period in 2024/25.

24 **Stationary LPG** emissions are 20% higher than baseline, but 13% down compared with the same period 2024/25. The decrease in LPG consumption reflects energy systems at Toitū and Moana Pool returning to normal operations.

- **Toitū:** Energy raisers at Toitū were not operating at normal capacity in 2024, requiring increased LPG consumption to support heating services.

- **Moana Pool:** During the 2024/25 reporting period the Moana Pool heat recovery system (powered by electricity) was disabled during construction works, leading to an increase in LPG consumption and emissions. The heat recovery system was back online during the 2025/26 reporting period, resulting in a 19% decrease in LPG emissions compared with the same period the previous year.

25 Explanations for changes in other significant emissions sources included in this report are as follows (for minor sources refer Attachment A):

Emissions source	**Change**	**Explanation**
Closed landfill emissions	33% lower than baseline; 5% down compared with the same period 2024/25	Emissions from closed landfills will continue to reduce without active intervention.
Stationary diesel emissions	21% lower than baseline; 10% down compared with the same period 2024/25	Reduction relative to 2024/25 was predominately influenced by the Mosgiel WWTP digester operating more efficiently. This produces more gas, meaning less diesel was required to heat the digester.
Emissions from **biomass**	1,300% higher than baseline; 6% up compared with the same period 2024/25	With the opening of Te Puna o Whakaehu Mosgiel Pool and the displacement of stationary diesel use at the Botanic Gardens, this emissions source has become more significant in the DCC's inventory. Both sites are now reporting consumption data. Emissions associated with combustion of biomass are relatively far lower

		than those associated with combusting LPG, diesel or coal. As such, increases in biomass emissions due to DCC switching from other higher emitting fuel sources is a positive outcome.
Emissions from **composting**	Not included in baseline; 3% up compared with the same period 2024/25	The DCC kerbside food and garden collection service commenced 1 July 2024 and is being composted at a Timaru facility. While there are some emissions associated with composting food and garden waste, these are significantly lower than if the same material was deposited in landfill and ensures the organic material can be beneficially re-used.

The DCC is progressing Zero Carbon Implementation Plan actions anticipated to be advanced in the 2025/26 year, though many are subject to delays or changes in scope

26 The Zero Carbon implementation plan 2025/26 was noted by Council in September 2025 (CNL/2025/277) and reflects actions to reduce emissions that are provided for by the 9 year plan 2025-34 and that are expected to be at least partially progressed this financial year. It includes both city-scale ('Zero Carbon Plan') actions, and DCC ('EMRP') actions.

27 The Zero Carbon implementation plan 2025/26 is in two parts:

a) specific timebound projects (54)

b) 'business-as-usual' actions (73, ongoing as part of Council's normal operations until at least 2030, and include advocacy/partnership-based actions, and Zero Carbon Policy implementation actions)

28 In September 2025 the Zero Carbon Plan Advisory Panel considered and provided feedback on the draft implementation plan for 2025/26. Agreed positions included that, while progress on specific timebound projects should continue to be assessed and reported at minimum every six months, progress on 'business-as-usual actions' could be limited to end of year reporting only.

29 Six month progress reporting for specific timebound projects is set out in Attachment C. Progress on each action was assessed using the following RAG criteria (applied with reference to anticipated delivery timeframes at time EMRP adoption):

Green	Amber	Red
Project is on track to deliver any emissions reduction objectives, and to be completed as scheduled.	Project is not on track to meet emissions reduction objectives, and/or project is subject to minor delays or reduction in scope.	Project will not meet emissions reduction objectives and/or project is subject to major delays or reduction in scope.

30 Of the 54 specific timebound projects anticipated to be advanced in 2025/26, 20 are on track ('green'), 27 are subject to delays or minor scope contractions ('amber'), and 7 are subject to major delays or scope contractions ('red', several of these being on hold).

31 Most delays or scope contractions will not have a material impact on emissions reduction goals. However, several projects designed to improve waste diversion rates are currently on hold, which may negatively affect achievement of DCC's 2029/30 emissions reduction target. Relevant projects include:

a) establishment of a centralised hub for resource recovery (supporting both community and construction and demolition resource recovery), three initial community resource recovery centres, and an online platform supporting resource circularity (Zero Carbon Plan actions R1.1.2, R1.1.4, R1.1.5, R1.1.6)

b) priority projects and potential incentives for construction and demolition waste reduction in Dunedin (Zero Carbon Plan actions R1.4.3, R1.4.5, R1.4.6, R1.4.7, R1.4.8, R1.4.9, R1.4.10)

32 From an emissions perspective, reducing waste to landfill is critical to achieving DCC emissions reduction targets. Construction and demolition (C&D) waste (specifically timber) is a large emissions source which the delayed projects are designed to address. Should timber diversion from landfill be maintained at current low rates until 2029/30, this would add an estimated 4400tCO2e to DCC's modelled Green Island landfill emissions. This is equivalent to approximately 7% of DCC's total 2024/25 emissions (more than emissions from electricity and LPG use combined), and would result in the DCC overshooting its 2029/30 target.

33 Council consideration of the C&D waste diversion projects has been deferred until 10 Year Plan, to allow budget implications to be considered against other priorities.

34 The delayed projects have been advanced as an integrated whole and all would help towards achievement of emissions reduction targets. Establishment of a centrally-located resource recovery hub is likely to have the greatest and most enduring impact on waste-related emissions and this will also be considered as part of the 10 Year Plan.

35 Other delayed/descoped actions that may impact on target achievement (if no replacement action is identified) include projects to:

a) reduce LPG consumption at Moana Pool

b) support changes in DCC staff travel choices.

36 Moana Pool used more than half of the LPG across all DCC sites in 2024/25 (excluding leased facilities such as Wall Street Mall, and the Railway Station), generating 1,347tCO2e in emissions. Initial advice was that improvements to the heat recovery system could reduce LPG consumption by up to 60%. It is not known how much LPG the current design (which achieves improvements within the budget allocation) will displace. Given how large a LPG consumer Moana Pool is, if the design retains higher LPG use at Moana Pool than initially projected, targets will be more challenging to achieve.

37 Emissions associated with staff travelling to and from work at DCC were estimated as being significantly higher than DCC's fleet emissions in 2024/25 (staff travel causing over 550tCO2e in emissions, compared with about 430tCO2e in DCC fleet emissions). 90% of staff travel emissions were caused by travelling in internal combustion engine and hybrid vehicles. Staff travel survey data indicates many would like to travel by more sustainable modes of transport, however face difficulties in doing so. Achievement of any meaningful reduction in DCC's staff travel emissions

will require actions to remove some of the barriers staff currently face when considering whether to bus, walk, cycle or scoot to and from work.

Two additional investigative actions sit outside of the EMRP

38 EMRP actions are modelled to deliver a 45% reduction in emissions from baseline by 2029/30 - shy of the short-term target of 46.2% by 2029/30. Staff are currently exploring the case for solar generation on DCC sites with large electricity consumption, and initiatives that would further reduce fleet fuel use. These projects have the potential to further reduce emissions while also delivering cost savings for the organisation.

OPTIONS

39 As this report is for noting only, there are no options.

NEXT STEPS

40 DCC's full year organisational emissions will be independently audited and presented to Council in the annual Inventory Management Report in late 2026, along with a full year report on the Zero Carbon implementation plan 2025/26.

Signatories

Author:	Carsten Dortans - Senior Policy Analyst - Zero Carbon Rory McLean - Senior Policy Analyst - Zero Carbon Jinty MacTavish - Manager - Zero Carbon
Authoriser:	Scott MacLean - General Manager, City Services

Attachments

SUMMARY OF CONSIDERATIONS

Fit with purpose of Local Government

Implementation of the Zero Carbon Policy, Zero Carbon Plan and EMRP promotes the economic, social and environmental wellbeing of communities in the present and for the future, by facilitating the transition to a low carbon economy.

Fit with strategic framework

	Contributes	Detracts	Not applicable
Social Wellbeing Strategy	✓	☐	☐
Economic Development Strategy	✓	☐	☐
Environment Strategy	✓	☐	☐
Arts and Culture Strategy	☐	☐	✓
3 Waters Strategy	✓	☐	☐
Future Development Strategy	✓	☐	☐
Integrated Transport Strategy	✓	☐	☐
Parks and Recreation Strategy	☐	☐	✓
Other strategic projects/policies/plans	✓	☐	☐

Zero Carbon Plan, DCC Emissions Management and Reduction Plan, Zero Carbon Policy

Māori Impact Statement

A Treaty of Waitangi analysis was prepared previously as part of the Zero Carbon work programme. This indicated that, in general, taking action to reduce emissions is aligned with Treaty of Waitangi obligations because a wide range of taonga are at risk from climate change. However, individual projects will need to consider Te Taki Haruru and incorporate mana whenua and mātāwaka inputs when delivered.

Sustainability

Climate change mitigation/emissions reduction efforts are considered key to sustainability. 'Climate Action' is one of the United Nation's Sustainable Development Goals, reflecting the centrality of action on climate change to the achievement of sustainable development. Without significant cuts to emissions, climate change impacts will further accelerate, with commensurate negative impacts on the social, environmental, cultural and economic wellbeing of New Zealand communities. Conversely, actions to reduce emissions generally have significant co-benefits in terms of community wellbeing.

LTP/Annual Plan / Financial Strategy /Infrastructure Strategy

There are no implications from this report for the LTP or Annual Plan.

Financial considerations

There are no financial implications.

Significance

This report is considered low significance in terms of the Council's Significance and Engagement Policy.

Engagement – external

There has been no external engagement as part of developing this report.

SUMMARY OF CONSIDERATIONS
Engagement - internal All lead teams have been consulted to develop the reporting status and associated commentary.
Risks: Legal / Health and Safety etc. As stated in the report, remaining on track to achieve EMRP targets is a prerequisite to maintaining access to the Local Government Financing Authority's Climate Action Loan programme. Non-achievement of targets may pose reputational risk for the DCC.
Conflict of Interest No conflicts of interest have been identified
Community Boards No implications for Community Boards have been identified.

Attachment A: Emissions for selected DCC sources by activity – Q1-2 25/26 compared with the same period in 24/25 and baseline[1][2]

		Q1-2				
		Baseline	24/25	25/26	Variance 25/26 - Baseline	Variance 25/26 - 24/25
Emission Type	Emissions Sub-Group	t CO_2e	t CO_2e	t CO_2e	%	%
Energy	Biomass	6.53	87.60	93.24	1327%	6%
	Diesel stationary energy	378.77	331.58	298.57	-21%	-10%
	Electricity	1,852.71	1,452.79	1,538.97	-17%	6%
	LPG	992.22	1,358.81	1,186.35	20%	-13%
Fleet Fuel	Diesel	167.02	182.36	184.50	10%	1%
	Electricity	0.00	0.0001	0.00	0%	-100%
	LPG	0.00	0.00	0.03	0%	100%
	Petrol	81.57	42.69	40.75	-50%	-5%
Waste and Recycling	Closed landfill emissions	4,262.62	3,015.50	2,865.50	-33%	-5%
	Composting	-	1,445.14	1,482.13	-	3%
	Waste to landfill	28,985.81	13,119.35	15,059.45	-48%	15%
Water Treatment	Sludge disposed at private landfill	-	7.85	54.57	-	595%
	WWTP	4,982.68	4,944.43	4,474.60	-10%	-10%
Business Travel	Air travel	156.24	75.61	51.82	-67%	-31%
	Hotel stays	2.01	1.19	2.05	2%	72%
	Private cars	11.22	12.25	11.27	0.4%	-8%
	Rental cars	0.07	0.85	0.52	616%	-39%
	Staff Travel to Work	262.64	290.30	330.89	26%	14%
	Taxis	1.16	0.34	0.38	-68%	10%
	Total	**42,143.27**	**26,368.63**	**27,675.59**	**-34%**	5%

[1] Please note that a dash (-) indicates that no data was recorded.
[2] Please note that a relatively high variance must be seen in relation to its absolute value.

Attachment B: Emissions for selected DCC sources by location – Q1-2 25/26 compared with the same period in 24/25 and baseline[1][2]

			Q1-2				
			Baseline	24/25	25/26	Variance 25/26 - Baseline	Variance 25/26 - 24/25
Emission Type	Emissions Sub-Group	Locations	t CO_2e	t CO_2e	t CO_2e	%	%
Energy	Biomass	Botanic Garden	6.53	18.30	19.62	200%	7%
		Mosgiel Pool	-	69.30	73.61	-	6%
	Diesel stationary energy	Botanic Garden	10.28	0.00	0.00	-100%	0%
		Green Island WWTP	4.41	0.37	1.67	-62%	354%
		Mosgiel WWTP	10.69	49.36	29.99	180%	-39%
		Musselburgh WW PS/screening plant	7.04	26.30	14.62	108%	-44%
		Tahuna WWTP	346.34	255.55	252.29	-27%	-1%
	Electricity	Across DCC	1,852.71	1,452.79	1,538.97	-17%	6%
	LPG	Andersons Bay Crematorium	76.13	88.99	80.18	5%	-10%
		Caledonian Gym	0.00	0.05	0.00	0%	-100%
		Civic Centre-Operations	187.63	243.04	243.64	30%	0%
		Dunedin Public Art Gallery	110.33	144.91	137.52	25%	-5%
		Moana Pool	544.66	776.58	626.12	15%	-19%
		Mosgiel Memorial Gym	23.08	25.43	34.01	47%	34%
		Other DCC Sites	7.60	11.18	8.49	12%	-24%
		St Clair Saltwater Pool	4.53	7.49	6.05	34%	-19%
		Toitu Otago Settlers Museum	35.55	52.45	44.81	26%	-15%
		University Oval	2.70	8.69	5.53	105%	-36%
Fleet Fuel	Diesel	3 Waters	101.64	129.14	135.99	34%	5%
		Building Services	9.61	3.14	1.77	-82%	-44%
		Other DCC departments	53.20	50.07	46.75	-12%	-7%
		Parks and Recreation	2.57	0.00	0.00	-100%	0%
	Electricity	Other DCC departments	0.00	0.00	0.00	0%	-100%
	LPG	3 Waters	0.00	0.00	0.03	0%	100%
	Petrol	3 Waters	10.18	3.08	2.30	0%	-25%
		Building Services	21.33	17.02	17.67	0%	4%
		Other DCC departments	42.81	20.71	16.72	-61%	-19%
		Parks and Recreation	7.25	1.87	4.05	0%	116%
Waste and Recycling	Closed landfill emissions	Various	4,262.62	3,015.50	2,865.50	-33%	-5%
	Composting	Waste and Environmental Solutions	-	1,445.14	1,482.13	-	3%
	Waste to landfill	Green Island Landfill	28,985.81	13,119.35	15,059.45	-48%	15%
Water Treatment	Sludge disposed at private landfill	Various	-	7.85	54.57	-	595%
	WWTP	Green Island WWTP	1,836.90	1,653.90	1,655.54	-10%	0%
		Mosgiel WWTP	374.76	382.34	402.79	7%	5%
		Tahuna WWTP	2,630.84	2,769.15	2,277.23	-13%	-18%
		Waikouaiti & Others WTP	140.19	139.04	139.04	-1%	0%
Business Travel	Air travel	Across DCC	156.24	75.61	51.82	-67%	-31%
	Hotel stays	Across DCC	2.01	1.19	2.05	2%	72%
	Private cars	Across DCC	11.22	12.25	11.27	0.4%	-8%
	Rental cars	Across DCC	0.07	0.85	0.52	616%	-39%
	Staff Travel to Work	Across DCC	262.64	290.30	330.89	26%	14%
	Taxis	Across DCC	1.16	0.34	0.38	-68%	10%
		Total	**42,143.27**	**26,368.63**	**27,675.59**	**-34%**	5%

[1] Please note that a dash (-) indicates that no data was recorded.
[2] Please note that a relatively high variance must be seen in relation to its absolute value.

Attachment C: Six month progress reporting for Specific Timebound Projects in the Zero Carbon Implementation Plan 2025/26

Reference #	Description	Timeframe	DCC Lead	RAG Status	Comment
Resource Use and Waste					
KS1	**Use resources in a more circular way**				
KS2	**Divert more waste from landfill**				
AA 1	**Enable communities to re-use and recycle resources**				
R1.1.3	Provide rural recycling hubs	2025/26-2033/34	Waste and Environmental Solutions	A	Not progressed due to the requirement for additional operational expenditure to service additional recycling dropoff points.
R1.1.4	Work with community partners to support three or more communities to establish new community-led resource/recycling centres in local neighbourhoods	2025/26-2027/28	Waste and Environmental Solutions	R	Council consideration of next steps for this project has been deferred until 10 Year Plan.
R1.1.5	Complete business case for a wider network of community-led resource/recycling centres in local neighbourhoods	2025/26	Waste and Environmental Solutions	R	Council consideration of next steps for this project has been deferred until 10 Year Plan.
R1.1.6	Support communities to operate and develop community-led resource/recycling centres into self-sustaining operating models	2025/26-2027/28	Waste and Environmental Solutions	R	Council consideration of next steps for this project has been deferred until 10 Year Plan.
R1.1.9	Deliver City Recycling Hubs	2025/26-2033/34	Waste and Environmental Solutions	R	One new hub facility to be installed as part of the new ORC headquarters building. No other suitable locations available at the present time.
AA 3	**Enable food and garden organics to be composted**				
R1.3.1	Construct new Green Island composting facility	2025/26-26/27	Waste and Environmental Solutions	A	Construction underway. Project delayed due to a four-month minimum pre-load of the building site to eliminate the risk of differential settlement. Completion scheduled for February 2027.
AA 4	**Enable construction waste to be reduced, re-used and recycled**				
R1.4.1	Construct Green Island facility for storing timber diverted from landfill	2025/26 - 27/28	Waste and Environmental Solutions	G	
R1.4.3	Explore with community partners the potential for construction waste re-use hub(s)	2025/26	Waste and Environmental Solutions	R	Council consideration of next steps for this project has been deferred until 10 Year Plan.
R1.4.5	Explore options for incentives to encourage low carbon, circular, low waste design for construction projects	2025/26	Waste and Environmental Solutions	A	Council consideration of next steps for this project has been deferred until 10 Year Plan.

Attachment C: Six month progress reporting for Specific Timebound Projects in the Zero Carbon Implementation Plan 2025/26

Reference #	Description	Timeframe	DCC Lead	RAG Status	Comment
R1.4.6	Implement incentives for low carbon, circular, low waste design for construction projects	2025/26-2030/31	Waste and Environmental Solutions	A	Some actions progressing. Council consideration of next steps for this project has been deferred until 10 Year Plan.
R1.4.7	Explore ways to support the establishment and operation of building deconstruction services	2025/26	Waste and Environmental Solutions	A	Council consideration of next steps for this project has been deferred until 10 Year Plan.
R1.4.8	Support the establishment and operation of building deconstruction services	2025/26-2030/31	Waste and Environmental Solutions	A	Some actions progressing. Council consideration of next steps for this project has been deferred until 10 Year Plan.
R1.4.9	Deliver a pilot programme for construction waste separation	2025/26	Waste and Environmental Solutions	A	Council consideration of next steps for this project has been deferred until 10 Year Plan.
R1.4.10	Undertake and publish case studies on separating construction waste and reducing waste in design	2025/26	Waste and Environmental Solutions	A	Some actions progressing. Council consideration of next steps for this project has been deferred until 10 Year Plan.
R1.4.11	Publish information about best practice for reducing construction material use and waste through design and construction	2025/26	Waste and Environmental Solutions	G	
AA 5	**Enhance waste minimisation education and facilities**				
R1.5.2	Construct new resource recovery park at Green Island to provide infrastructure for waste diversion	2025/26-2027/28	Waste and Environmental Solutions	A	Construction underway. Significant delay due to the requirement to 'pre load' the building sites for a minimum of four months to prevent differential settlement.
AA 6	**Improve data on resource use and waste**				
R1.6.3	Undertake study to determine source of paper sent to landfill	2025/26	Waste and Environmental Solutions	A	SWAP, including more detailed information on paper sent to landfill, will be completed in mid 2026.
R1.6.4	Use findings from R1.6.3 to plan and implement actions to reduce, re-use, or recycle paper	2025/26-2030/31	Waste and Environmental Solutions	A	To follow completion of SWAP
R1.6.5	Undertake study to determine source and composition of textiles sent to landfill	2025/26	Waste and Environmental Solutions	A	SWAP, including more detailed information on paper sent to landfill, will be completed in mid 2026.

Attachment C: Six month progress reporting for Specific Timebound Projects in the Zero Carbon Implementation Plan 2025/26

Reference #	Description	Timeframe	DCC Lead	RAG Status	Comment
R1.6.6	Use findings to plan and implement actions to reduce, re-use, or recycle textiles	2025/26-2030/31	Waste and Environmental Solutions	A	To follow completion of SWAP
KS 3	**Improve landfill and wastewater gas management**				
AA 7	**Divert biosolids and minimise emissions from wastewater treatment**				
R3.7.1	Complete business case for bioresources facility	2025/26	3 Waters	G	
AA 8	**Improve landfill and wastewater gas capture**				
R3.8.4	Deliver a gas flare at Mosgiel Wastewater Treatment Plant	2026/27	3 Waters	A	Design work complete, consent being prepared. Delivery now expected 26/27.
R3.8.5	Undertake monitoring and explore other improvements to the capture and destruction of greenhouse gases produced in wastewater treatment processes	2025/26-2026/27	3 Waters	A	Feasbility study complete. Delivery now expected 26/27.
Transport and Urban Form					
KS1	**Nurture low emissions urban form**				
AA 2	**Strengthen neighbourhood centres**				
T1.2.2	Consider actions to promote the use and reuse of historic buildings, including through residential use, as part of Heritage Action Plan implementation plan development	2025/2026-2026/2027	Advisory Services	G	
T1.2.3a	Deliver Minor Streetscape Upgrades	2025/26-2027/28 and 2032/33-2033/34	Advisory Services	G	
T1.2.6	Complete South Dunedin Library	2025/26	Property	G	
KS 3	**Unlock remote solutions**				
AA 8	**Provide virtual and low-emissions mobile solutions**				
T3.8.3	Deliver DCC eServices programme	2026/25-2033/34	Business Information Services	G	
KS 4	**Develop convenient and attractive cycling and walking networks and public transport services**				

Attachment C: Six month progress reporting for Specific Timebound Projects in the Zero Carbon Implementation Plan 2025/26

Reference #	Description	Timeframe	DCC Lead	RAG Status	Comment
AA 9	**Complete urban cycleway networks and improve priority pedestrian networks**				
T4.9.1	Develop *Otepoti - Dunedin pathways: A walking and cycling plan* that aligns with Zero Carbon goals	2025/26	Transport	G	
T4.9.3	Work with the Dunedin Tunnels Trail Trust to deliver the Dunedin Tunnels Trail	2025/2026-2027/2028	Transport	G	
T4.9.15	Work with NZTA to deliver SFDT Central City Cycle and Pedestrian Improvements - St Andrew St	2025/26-2029/30	Transport	A	This work is dependent on NZTA's State Highway improvements and project/funding decisions that will be made later in the year.
T.4.9.22	Deliver South Dunedin Safer School Streets	2025/26-2029/30	Transport	A	Transport are delivering components of the South Dunedin Safer Streets programme through the Low Cost Low Risk programme.
T4.9.24	Deliver low cost, low risk improvements	2025/26-2033/34	Transport	G	
AA 12	**Support improvements in the quality and consistency of bus stops and bike facilities**				
T4.12.5	Work with the ORC to develop a collaborative plan for the bus stop network with an initial focus on high frequency routes	2025/26	Transport	G	
KS 5	**Boost travel demand management to support use of active and public modes**				
AA 13	**Align parking management and consider other pricing mechanisms**				
T5.13.1	Develop a Parking Strategy that aligns with Zero Carbon goals	2025/26	Transport	A	Subject to Council approvals, public consultation early in the second half of the year (delayed due to consultation schedules)
AA 14	**Establish and promote car share**				
T5.14.1	Facilitate establishment of commercial car share in Dunedin	2025/26-2026/27	Transport	G	
AA 15	**Expand workplace and school travel planning and road safety promotion**				
T5.15.7a	Explore options to encourage and enable greater uptake of public transport by DCC staff	2025/26	Transport	G	
T5.15.7e	Investigate options to encourage and enable greater uptake of e-bikes by DCC staff	2025/26	Transport	R	ELT decision not to advance due to other priorities (including replacing the finance system)

Attachment C: Six month progress reporting for Specific Timebound Projects in the Zero Carbon Implementation Plan 2025/26

Reference #	Description	Timeframe	DCC Lead	RAG Status	Comment
T5.15.7f	Implement preferred e-bike option for DCC staff - please note that a decision on this action is deferred until all implications are known, including financial and resourcing	Ongoing from 2025/26	Transport	R	ELT decision not to advance due to other priorities (including replacing the finance system)
AA 17	**Improve connections between modes**				
T5.17.1a	Deliver SFDT Mosgiel Park and Ride project, including consideration of connection between modes	2025/26	Transport	G	
KS 6	**Shift freight to low emissions modes**				
AA 18	**Support freight to shift to rail and coastal shipping**				
T6.18.3a	Deliver the Mosgiel Transport Study	2025/26	Transport	G	
KS 7	**Electrify light vehicles**				
AA21	**Support electrification of service vehicles and last mile delivery**				
T7.21.3	Invest in infrastructure to support continued DCC fleet electrification	2025/26	Property/Fleet	A	Physical works scoped and priced. Alternative/ complementary approaches being explored. Some delays.
Buildings, Energy and Industry					
KS1	**Switch to low carbon stationary energy sources**				
KS2	**Improve energy efficiency of buildings and industry**				
AA 1	**Support the transition to fossil-fuel free process heat**				
E1.1.3a	Explore options to support businesses using fossil fuelled boilers/process heat with a capacity less than 500kW (especially LPG boilers) to develop decarbonisation plans	2024/25-2025/26	Zero Carbon	G	
AA 2	**Replace fossil fuels and improve energy efficiency of DCC facilities**				
E1.2.1	Deliver heat recovery system at Moana Pool	2025/2026-2026/2027	Parks and Recreation Services	A	Still in design phase. Heat recovery still planning to be replaced as part of AHU works. Reduction in LPG reliance is anticipated to be delivered under the new design, but has not yet been quantified. It is likely to differ from the reduction built into EMRP modelling.
E1.2.11	Implement preferred option to improve the overall energy efficiency and reduce LPG use at Andersons Bay Crematorium	2025/26-2026/27	Parks and Recreation Services	G	

Attachment C: Six month progress reporting for Specific Timebound Projects in the Zero Carbon Implementation Plan 2025/26

Reference #	Description	Timeframe	DCC Lead	RAG Status	Comment
AA 3	**Support energy efficiency and the transition away from fossil fuels in homes**				
E1.3.1	Explore options to increase residential and community energy efficiency and address energy hardship through Housing Action Plan implementation, and design programme or solution	2025/26	Housing	A	Descoped to focus on cost-neutral options.
E1.3.2	Pilot residential energy efficiency programme	2023/24-2026/27	Housing	A	Due to a reduced budget, the scale of the project has been reduced. Kits are being distributed in the community when households are identified.
E1.3.3	Explore options to promote or incentivise transition to low emissions solutions for heating and cooking in existing homes	2025/26	Zero Carbon	A	Descoped to focus on cost-neutral options. In late 2025 staff worked with community partners to put on the first Electrify Dunedin event, promoting low emissions heating solutions.
E1.3.5	Explore options to promote or incentivise energy efficient, low emissions new builds and retrofits	2025/26	Housing	A	Descoped to focus on cost-neutral options. Pre-existing programmes continue as per BAU.
KS3	**Increase local renewable generation**				
AA 5	**Grow renewable energy generation in the community**				
E3.5.2	Explore options to promote or incentivise renewable energy generation on community assets and residential property	2025/26	Zero Carbon	A	Descoped to focus on cost-neutral options. In late 2025 staff worked with community partners to put on the first Electrify Dunedin event, promoting renewable energy generation.
Forestry, Land and Agriculture					
KS2	**Grow sequestration that aligns with mana whenua and community values**				
AA 2	**Support growth of sequestration that aligns with mana whenua and community values**				
F2.2.2	Explore options to encourage and support growth in sequestration that aligns with mana whenua and community values, including the role of DCC and DCHL offsetting (if any)	2024/25-2025/26	Zero Carbon	G	
F2.2.4	Develop a Green and Blue Networks Plan for Dunedin, including options for sequestration on DCC-owned land	2025/26	Advisory Services	A	Delays due to constraints on team capacity. Delivery now anticipated 2026/27.

Attachment C: Six month progress reporting for Specific Timebound Projects in the Zero Carbon Implementation Plan 2025/26

Reference #	Description	Timeframe	DCC Lead	RAG Status	Comment
Communities and Economies					
KS1	**Build resilient and connected communities, including by enabling local food, resource sharing, and access to local an**				
AA 1	**Foster local and regenerative food systems**				
C1.1.10	Explore with relevant stakeholders ways to encourage people to join the food industry	2023/24-2027/28	Enterprise Dunedin	G	
KS2	**Foster collaboration, partnership, and systems change to unlock opportunities and promote a cohesive transition**				
AA 4	**Deepen partnerships and collaboration**				
C2.4.3a	Implement a standardised approach to give effect to the Zero Carbon Policy through project management, including guidance and support for DCC staff and suppliers	2025/26	Zero Carbon	G	
KS3	**Support innovation and grow diverse low carbon sectors and businesses**				
AA 6	**Support development of a diverse low carbon economy**				
C3.6.1	Build Zero Carbon considerations into the revision of the Economic Development Strategy, including by way of a low carbon future economy opportunities/innovation scan nationally and globally	2023/24-2027/28	Enterprise Dunedin	A	Staff are awaiting direction regarding next steps for the strategic refresh process. Staff have discussed with Business South support for implementation of the Invest Ōtepoti Plan Climate Innovation workstream.
			Legend	Red	Emissions are likely to be significantly higher than predicted for this project and/ or project is subject to major delays or reduction in scope.
				Amber	Project is not on track to meet emissions reduction objectives *and/or* project is subject to minor delays or reduction in scope.
				Green	Project is on track to deliver any emissions reduction objectives or m+B166:F240itigations and to be completed as scheduled.

DUNEDIN CITY GREENHOUSE GAS EMISSIONS INVENTORY FOR THE 2025 FINANCIAL YEAR

Department: Zero Carbon

EXECUTIVE SUMMARY

1 This report provides an update on Dunedin's city-wide emissions for 2024/25, showing gross emissions have reduced 13% from 2018/19 to 2024/25.

2 City-wide emissions modelling is being updated using the 2024/25 emissions inventory, with this modelling to be presented to Council later in 2026 alongside city-wide emissions target options.

3 Full advice will be presented to Council on city-wide emissions target options once the modelling update has been completed. However, with respect to achievement of targets, the updated inventory does not materially change staff advice presented to Council in May 2025, that being:

a) it is very unlikely that the 'net zero' limb of the city's target can be achieved by 2030, and

b) it is likely that the 'biogenic methane' limb of the city's target will be achieved by 2030.

RECOMMENDATIONS

That the Committee:

a) **Notes** the Dunedin City Greenhouse Gas Emissions Inventory for the 2025 Financial Year

BACKGROUND

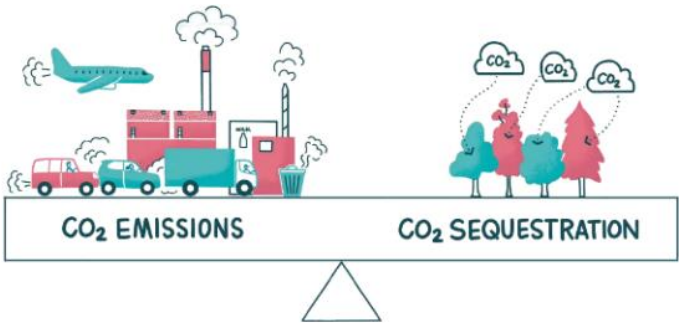
The DCC is seeking to manage and reduce greenhouse gas emissions at both the city and DCC scale

4 The DCC is seeking to manage and reduce emissions at two scales, as directed by the Zero Carbon Policy: city (Dunedin emissions) and organisational (DCC emissions). This report relates to measurement of city scale emissions.

5 At the city scale, the DCC has adopted a city emissions reduction target in two parts:

- net zero emissions of all greenhouse gases other than biogenic methane by 2030, and
- 24% to 47% reduction below 2017 biogenic methane emissions by 2050, including 10% reduction below 2017 biogenic methane emissions by 2030.

6 Net zero carbon means that any greenhouse gases (excluding biogenic methane) emitted into the atmosphere in Dunedin are in balance with the amount of carbon absorbed out of the atmosphere by trees, also known as sequestration. It can be visualised as a balanced seesaw:

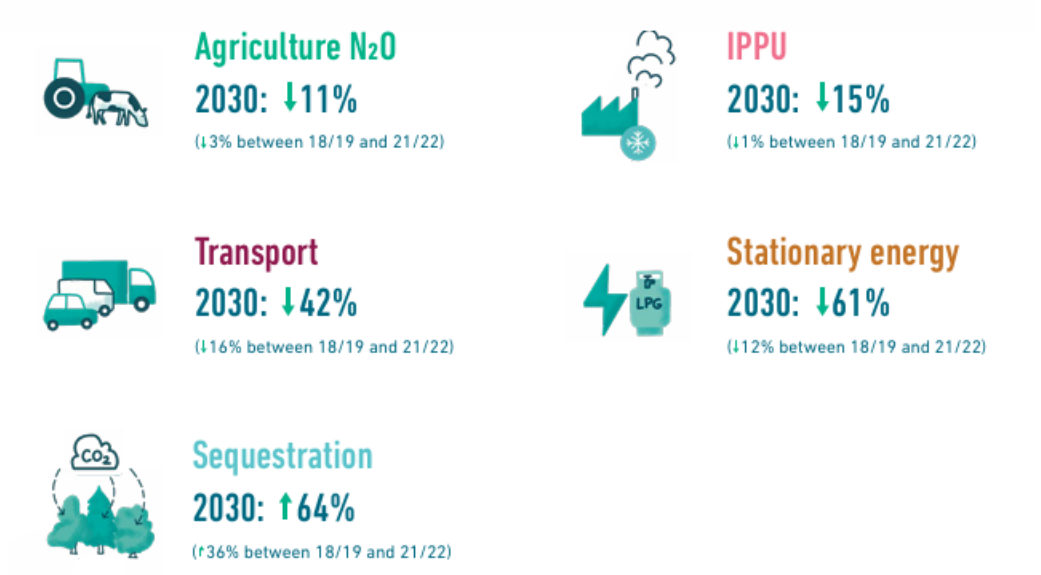


The Zero Carbon Plan mapped out a path to achieve the city's target

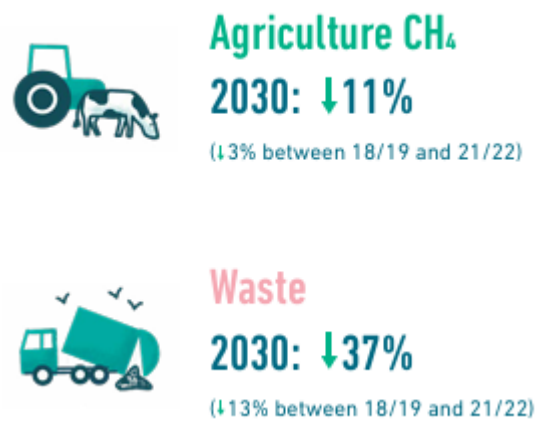
7 In September 2023, Council adopted an emissions reduction plan for Dunedin: The Zero Carbon Plan 2030. The Zero Carbon Plan set out a pathway to achieve the city's target, building on trends already underway.

8 The 2023 modelling that underpinned the Zero Carbon Plan built in the context at the time - emissions reduction targets and commitments made by government and other entities, as well as planned DCC actions. It concluded that achieving the city's targets would require a wide range of government, community, and business stakeholders to pull all available levers as hard as credibly possible.

9 2023 modelling identified that the following reductions (relative to 2018/19) would be required to achieve 'net zero' for Dunedin (excluding biogenic methane):



10 2023 modelling estimated the following reductions (relative to 2018/19) would be required to achieve the biogenic methane target by 2030:



Updated May 2025 modelling

11 Following significant changes in local and national context between 2023 and 2025, updated city scale emissions modelling was presented to Council in May 2025 (**CNL/2025/131**). This modelling showed that while Dunedin was on track to meet the 10% reduction of biogenic methane by 2030, it is not on track to meet the net zero all other gases 2030 target.

12 The May 2025 city emissions modelling relied upon the most up-to-date city emissions inventory at that time, which covered up to the end of the 2021/22 financial year. This report provides an updated emissions inventory covering until the end of 2024/25, which will be used to update city level emissions modelling, and to develop advice for Council on city-wide emissions reduction targets.

DISCUSSION

13 A city-wide community greenhouse gas emissions inventory update has been completed in January 2026 covering 2018/19 to 2024/25 financial reporting years (Attachment A). As directed by the Zero Carbon Policy, emissions in the Dunedin City Territorial Area were estimated using the production-based Global Protocol for Community-Scale Greenhouse Gas Emissions Inventory (GPC) methodology. This method covers the key sectors of Transport, Stationary Energy, Waste, Industrial Processes and Product Use (IPPU), Agriculture, and Forestry. Production-based approaches exclude global emissions relating to consumption, such as the emissions used elsewhere to produce products used/consumed within Dunedin.

14 The emissions inventory update was completed for the DCC by AECOM (who specialise in undertaking emissions inventories for local authorities) and supersedes the previous footprint completed in late 2022 (which covered up to the 2021/22 financial year).

15 The latest update uses current best-practice, and up-to-date data for all years, allowing for like-for-like comparisons. While there is inherent uncertainty in estimating emissions, using consistent methodology and data sources between years allows trends and changes over the years to be assessed.

Overall results

16 In 2024/25, **Dunedin's total gross emissions**[4] were 1,416,010tCO2e[5], while **Dunedin's total net emissions** were 1,119,876tCO2e. Figure 1 and Table 1 show the breakdown by sector of Dunedin's gross emissions in 2024/25:

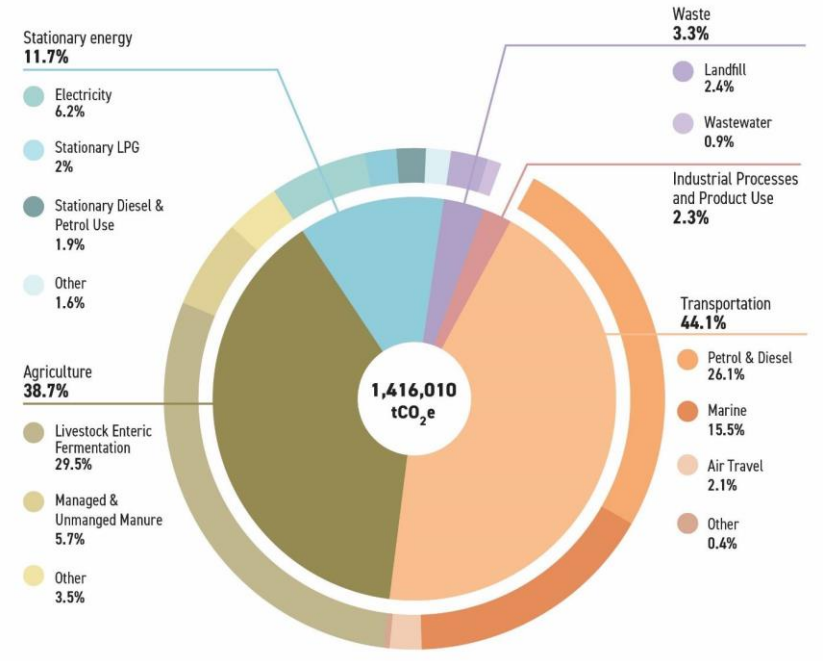


Figure 1 – Dunedin City's total gross 2024/25 GHG emissions split by sector (tCO2e)

Table 1 – Dunedin City 2024/25 Emissions by Source

Emission Sources		Emissions (tCO2e)	Percentage of Total Gross Emissions (%)
Transport	On-Road Transport	322,938	22.8%
	Off-Road Transport	48,118	3.4%
	Marine Transport	219,763	15.5%
	Air Travel	29,512	2.1%
	Rail	3,797	0.3%
Stationary Energy	Electricity Consumption	87,957	6.2%
	Stationary Diesel and Petrol Use	26,617	1.9%
	Stationary LPG	28,778	2.0%
	Coal	13,329	0.9%
	Biofuel	9,140	0.6%
	Biogas	73	0.01%
Waste	Solid Waste (Landfill)	33,535	2.4%

[4] **Total gross emissions** refers to all emissions put into the atmosphere and doesn't include emissions removed from the atmosphere from forestry (known as sequestration). **Total net emissions** refers to total gross emissions less emissions removed from the atmosphere.

[5] Emissions are expressed on a tonnes of carbon dioxide-equivalent basis (tCO2e), using the Intergovernmental Panel on Climate Change's 100-year Global Warming Potential (GWP) values.

	Wastewater Treatment	12,556	0.9%
IPPU	Refrigerant and Air Conditioning Gases	29,959	2.1%
	Other Industrial Gases	2,634	0.2%
Agriculture	Agriculture	547,303	38.7%
Total Gross Emissions		**1,416,010**	**100%**

Changes between 2018/19 and 2024/25

17 The Zero Carbon Plan uses the 2018/19 financial year as a baseline upon which to compare city-wide emissions against. Between 2018/19 and 2024/25:

a) **Dunedin's total gross emissions** reduced 13%, from 1,619,536tCO2e in 2018/19 to 1,416,010tCO2e in 2024/25.

b) **Dunedin's total net emissions** reduced 11%, from 1,258,198tCO2e in 2018/19 to 1,119,876tCO2e.

c) **Dunedin's total net emissions (excluding biogenic methane)**[6] reduced 9%, from 704,845tCO2e in 2018/19 to 641,057tCO2e in 2024/25.

d) **Dunedin's total biogenic methane emissions** reduced 13%, from 553,353tCO2e in 2018/19 to 478,819tCO2e in 2024/25.

18 Key drivers of the trends from 2018/19 to 2024/25 by sector were as follows, as shown in Table 2 below:

a) Emissions from **Transport** decreased by 8% between 2018/19 and 2024/25, from 677,210tCO2e to 624,128tCO2e. This reduction was mainly driven by a 7% reduction in marine freight emissions, a 30% reduction in cruise ship emissions, and 32% reduction in air travel emissions over this period. There was also a small 2% reduction in on-road transport emissions.

b) Emissions from **Waste** decreased by 50% between 2018/19 and 2024/25, from 92,661tCO2e to 46,092tCO2e[7]. This was driven by a reduction in annual emissions from landfill due to improvements to landfill gas capture, the gradual decrease in emissions from closed landfill sites, and to a lesser extent diversion of some organic material from landfill via kerbside green waste composting services[8].

[6] **Total gross/net emissions excluding biogenic methane** refers to all emissions less biogenic methane emissions (in line with the Zero Carbon 2030 target).

[7] The method used to calculate solid waste emissions at Green Island landfill differs from the method used to calculate emissions for DCC's organisational emissions inventory, and also includes emissions from non-DCC landfills. As such, the DCC's organisational emissions inventory cannot be directly compared with the city-wide solid waste emissions for 2024/25.

[8] Accurate measurement of solid waste emissions at the city scale is limited by the lack of data available on privately collected waste deposited at either private Dunedin landfills, or non-DCC landfills outside of Dunedin city. Given waste emissions (comprising solid waste to landfill, composting, and wastewater) only make up 3% of total gross emissions, the lack of data on private landfill operators is not considered material to the overall results

c) Emissions from **Stationary Energy** decreased by 19% between 2018/19 and 2024/25, from 204,735tCO2e to 165,894tCO2e. This was driven by a 70% reduction in emissions from burning coal, and a 12% reduction in emissions associated with electricity consumption. Reductions in electricity consumption emissions were due to an 11% reduction in the emissions per kWh of electricity generated. Actual electricity consumption increased 2% between 2018/19 and 2024/25. The reduction in coal use was primarily due to boiler conversions from coal to biomass at the Dunedin Energy Centre, along with reductions due to all coal school boilers converting to biomass or electric heating by 2024/25 as part of the Ministry of Education's School Coal Boiler Replacement Programme.

d) Emissions from **Agriculture** decreased 9% between 2018/19 and 2024/25, from 600,515tCO2e to 547,303tCO2e. This decrease was mainly due to an estimated 10% reduction in sheep numbers, and 16% reduction in dairy cattle numbers over the period.[9]

e) Emissions from **Industrial Processes and Product Use (IPPU)** decreased 27% between 2018/19 and 2024/25, from 44,415tCO2e to 32,593tCO2e. This was driven by an ongoing trend towards using less emissions-intensive refrigerants and air conditioning gases in appliances.

f) **Net Forestry** sequestration decreased 18% between 2018/19 and 2024/25 (18% less carbon dioxide was absorbed), from -361,337tCO2 to -296,134tCO2. The reduction in net forestry sequestration over this period is due to an increase in forestry harvested in 2024/25 compared with 2018/19. Sequestration from indigenous vegetation remained the same throughout 2018/19 to 2024/25. Sequestration from exotic commercial forestry is variable from year to year. Some years having more harvesting and some years more forest growth, depending on the age of trees and market conditions. The extent of the commercial forestry estate in Dunedin City actually increased over this period, from 16,087 hectares in 2018/19 to 17,298 hectares. All other factors being equal, this suggests the average forestry sequestration for Dunedin will increase over the coming years, as recently planted trees reach maturity.

19 Changes in gross emissions between 2018/19 and 2024/25 are shown in Table 2, split by emissions source.

Table 2 – Gross Emissions changes from 2018/19 to 2024/25 by emissions source

Sector / Emissions Source.		Emissions (tCO2e)		Percentage Change 18/19 – 24/25 (%)
		2018/19	2024/25	
Transport	On-Road	330,316	322,938	-2%
	Rail	4,559	3,797	-17%
	Air travel	43,354	29,512	-32%
	Marine	251,240	219,763	-13%
	Off-Road	47,741	48,118	1%
	Electricity Consumption	100,366	87,957	-12%

[9]These results are based on livestock and fertiliser data for Dunedin City from the 2017 Agricultural Census (StatsNZ), with regional data covering the subsequent years used to estimate the change in livestock and fertiliser use since 2017. The approach has known limitations, as changes in agriculture in the Otago region may not reflect changes in the Dunedin City area.

Stationary Energy	Stationary Diesel and Petrol Use	26,416	26,617	1%
	LPG	29,197	28,778	-1%
	Coal	44,077	13,329	-70%
	Biofuel	4,650	9,140	97%
	Biogas	27	73	168%
Waste	Solid Waste (Landfill)	80,279	33,535	-58%
	Wastewater Treatment	12,383	12,556	1%
IPPU	Refrigerant and Air Conditioning Gases	41,330	29,959	-28%
	Other Industrial Gases	3,085	2,634	-15%
Agriculture	Agriculture	600,515	547,303	-9%
Total Gross Emissions		**1,619,536**	**1,416,010**	**-13%**

Provisional advice on implications of trends for emissions reduction targets

20 City-wide emissions modelling is being updated to incorporate the findings of the 2024/25 emissions inventory.

21 Emissions outcomes at the city scale can be difficult to predict. There are a wide range of external influences, which can have significant impacts on emissions at short notice. Progress is also not linear. As shown by increases in transport emissions between 2021/22 and 2024/25, emissions reductions in any given year are not always enduring. Conversely, emissions can reduce quickly when investment in infrastructure or community uptake reaches certain 'tipping points'. The significant reductions in coal use and associated emissions documented in the inventory are an example of this.

22 The updated modelling will inform advice to Council on city-wide emissions targets. However, with respect to achievement of targets, the updated inventory does not materially change staff advice presented to Council in May 2025 (**CNL/2025/131**), that being:

a) it is very unlikely that the 'net zero' limb of the city's target can be achieved by 2030, and

b) it is likely that the 'biogenic methane' limb of the city's target will be achieved by 2030.

23 As shown in Table 3 below, while gross emissions (excluding biogenic methane) are 12% down in 2024/25 compared with 2018/19, they have increased slightly compared with 2021/22. A major driver of this is that no cruise ships visited in 2021/22, with 41,049tCO2e emissions associated with cruise ships in 2024/25.

24 Net emissions (excluding biogenic methane) are 9% down in 2024/25 compared with 2018/19, however they are significantly higher than net emissions were in 2021/22. This is primarily due to changes in net forestry sequestration, which is variable depending on exotic forestry harvest cycles.

25 Biogenic methane emissions in 2024/25 are 13% lower than in 2018/19, and 8% lower than in 2021/22. This exceeds the target for a 10% reduction by 2030. This suggests Dunedin is tracking well to meet the biogenic methane target for 2030.

Table 3 – Change in Emissions between 2018/19 and 2024/25 by emissions category

Emissions Category (tCO2e)	2018/19	2021/22	2024/25	% change
Total Gross Emissions (excl biogenic methane)	1,066,182	900,175	937,191	-12%
Forestry Net Emissions	- 361,337	- 472,435	- 296,134	-18%
Total Net Emissions (excl biogenic methane)	**704,845**	**427,740**	**641,057**	**-9%**
Total Biogenic Methane Emissions	**553,353**	**520,388**	**478,819**	**-13%**

OPTIONS

26 There are no options, as this is a noting report only.

NEXT STEPS

27 City-wide emissions modelling is being updated, building in the findings of the 2024/25 emissions inventory. The updated modelling will inform advice to Council on city-wide emissions targets.

Signatories

Author:	Rory McLean - Senior Policy Analyst - Zero Carbon
Authoriser:	Jinty MacTavish - Manager - Zero Carbon

Attachments

	Title	Page
⇩A	Dunedin City Greenhouse Gas Emissions Inventory 2025	48

SUMMARY OF CONSIDERATIONS

Fit with purpose of Local Government

Tracking trends in city emissions promotes the social, economic and environmental wellbeing of communities in the present and for the future, by helping to target emissions reduction action.

Fit with strategic framework

	Contributes	Detracts	Not applicable
Social Wellbeing Strategy	✓	☐	☐
Economic Development Strategy	✓	☐	☐
Environment Strategy	✓	☐	☐
Arts and Culture Strategy	☐	☐	✓
3 Waters Strategy	✓	☐	☐
Future Development Strategy	✓	☐	☐
Integrated Transport Strategy	✓	☐	☐
Parks and Recreation Strategy	✓	☐	☐
Other strategic projects/policies/plans	✓	☐	☐

Tracking trends in city emissions gives effect to the Zero Carbon Policy and aligns with the Zero Carbon Plan.

Māori Impact Statement

A critical Treaty of Waitangi analysis was prepared previously as part of the Zero Carbon work programme. This indicated that, in general, taking action to reduce emissions is aligned with Treaty of Waitangi obligations because a wide range of taonga are at risk from climate change. This report provides an update on greenhouse gas emissions across the city, which will inform future decisions on actions to reduce emissions.

Sustainability

Climate change mitigation/emissions reduction efforts are considered key to sustainability. 'Climate Action' is one of the United Nation's Sustainable Development Goals, reflecting the centrality of action on climate change to the achievement of sustainable development. Without significant cuts to emissions, climate change impacts will further accelerate, with commensurate negative impacts on the social, environmental, cultural and economic wellbeing of New Zealand communities. Conversely, actions to reduce emissions generally have significant co-benefits in terms of community wellbeing. This report provides an update on greenhouse gas emissions across the city, which will inform future decisions on actions to reduce emissions.

LTP/Annual Plan / Financial Strategy /Infrastructure Strategy

There are no implications from this report for the LTP or Annual Plan.

Financial considerations

This report has no financial implications.

Significance

This report is considered low significance in terms of the Council's Significance and Engagement Policy.

Engagement – external

There has been no external engagement.

SUMMARY OF CONSIDERATIONS
Engagement - internal Data relevant to development of the footprint was provided by relevant teams.
Risks: Legal / Health and Safety etc. There may be reputational risks for the DCC associated with non-achievement of city targets. This report gives an update on how Dunedin is tracking towards meeting city-wide emissions reduction targets.
Conflict of Interest No conflicts of interest have been identified.
Community Boards No implications for Community Boards have been identified.

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Dunedin City Council
Co No.: N/A

AECOM

Dunedin City GHG Emissions Inventory 2025

(1st July 2024 – 30th June 2025)

23-Jan-2026

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Delivering a better world

Dunedin City GHG Emissions Inventory 2025

(1st July 2024 – 30th June 2025)

Client: Dunedin City Council

Co No.: N/A

Prepared by

AECOM New Zealand Ltd.,

23-Jan-2026

Job No.: 60596145

AECOM in Australia and New Zealand is certified to ISO9001, ISO14001 and ISO45001.

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Quality Information

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Verifier/s	Anthony Hume

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Rev	Revision Date	Details	Approved	
			Name/Position	Signature
4	23-Jan-2026	Final	Anthony Hume Associate Director - Practice Leader Sustainability & Resilience	

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Executive Summary

This inventory details the Greenhouse Gas (GHG) emissions within the geographic boundaries of the Dunedin City Territorial Area. This inventory has been measured and reported using the production-based Global Protocol for Community-Scale GHG Emissions Inventory (GPC) methodology and covers the FY25 government financial year (1st July 2024 to 30th June 2025).

Dunedin City's last city-wide emissions inventory was produced for the FY22 year, with FY19 used as the city's emissions-reduction baseline year. As part of this work, the previously published annual emissions inventories for Dunedin City from FY19 to FY22 have been updated. The results presented in this report supersede past results in previous inventories. Percentage values are rounded to the nearest whole number.

Major findings of the FY25 inventory include:

- **Total gross emissions** in Dunedin City were 1,416,010 tCO_2e.
- **Transport** (e.g. emissions resulting from road, marine, and air travel) represented 44% of Dunedin City's total gross emissions, with on-road petrol and diesel consumption accounting for 23% of the city's total gross emissions. Marine transport (e.g. freight and cruise ships) represented 16% of total gross emissions.
- **Agriculture** was the second-highest emitting sector in the city and represented 39% of Dunedin City's total gross emissions. Methane from livestock enteric fermentation represented 29% of the city's total gross emissions.
- **Stationary Energy** (e.g. emissions relating to electricity, coal, and LPG use) produced 12% of total gross emissions.
- **Waste** (e.g., landfill and wastewater emissions) accounted for 3% of total gross emissions.
- **Industrial Processes and Product Use** (IPPU) (e.g. emissions from refrigerant gases and aerosols) represented 2% of Dunedin City's total gross emissions.
- **Net Forestry** emissions in FY25 totalled -296,134 tCO_2e. This indicates that carbon sequestration (carbon captured and stored in plants or soil) exceeded emissions from forest harvesting (e.g., the release of carbon following harvesting). Net forestry emissions are not included in total gross emissions but in total net emissions. Therefore, the **total net emissions** (gross emissions minus forestry) in Dunedin City were 1,119,876 tCO_2e.

Key changes from FY19 to FY25:

- **Annual total gross emissions** decreased by 13% from FY19 to FY25 (-203,526 tCO_2e).
- **Transport** emissions decreased by 8% (-53,082 tCO_2e). Within transport, marine transport, air travel and on-road transport emissions all decreased.
- **Agriculture** emissions decreased 9% (-53,212 tCO_2e), driven by a decrease in dairy cattle and sheep populations in the Dunedin City area.
- **Stationary Energy** emissions decreased by 19% (-38,841 tCO_2e), driven by a 70% reduction in coal use and a 14% decreased in electricity emissions.
- **Waste** emissions decreased by 50% (-46,569 tCO_2e), driven by a 62% decrease in emissions from landfill sites due to improvements in gas capture at some sites, and the gradual decrease in emissions from closed sites.
- **IPPU** emissions decreased by 27% (-11,822 tCO_2e), mainly due to a market shift to the use of refrigerant gases with lower GHG emissions impact.
- **Net Forestry** emissions changed from -361,337 tCO_2e to -296,134 tCO_2e driven by an increase in emissions from harvesting, and a reduction in exotic forest cover. Therefore, the **total net emissions** (gross emissions minus forestry) decreased by 11%. Net forestry emissions are heavily impacted by commercial harvesting patterns and can vary significantly year-to-year.

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1.0 Introduction

Dunedin City Council (DCC) commissioned AECOM New Zealand Limited (AECOM) to develop a production-based, community-scale Greenhouse Gas (GHG) emissions footprint for Dunedin City for the 2025 financial year (FY25). The FY25 year covers the period from 1st July 2024 to 30th June 2025 (government financial year). The study boundary incorporates the Dunedin City Territorial Area which is hereafter referred to as Dunedin City for ease.

The GHG emissions inventory for FY25 estimates the relative scale of GHG emissions produced in the Dunedin City area and the relative contribution of different emission sources to Dunedin City's total emissions. The results of this inventory can be used to assess trends and changes in Dunedin City's emissions over time.

This inventory represents part of Dunedin City Council's Zero Carbon climate action plan, which involves measuring the city's emissions and tracking progress towards its 2030 net-zero target.

2.0 Approach

The methodological approach used to calculate emissions follows the Global Protocol for Community-Scale Greenhouse Gas Emissions Inventory v1.1 (GPC) published by the World Resources Institute (WRI) 2021. The GPC methodology follows a production-based approach and allocates emissions to industries rather than final users. Production-based approaches exclude global emissions relating to consumption (i.e., embodied emissions relating to products produced elsewhere but consumed within the geographic area, such as imported food products, cars, phones, clothes, etc.).

This emissions footprint assesses both direct and indirect emissions sources. Direct emissions are production-based and occur within the geographic area (Scope 1 in the GPC reporting framework). Indirect emissions are produced outside the geographic boundary (Scope 2 and 3) but are allocated to the consumption location. An example of indirect emissions is those associated with electricity consumption, which is supplied by the national grid (Scope 2). All other indirect emissions, such as cross-boundary travel (e.g., flights) and energy transportation and distribution losses, are Scope 3.

As part of this work, the previously published annual emissions inventories for Dunedin City from FY19 to FY22 have been updated, and the results presented in this report supersede past results for previous inventories.

The inventory is based on data and reporting guidance available at the time of calculation, using reasonable assumptions in line with the GPC reporting guidance, and may need to be updated in the future to account for changes in data availability or changes to reporting guidance.

Greenhouse gas emissions are generally reported in this document in Carbon Dioxide Equivalent (CO_2e) units and are referred to as 'emissions'.

All major assumptions made during data collection and analysis have been detailed within **Appendix A – Assumptions and Data Sources**.

Considering the uncertainty associated with the results is essential, particularly given the different datasets used. At the national level, in New Zealand's Greenhouse Gas Inventory the estimate of gross emissions uncertainty was ±8.58%, with a net emissions uncertainty estimate of ±24.3%[1].

[1] https://environment.govt.nz/assets/publications/GhG-Inventory/GHG-inventory-2024/GHG-Inventory-2024-Vol-1.pdf

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3.0 Dunedin City Emissions Inventory for FY25

Total emissions are reported as gross emissions (excluding forestry harvesting and sequestration) and net emissions (including forestry harvesting and sequestration). This report focuses on gross emissions.

During FY25, Dunedin City's total gross emissions were 1,416,010 tCO_2e. Agriculture and transport emissions are the City's most significant contributors to total gross emissions.

The population of Dunedin City in FY25 was approximately 131,800 people[2], resulting in per capita gross emissions of 10.7 tCO_2e/person.

The total net emissions (gross emissions including forestry) in Dunedin City were 1,119,876 tCO_2e.

Table 1 Total net and gross emissions

Total Emissions	Emissions (tCO_2e)
Total Gross Emissions (excluding Forestry)	**1,416,010**
Total Net Emissions (including Forestry)	**1,119,876**

Figure 1 and Table 2 illustrate the six different sectors that comprise the emissions inventory. A discussion of each sector follows in Sections 3.1 through Section 3.6. Section 4.0 details the change in Dunedin City's emissions since FY19. Due to rounding, there may be some discrepancy between totals and the sum of results in the tables.

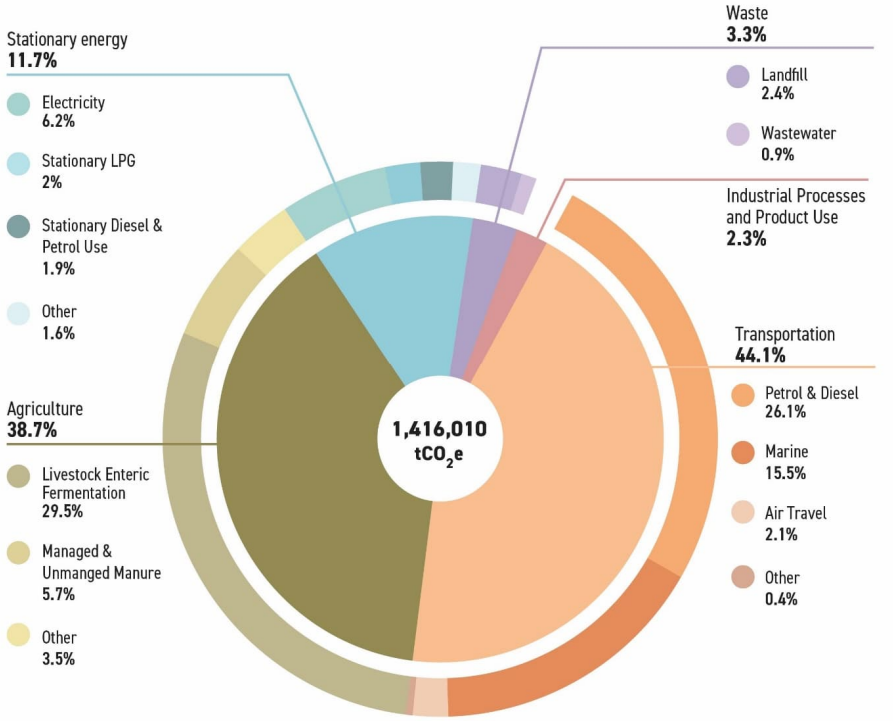

Figure 1: Dunedin City's total gross GHG emissions split by sector (tCO_2e)

[2] Dunedin City, Place and ethnic group summaries | Stats NZ

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Table 2 Dunedin City FY25 emissions by sector

Emissions Source	Emissions (tCO_2e)	Percentage of Total Gross Emissions (%)
Transportation	624,128	44.1%
Agriculture	547,303	38.7%
Stationary Energy	165,894	11.7%
Waste	46,092	3.3%
Industrial Processes and Product Use (IPPU)	32,593	2.3%
Total Gross Emissions	**1,416,010**	**100%**

Table 3 shows the emission sources from largest to lowest. Appendix B presents full emissions breakdowns**.**

Table 3 Dunedin City FY25 emissions by source

Emissions Source	Emissions (tCO_2e)	Percentage of Total Gross Emissions (%)
Agriculture	547,303	38.7%
On-Road Transport	322,938	22.8%
Marine Transport	219,763	15.5%
Electricity Consumption	87,957	6.2%
Off-Road Transport	48,118	3.4%
Solid Waste	33,535	2.4%
Refrigerant and Air Conditioning Gasses	29,959	2.1%
Air Travel	29,512	2.1%
Stationary LPG	28,778	2.0%
Stationary Diesel and Petrol Use	26,617	1.9%
Coal	13,329	0.9%
Wastewater Treatment	12,556	0.9%
Biofuel	9,140	0.6%
Rail	3,797	0.3%
Other Industrial Gasses	2,634	0.2%
Biogas	73	<0.1%
Total Gross Emissions	**1,416,010**	**100.0%**

3.1 Transport

Transport was Dunedin City's highest emitting sector, producing 44% of total gross emissions.

On-road transport, consisting of all standard road vehicles (cars, trucks, buses, etc.), was responsible for 52% of transport emissions and 23% of total gross emissions. A further breakdown of on-road emissions by vehicle type and class is included in **Appendix C**.

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The next largest emission source in the transport sector was marine transport emissions (from freight vessels, cruise ships, and port operations). Marine transport emissions produced 35% of transport emissions. Off-road transport was 8% of transport emissions, while air travel contributed 5% of the sector's emissions.

Cross-boundary journey emissions (e.g. for air travel, marine freight, rail, and cruise ships) are calculated based on the fuel consumed during each journey to and from Dunedin, with emissions split equally between the origin and destination location. It is acknowledged that marine transport and air travel hubs in Dunedin City support an area wider than the immediate Dunedin City area. How emissions related to these travel hubs are allocated regionally could be reconsidered in future inventories.

3.2 Agriculture

Agricultural livestock and crop farming emissions were responsible for 39% of Dunedin City's total gross emissions. Enteric fermentation represented 76% of agricultural emissions. Enteric fermentation is the methane (CH_4) released from the digestive process of ruminant animals (e.g., cattle and sheep). The second-highest source of agricultural emissions was nitrous oxide (N_2O) released by unmanaged manure from grazing animals on pasture.

Livestock was responsible for the majority of the agriculture sector's GHG emissions. In FY25, Sheep represented 85% of the total number of livestock and 48% of agricultural emissions. Cattle (dairy and non-dairy) represented 13% of the total number of livestock and 48% of agricultural emissions. This is due to their greater emissions footprint compared to sheep per animal.

It is important to note that these agricultural results do not include emissions related to the consumption of agricultural products supplied to Dunedin City as per the GPC methodology.

3.3 Stationary Energy

Electricity consumption (including transmission and distribution losses) accounted for 53% of stationary energy emissions and 6% of Dunedin City's total gross emissions. Electricity consumption emissions depend upon the amount of consumption (in kWh) and the emissions intensity of the national grid (tCO_2e/kWh), which changes annually.

LPG, diesel and petrol, coal, biofuels, and landfill biogas produced the remaining stationary energy emissions.

Biogenic CO_2 emissions from biofuels and landfill gas flaring have not been included in these totals and are reported separately in section 3.8.

3.4 Waste

Waste produced in Dunedin City (solid waste, wastewater, and compost) comprised 3% of Dunedin City's total gross emissions.

Solid waste produced 66% of waste emissions. Solid waste emissions include emissions from open (operating) landfill sites and closed landfill sites. Both open and closed landfills emit landfill (methane) gas from the breakdown of organic materials disposed of in the landfill for many years after waste enters the landfill.

The reported solid waste emissions relate to all waste-related emissions produced in FY25 from historic waste produced in Dunedin City that has entered landfill sites over the last 50+ years, per the GPC guidance for city-level reporting. This approach differs from other reporting methods used for different purposes (e.g. for the Council's organisational emissions reporting). The city-level reporting approach ensures that all emissions from Dunedin City's waste are included in the inventory, regardless of location, ownership or whether the landfill is open or closed, and accounts for the gradual release of emissions from historic waste.

Wastewater treatment (treatment plants and individual septic tanks) accounted for 27% of total waste emissions. Most households in Dunedin City (86%) are connected to wastewater treatment plants. Households not connected to wastewater treatment plants (i.e., using individual septic tanks) produced

7% of total waste emissions. Due to higher methane production, septic tanks have a higher emissions intensity per quantity of wastewater compared to the wastewater treatment plants in Dunedin City.

3.5 Industrial Processes and Product Use (IPPU)

IPPU includes emissions associated with the consumption of industrial products and synthetic gases containing GHGs for refrigerants, foam blowing, fire extinguishers, aerosols, metered dose inhalers and Sulphur Hexafluoride for electrical insulation and equipment production. No known industrial processes (as defined in the GPC requirements) are present in Dunedin City (e.g., aluminium manufacture).

IPPU contributed 2% to total gross emissions. The most significant contributor to IPPU emissions was refrigerant gases, which produced 92% of IPPU emissions.

IPPU emissions do not include energy use for industrial manufacturing, which is included in the relevant Stationary Energy sub-category (e.g., coal, electricity and/or petrol and diesel). These emissions are based on nationally reported IPPU emissions and apportioned based on population due to the difficulty of allocating emissions to geographic locations.

3.6 Forestry (Net Emissions)

Native forests (e.g., mānuka and kānuka) and exotic forests (e.g. pine) sequesters (capture) carbon from the atmosphere while the trees are growing to maturity. Harvesting of forests emits emissions via the release of carbon from organic matter and soils following harvesting. When forest sequestration exceeds emissions from harvesting in a particular year, forestry is a net-negative source of emissions, resulting in the area's total net emissions being lower than their total gross emissions. Conversely, when emissions from harvesting exceed the amount of carbon sequestered by native and exotic forests, forestry is a net-positive source of emissions, resulting in the area's total net emissions being higher than their total gross emissions.

Forests in Dunedin sequestered 740,288 tCO_2e in FY25 (mostly from exotic forests), while harvesting emissions were 444,154 tCO_2e. This meant that forestry in Dunedin was a net negative source of emissions in FY25 (rather than a positive source of emissions, where harvesting exceeds sequestration). It is noted that the planting and harvesting of exotic forests can be cyclical in nature. Some years will have higher sequestration, and others will have higher harvesting emissions determined by the age of forests, commercial operators, and the global market.

Table 4 Forestry emissions by emission source (including sequestration)

Sector / Emissions Source	tCO_2e
Harvest Emissions	444,154
Native Forest Sequestration	-183,659
Exotic Forest Sequestration	-556,630
Total	**-296,134**

3.7 Total Gross Emissions by Greenhouse Gas

Each greenhouse gas has a different impact on climate change, which is accounted for when converting quantities of each gas into units of carbon dioxide equivalent (CO_2e). This assessment uses conversion figures (i.e. global warming potentials with climate change feedback) from the IPCC 6th Assessment Report (2021).

Table 5: Dunedin City's total gross emissions by greenhouse gas

Greenhouse Gas	Tonnes	Global Warming Potential (GWP)	Tonnes of CO_2e
Carbon Dioxide (CO_2)	767,106	1	767,106
Biogenic Methane (CH_4)	17,604	27.2	478,819
Non-biogenic Methane (CH_4)	239	29.8	7,130
Nitrous Oxide (N_2O)	478	273	130,361
Other / Unknown Gas (in CO_2e)	32,593	1	32,593
Total	818,020	**-**	**1,416,010**

3.8 Biogenic Emissions

Biogenic CO_2 emissions result from the combustion of biomass materials that store and sequester CO_2, including materials used to make biofuels (e.g., trees, crops, vegetable oils, or animal fats). Biogenic CO_2 emissions from plants and animals are excluded from gross and net emissions as they are part of the natural carbon cycle.

Table 6: Biogenic Carbon Dioxide in Dunedin City in FY25 (Excluded from gross emissions)

Biogenic Carbon Dioxide (CO_2) (Excluded from gross emissions)		
Biofuel	120,567	tCO_2
Landfill Gas (Biogas)	12,374	tCO_2
Wastewater Treatment	834	tCO_2
Total Biogenic CO_2	**133,776**	**tCO_2**

Biogenic CH_4 emissions (e.g., produced by farmed cattle via enteric fermentation) are included in gross emissions due to their relatively large impact on global warming relative to biogenic CO_2. Biogenic methane represents 2% of the total gross tonnage of GHG emissions in Dunedin City but 34% of total gross GHG emissions when expressed in CO_2e. This is caused by the higher global warming impact of methane per tonne compared to carbon dioxide. Table 7 shows biogenic methane in Dunedin City in FY25 in tonnes of methane by emission source.

Table 7: Biogenic Methane in Dunedin City in FY25 (Included in gross emissions)

Biogenic Methane (CH_4) (Included in gross emissions)		
Enteric Fermentation	15,334	tCH_4
Landfill Gas	1,124	tCH_4
Manure Management	530	tCH_4
Biofuel	296	tCH_4
Wastewater Treatment	251	tCH_4
Composting (Green Waste)	68	tCH_4
Total Biogenic CH_4	**17,604**	**tCH_4**

4.0 Gross Emissions Changes: FY19 to FY25

Dunedin City uses FY19 as its baseline year against which to track emissions and progress towards emission reduction targets (see Section 6.0 for information about Dunedin's targets), this section presents the changes in gross emissions between FY19 and FY25.

Between FY19 and FY25, annual total gross emissions decreased by 13%. All gross emissions sectors saw a decrease in emissions over this time period.

The previously published annual emissions inventories for Dunedin City from FY19 to FY22 have been updated as part of this inventory, with the results presented in this report superseding past results. The updated results are presented here. A description of these updates is given in Section 7.0.

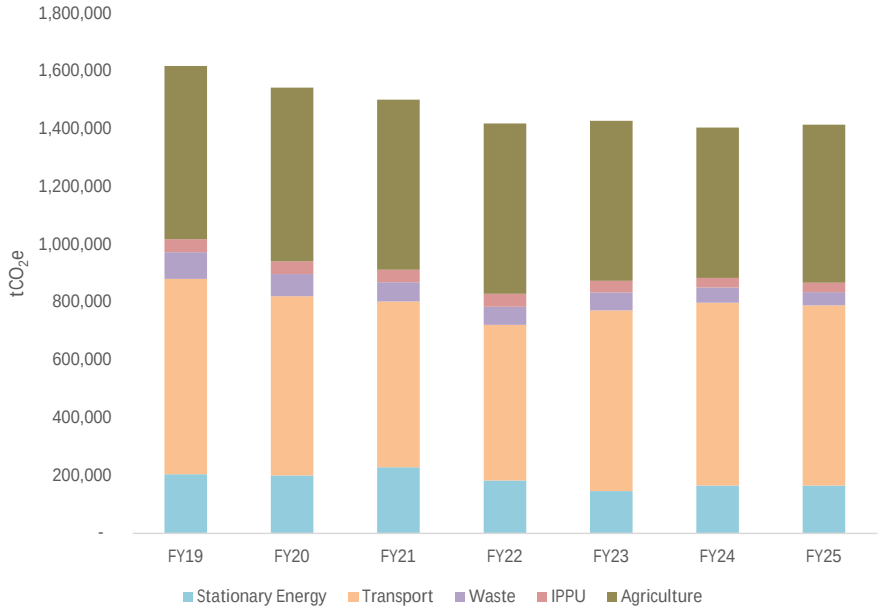

Figure 2 Change in Dunedin's total gross GHG emissions from FY19 to FY25

Due to rounding, there may be some discrepancy between totals and the sum of results in the tables.

Table 8 Dunedin City - Change in emissions by sector from FY19 to FY25

Sector / Emissions Source	Emissions (tCO_2e)		Percentage Change FY19 - FY25 (%)
	FY19	FY25	
Transportation	677,210	624,128	-8%
Agriculture	600,515	547,303	-9%
Stationary Energy	204,735	165,894	-19%
Waste	92,661	46,092	-50%
Industrial Processes and Product Use (IPPU)	44,415	32,593	-27%
Total Gross Emissions	**1,619,536**	**1,416,010**	**-13%**

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Table 9 Dunedin City - Change in emissions by source from FY19 to FY25

Sector / Emissions Source	Emissions (tCO_2e)		Percentage Change FY19 - FY25 (%)
	FY19	FY25	
Agriculture	600,515	547,303	-9%
On-Road Transport	330,316	322,938	-2%
Marine	251,240	219,763	-13%
Electricity Consumption	100,366	87,957	-12%
Off-Road Transport	47,741	48,118	1%
Solid Waste (Landfill)	80,279	33,535	-58%
Refrigerant and Air Conditioning Gasses	41,330	29,959	-28%
Air travel	43,354	29,512	-32%
Stationary LPG	29,197	28,778	-1%
Stationary Diesel and Petrol Use	26,416	26,617	1%
Coal	44,077	13,329	-70%
Wastewater Treatment	12,383	12,556	1%
Biofuel	4,650	9,140	97%
Rail	4,559	3,797	-17%
Other Industrial Gasses	3,085	2,634	-15%
Biogas	27	73	168%
Total Gross Emissions	**1,619,536**	**1,416,010**	**-13%**

4.1 Transport

Transport emissions decreased 8% between FY19 and FY25 (-53,082 tCO_2e), mostly driven by a 13% reduction in marine transport emissions.

Within marine transport, there was a 30% reduction in emissions from cruise ships between FY19 and FY25 resulting from a reduction of visits. Marine freight emissions also decreased by 7% in this time, however, these emissions tend to fluctuate year-to-year based on the number of vessel visits and the length of their journeys.

Air travel emissions decreased by 32% (13,842 tCO_2e), driven by a 21% decrease in passenger numbers.

On-road transport emissions decreased by 2% (7,378 tCO_2e) driven by a 7% decrease in petrol use and a 1% increase in diesel use.

Changes in air and on-road transport emissions reflect changes nationally and may be impacted by changes to transport patterns since the COVID-19 pandemic.

4.2 Agriculture

Agriculture emissions decreased by 9% (-53,212 tCO_2e) between FY19 and FY25. This decrease was driven by a 6% decrease in livestock enteric fermentation emissions, but emissions from all agricultural sources decreased over this time.

This decrease was mainly due to a reduction in the total number of sheep and dairy cattle in Dunedin, whose populations decreased by 10% and 16% respectively.

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These results are based on livestock and fertiliser data for Dunedin City from the 2017 Agricultural Census (StatsNZ), with regional data covering the subsequent years used to estimate the change in livestock and fertiliser use since 2017. Changes in agriculture in the Otago region may not reflect changes in the Dunedin City area.

4.3 Stationary Energy

Stationary energy emissions decreased by 19% (-38,841 tCO_2e). The biggest driver of this change was a 70% decrease in total coal use (-30,748 tCO_2e), particularly due to the Dunedin Energy Centre switching from coal to biofuel boilers in 2023. During this period, total biofuel emissions increased by 4,490 tCO_2e. Biofuel has a lower GHG emissions impact than coal.

Electricity emissions decreased 12% with an 11% decrease in consumption and a 2% decrease in the emissions intensity of the national grid.

4.4 Waste

Waste emissions decreased by 50% between FY19 and FY25 (-46,569 tCO_2e). This was driven by a reduction in open landfill emissions due to increased landfill gas capture at Green Island Landfill. Closed landfill emissions were also reduced as no new waste entered these sites.

Improvements to landfill gas capture systems have meant that more landfill gas (CH_4) has been captured and flared or used for energy generation, reducing the emissions impact of open landfill sites by 77% (-38,827 tCO_2e).

Annual emissions from closed landfill sites reduced by 36% (-10,870 tCO_2e) between FY19 and FY25. As no additional waste enters these sites, annual emissions from this source will continue to fall.

Kerbside organic collection was introduced to Dunedin City in 2024, diverting waste from landfill. In FY25 this source produced 2,953 tCO_2e.

4.5 Industrial Processes and Product Use (IPPU)

IPPU emissions decreased by 27% (11,822 tCO_2e) between FY19 and FY25. This was driven by a decrease in the consumption of particularly emissions-intensive refrigerants and air conditioning gases. Industry shifts away from the use of the more harmful IPPU gases may have contributed to this.

4.6 Forestry (Net Emissions)

Net forestry emissions changed from -361,337 tCO_2e to -296,134 tCO_2e between FY19 and FY25, driven by a 27% increase in harvest emissions.

When we take net forestry into account to give the total net emissions for Dunedin City (gross emissions minus forestry), total net emissions decreased by 11% (138,322 tCO_2e). This is a lower decrease than for total gross emissions due to the changes in net forestry.

It is important to note that net forestry emissions can be highly variable year to year, and over longer time periods, due to the cyclical and market-based nature of commercial forestry practices, where some years will have more harvesting and some years will have more forest growth.

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5.0 Gross Emissions Changes: FY22 to FY25

Dunedin's last city-wide emissions inventory covered the FY22 year; this section presents the changes in emissions between FY22 and FY25. The previously published results for FY22 have been updated as part of this inventory, with the results presented in this report superseding past results. A description of these updates is given in Section 7.0.

Annual total gross emissions decreased by 0.3% from FY22 to FY25 (-4,552 tCO_2e). There were reductions of emissions across all sectors, except for transport which had a 16% increase.

Agriculture decreased the most between FY22 and FY25 with a 7% reduction (-43,277 tCO_2e). The largest driver of this was a 6% decrease in livestock enteric fermentation.

Stationary energy emissions decreased by 9% (-17,090 tCO_2e). Coal was the largest driver of this change, with a 63% reduction of use over time (-22,511 tCO_2e), particularly driven by the Dunedin Energy Centre switch from coal to biofuel boilers. Electricity consumption emissions increased 2% with a 1% increase in consumption and a 2% increase in the emissions intensity of the national grid

Waste emissions reduced by 26% (-16,529 tCO_2e), primarily due to improved gas capture methods at open landfill sites and a gradual reduction in emissions from closed landfill sites.

Industrial Processes and Product Use (IPPU) emissions decreased by 27% (-12,210 tCO_2e), driven by a national decrease in the consumption of particularly emissions-intense refrigerant and air conditioning gas use. This may be due to industry shifts away from the use of the more harmful IPPU gasses.

Transport emissions increased 16% (84,553 tCO_2e). Of particular note is the effect of the COVID-19 pandemic on reduced transport in FY22, particularly for cruise ships, on-road transport, and air travel. Cruise ships did not visit Dunedin City in FY21 or FY22, so their return contributed to an additional 41,049 tCO_2e in FY25[3] compared to FY22. Marine freight also increased by 11% (17,832 tCO_2e), on-road transport increased by 6% (18,639 tCO_2e), and air travel increased by 23% (5,561 tCO_2e).

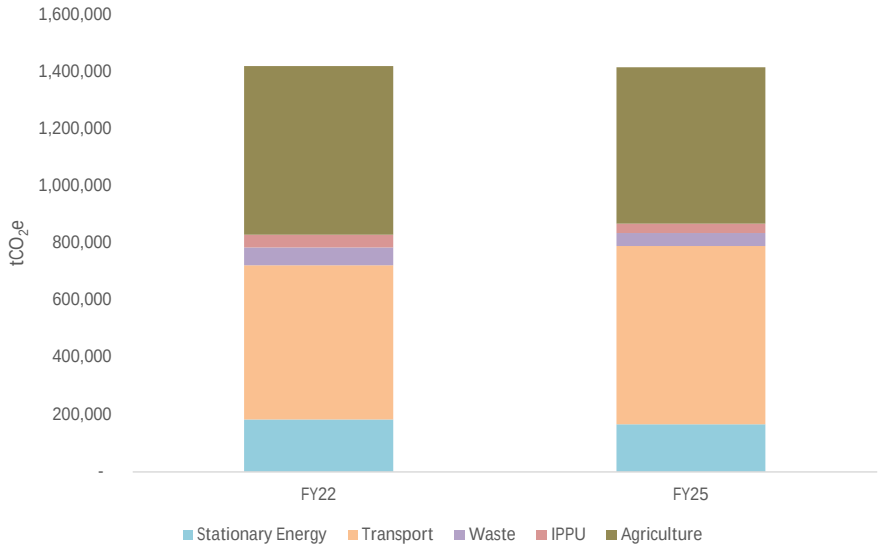

Figure 3 Change in Dunedin City total gross emissions from FY22 to FY25

[3] Note that emissions in FY25 are lower than in the two years prior to the COVID-19 pandemic impacts (FY19 and FY20).

6.0 Net Zero 2030 Goal Tracking

Like the New Zealand's national emissions reduction target, Dunedin City's emissions reductions target is in two parts (the 'split gas approach').

Split gas emissions reduction targets:

- Dunedin aims to achieve net zero emissions of carbon dioxide and other greenhouse gases by 2030 (except biogenic methane) based on the FY19 baseline inventory presented here (*i.e. Total Net Emissions excluding Biogenic Methane).*
- Dunedin also aims to achieve a 24-47% reduction in biogenic methane emissions below FY19 levels by 2050, including a 10% reduction below FY19 levels by 2030 (*i.e. Total Biogenic Methane Emissions*).

Table 10 presents the results of this inventory using the split gas approach as per the emissions reduction targets.

Total net emissions (excluding methane) are heavily impacted by commercial forest harvesting patterns and can vary significantly year-to-year. During this period, there has been a decrease in commercial forest cover, and an increase in forest harvesting emissions resulting in an increase in total net emissions (excluding methane) despite a reduction in total gross emissions (excluding methane).

Table 10 Change in Dunedin's total emissions from 2018/19 to 2024/25 (split gas approach, expressed in CO_2-equivalent units)

	FY19 (tCO_2e)	FY25 (tCO_2e)	% Change (FY19 to FY25)
Total Gross Emissions (excluding biogenic methane)	1,066,182	937,191	-12%
Forestry Net Emissions	-361,337	-296,134	-18%[4]
Total Net Emissions (excluding biogenic methane)	**704,845**	**742,859**	**5%**
Total Biogenic Methane Emissions (tCO_2e)	**553,353**	**478,819**	**-13%**

[4] Note that this percentage change is a reduction in net sequestration so this change will increase total net emissions for Dunedin City

7.0 Update to the FY19 to FY22 Inventory Results

The previously published annual emissions inventories for Dunedin City from FY19 to FY22 have been updated as part of this inventory, with the results presented in this report superseding past results.

Global warming potential and emission factor updates:

- Updates to the global warming potential values, from the Intergovernmental Panel for Climate Change(IPCC) AR5 values (2014) to the IPCC AR6 (2021) values, in-alignment with best practice GHG emissions reporting. This particularly affects agriculture, waste and IPPU emissions.
- Updates to the emission factors used, from Ministry for the Environment (MfE) 2022 factors to MfE 2025 factors.

Method and data updates:

- The petrol and diesel calculations for FY22 have been updated to account for an anomaly in the background data.
- The open landfill calculations have been updated to utilise measured methane capture data.
- The air travel (jet kerosene) emissions calculations have been updated to align with Dunedin Airport GHG emissions reporting.
- The wastewater emissions calculations have been updated to align with Dunedin City Council's GHG emissions reporting, and to enable direct comparison over time.
- The coal emissions calculations have been updated to account for a small error in the previous calculations.
- The FY22 forestry emissions calculations have been updated with new national exotic forestry data that had not published at the time of the last inventory.

Table 11 presents the updated Dunedin City FY19 to FY22 emissions inventory results, this includes the FY23 to FY25 results for reference. Full results for FY19 to FY22 have been provided to Dunedin City Council.

Table 11 Dunedin City - Change in emissions by sector from FY19 to FY25

Sector / Emissions Source	Emissions (tCO_2e)						
	FY19	FY20	FY21	FY22	FY23	FY24	FY25
Transport	677,210	621,022	574,735	539,575	625,974	633,880	624,128
Agriculture	600,515	601,876	589,742	590,580	553,708	521,475	547,303
Stationary Energy	204,735	200,931	228,721	182,984	146,107	165,463	165,894
Waste	92,661	76,529	66,240	62,621	63,067	51,931	46,092
IPPU	44,415	44,415	43,669	44,803	40,283	33,547	32,593
Total Gross Emissions	**1,619,536**	**1,544,774**	**1,503,106**	**1,420,563**	**1,429,138**	**1,406,295**	**1,416,010**
Net Forestry	-361,337	-524,194	-428,596	-472,435	-260,545	-279,009	-296,134
Total Net Emissions	**1,258,198**	**1,020,580**	**1,074,510**	**948,127**	**1,168,594**	**1,127,286**	**1,119,876**

8.0 Closing Statement

Dunedin City's GHG emissions inventory provides information for decision-making and action by the council, Dunedin City stakeholders, and the wider community. We encourage the Council to use the results of this study to inform updates to emissions reduction plans and targets. Best practice emissions measurement and management is always improving. It is recommended that this emissions footprint be updated regularly to inform ongoing positive decision-making to address climate change issues.

9.0 Limitations

Where this Report indicates that information has been provided to AECOM by third parties, AECOM has made no independent verification of this information except as expressly stated in the Report. AECOM assumes no liability for any inaccuracies in or omissions to that information. This Report was prepared between **August 2025 and January 2026** and is based on the information reviewed at the time of preparation. AECOM disclaims responsibility for any changes that may have occurred after this time. This Report should be read in full. No responsibility is accepted for use of any part of this report in any other context or for any other purpose or by third parties. This Report does not purport to give legal advice.

Legal advice can only be given by qualified legal practitioners. Except as required by law, no other party should rely on this document without the prior written consent of AECOM. Where such agreement is provided, AECOM will provide a letter of reliance to the agreed third party in the form required by AECOM. To the extent permitted by law, AECOM expressly disclaims and excludes liability for any loss, damage, cost, or expenses suffered by any third party relating to or resulting from the use of, or reliance on, any information contained in this Report. AECOM does not admit that any action, liability, or claim may exist or be available to any third party. It is the responsibility of third parties to independently make inquiries or seek advice in relation to their particular requirements and proposed use of the information.

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10.0 Appendix A: Assumptions and Data Sources

The following table details assumptions and exclusions for the FY25 inventory.

Table 12 Dunedin City Emissions Inventory 2025 Assumptions and Exclusions

Sector / Category	Assumptions and Exclusions
General	
Geographical Boundary	LGNZ local council mapping boundaries have been applied.
Population	Population figures are provided by StatsNZ. The calendar year population for the year in which the financial year begins was used for the financial year population.
Global Warming Potential Used	Emissions are expressed as carbon dioxide equivalent (CO_2e) using the 100-year Global Warming Potential (GWP) values from the IPCC 6th Assessment Report (AR6).
Full Inventory	Emissions for all sources broken down by individual main greenhouse gases are provided in the supplementary spreadsheet information supplied with this report.
GPC Production Approach	GPC reporting is predominately production-based (as opposed to consumption-based) but includes indirect emissions from energy consumption. Production-based emissions reporting is generally preferred by policymakers due to robust, established methodologies such as the GPC, which enable comparisons between different studies. Production-based approaches exclude globally produced emissions relating to consumption (e.g., embodied emissions relating to products made elsewhere but consumed within the geographic area, such as imported food products, cars, phones, clothes, etc.). Cross-boundary movements such as air travel and marine freight journeys departing or arriving in Dunedin have been included, with emissions related to the journeys split equally between the origin and destination, per GPC requirements, despite the emissions being produced outside the Dunedin City geographical boundary.
Emission Factors	All emission factors have detailed source information in the calculation tables within which they are used. Where possible, the most up-to-date, NZ-specific emission factors have been applied. This inventory uses applicable emission factors predominantly from the New Zealand Ministry of the Environment Measuring emissions: A guide for organisations: 2025 detailed guide. The emission factors for electricity are obtained from MBIE data for the financial year.
Transport Emissions	
Petrol and Diesel:	Total petrol and diesel consumption in Dunedin City was calculated from aggregated petrol and diesel sales data for Dunedin City, Clutha District, and Waitaki District, which was then apportioned out to these territorial authorities based on the total distance travelled by vehicles in each territorial authority in the financial year (known as Vehicle Kilometres Travelled or VKT). Allocating fuel consumption across a region based on VKT does not account for the likely makeup of a particular geographic area's vehicle fleet (e.g., a more rural area may use more diesel, or a more urban area may have more hybrid or electric vehicles travelling).

	Fuel sold in an area does not always mean that the fuel is used in that area. However, this approach is considered a robust and comparable fuel consumption estimate in a geographic area. Total petrol and diesel fuel use was then divided by likely end use. The division into Transport and Stationary Energy end use (and within Transport, on-road and off-road) was calculated using fuel end-use data provided by the Energy Efficiency and Conservation Authority (EECA) in April 2020. - On-road Transport is defined as all standard transport vehicles used on roads e.g. cars, bikes, buses. - Off-road Transport is defined as machinery for Agriculture, construction and other industries used off-roads. - Stationary Energy petrol and diesel use is defined as fuel not used for transport either on or off roads. Petrol and diesel used for Stationary Energy have been reported in the Stationary Energy sector. This method produces results for off-road and stationary uses of petrol and diesel that are heavily impacted by changes in on-road transport uses of petrol and diesel as this represents the largest proportion of petrol and diesel sales. Better data and understanding of off-road and stationary uses of petrol and diesel are required to improve the applicability of these results.
Rail Diesel	Consumption was calculated by Kiwi Rail using the induced activity method for system boundaries. The following assumptions were made: - Net Weight is product weight only and excludes container tare (the weight of an empty container) - The Net Tonne-Kilometres (NTK) measurement has been used. NTK is the sum of the tonnes carried, multiplied by the distance travelled. - National fuel consumption rates have been used to derive litres of fuel for distance. - The type of locomotive engine used, and jurisdiction topography have not been incorporated in the calculations. Using the induced activity method, the trans-boundary routes were determined, and the number of stops taken along the way derived. The total litres of diesel consumed per route was then split between the departure territorial authority, arrival territorial authority and any territorial authority the freight stopped at along the way. If the freight travelled through but did not stop within a territorial authority, no emissions were allocated. This data is subject to commercial confidentiality.
Jet Kerosene	Full flight emissions relating to jet kerosene emissions have been provided by Dunedin Airport following an approved method. The approach used is based on fuel used by outgoing flights from Dunedin. This approach accounts for journey emissions being split between the origin and destination location with other airports using the same method to calculate the outgoing flights from their airport (therefore covering in-bound flights to Dunedin).
Aviation Gas	Aviation gas is mainly used by small aircraft for relatively short flights. Emissions have been calculated based on the total aviation gas fuel uplifted at Dunedin Airport. The fuel figure was provided by Dunedin Airport and is acknowledged to be a reasonable estimate. No estimate of aviation gas usage has been made for aerodromes and other flights outside Dunedin Airport. This is expected to be a small emission source.

Marine Diesel – Freight	Calculated using the induced activity method as per rail diesel. An estimate of fuel use was calculated for vessels arriving and departing from Dunedin. - The schedule of vessels arriving and departing from Dunedin, which contains details on the size of the vessel, was used to calculate fuel consumption. - Shipping distances and vessel fuel burn rates were used for these calculations. - As per the induced activity method, only 50% of emissions calculated per one-way arrival and departure were allocated to Dunedin. The remaining 50% of each leg was allocated to the originating or destination location. All calculated emissions from freight are allocated to Dunedin City despite the understanding that imports and exports through Port Otago service an area larger than Dunedin City. This approach aligns with the GPC reporting guidance but could be reconsidered in the future, alternative options could include: - Allocating emissions based on the origin of exports, and the destination of imports (data dependent) - Allocating emissions based on relative population size across the Otago Region - A hybrid approach such as by identifying key exports (such as from logging and meat/dairy) and allocating the associated export-related emissions based on the origin location of those exports, and allocating the remaining emissions on a population basis.
Marine Diesel (Local)	Port operational vessels: - Fuel use has been provided directly by Port Otago. - All emissions from this source have been allocated to Dunedin City Private use, other commercial operators, and commercial fishing: - Most small private boats use fuel purchased at vehicle gas stations so this consumption will be included in off-road transport petrol and diesel emissions. - No data was available to determine emissions from other commercial operators, and commercial fishing which don't refuel at standard diesel suppliers in Dunedin (this is likely to be a small emissions source).
Cruise Ships	Cruise ship emissions have been estimated using the induced activity method similar to rail diesel and marine freight. An estimate of fuel use was calculated for each vessel arriving and departing from Dunedin based on the estimated fuel consumption of each vessel, the distance travelled to and from Dunedin, and while stationary in port. As per the induced activity method, for emissions produced during the journey to/from Dunedin the emissions are allocated equally between Dunedin and the next/last port.
LPG	Total South Island consumption data was used and then split per capita to determine the territorial authority's consumption. National LPG end use data has been used to break down consumption into Stationary Energy and Transport usage; these are then reported separately in their respective categories. It is acknowledged that per-capita use of LPG may vary across the South Island, however more local data was not available at the time of calculation.

	For reference, in FY25 LPG use represented 2% of Dunedin City's emissions.
Stationary Energy Emissions	
Consumer Energy End Use	Stationary Energy demand (e.g., electricity use, natural gas, etc.) is broken down by the sector in which it is consumed. We report Stationary Energy demand in the following categories: industrial (which includes Agriculture, forestry, and fishing), commercial, and residential. These sectors follow the definitions of Australia New Zealand Standard Industrial Classification 2006. In addition to Agriculture, forestry and fishing, the industrial sector includes mining, food processing, textiles, chemicals, metals, mechanical/electrical equipment and building and construction activities. Emissions from petrol and diesel used for Stationary Energy are not broken down into these sectors. Energy demand for transport is reported in the transport sector.
Electricity Consumption	Electricity demand has been calculated using grid demand trends from the EMI website (www.emi.ea.govt.nz) to obtain raw grid exit point data for Dunedin. The reconciled demand has been used per EMI's confirmation. The breakdown into sectors is based on NZ average consumption per sector (residential, commercial, and industrial).
Public Transport Electricity	Electricity used in the public transport system is included in the Transport sector. An estimate of electricity consumption has been derived from data covering the distance travelled in the reporting year.
Private Transport Electricity	Electricity used for private transport (e.g., electric cars, bikes, and micro-mobility) is included in the Transport sector. An estimate of electricity consumption has been derived from data covering the distance travelled in FY19 and adjusted for subsequent years based on the change in the number of electric vehicles in the fleet in Dunedin.
Coal Consumption	For FY19 to FY22, coal consumption data was provided by the University of Otago from their Dunedin Energy Study data. This data includes coal used by multiple organisations, and in residential settings in Dunedin, not just the University of Otago. For FY23 to FY25, coal consumption data estimates were provided by Dunedin City Council to align with the Dunedin Energy Study.
Biofuel and Wood Consumption	For FY19 to FY22, biofuel and wood burning consumption data was directly provided by the University of Otago from their Dunedin Energy Study data. This data includes biofuel and wood burned by multiple organisations, and in residential settings in Dunedin, not just the University of Otago. For FY23 to FY25, biofuel consumption data estimates were provided by Dunedin City Council to align with the Dunedin Energy Study. The carbon dioxide (CO_2) emissions produced from the burning of biofuels have been excluded from the emissions totals as they are considered to be biogenic (but are reported separately). Only the methane and nitrous oxide emissions have been included in the reported CO_2e figures for biofuels.
LPG Consumption	Total South Island consumption data was used and then split per capita to determine the territorial authority's consumption. National LPG end use data has been used to break down consumption into Stationary Energy and Transport usage; these are then reported separately in their respective categories.

Petrol and Diesel (Stationary Energy end use)	Total petrol and diesel consumption in Dunedin City was calculated from aggregated petrol and diesel sales data for Dunedin City, Clutha District, and Waitaki District, which was then apportioned out to these territorial authorities based on the total distance travelled by vehicles in each territorial authority in the financial year (known as Vehicle Kilometres Travelled or VKT). Allocating fuel consumption across a region based on VKT does not account for the likely makeup of a particular geographic area's vehicle fleet (e.g., a more rural area may use more diesel, or a more urban area may have more hybrid or electric vehicles travelling). Fuel sold in an area does not always mean that the fuel is used in that area. However, this approach is considered a robust and comparable fuel consumption estimate in a geographic area. Total petrol and diesel fuel use was then divided by likely end use. The division into Transport and Stationary Energy end use (and within Transport, on-road and off-road) was calculated using fuel end-use data provided by the Energy Efficiency and Conservation Authority (EECA) in April 2020. - On-road Transport is defined as all standard transport vehicles used on roads e.g. cars, bikes, buses. - Off-road Transport is defined as machinery for Agriculture, construction and other industries used off-roads. - Stationary Energy petrol and diesel use is defined as fuel not used for transport either on or off roads. Petrol and diesel used for Stationary Energy have been reported in the Stationary Energy sector. This method produces results for off-road and stationary uses of petrol and diesel that are heavily impacted by changes in on-road transport uses of petrol and diesel as this represents the largest proportion of petrol and diesel sales. Better data and understanding of off-road and stationary uses of petrol and diesel are required to improve the applicability of these results.
Biogenic Emissions	Some Carbon Dioxide (CO_2) emissions are biogenic. These are CO_2 emissions where the carbon has recently been derived from CO_2 present in the atmosphere (for example, some agricultural and Waste emissions). These emissions are not included in calculating total CO_2e.
Agricultural Emissions	
Agriculture	Agriculture emissions relate to emissions produced by livestock, crops and fertiliser in the geographic area. They do not relate to imported foods or goods (reported in a consumption-based footprint) or agricultural activities such as farm transport or food processing within the geographic area (these are reported in this inventory under Transport or Stationary Energy, respectively). Territorial authority-level livestock numbers and fertiliser data were taken from the 2017 Agricultural Census (StatsNZ), with the change in regional data (StatsNZ) used to estimate the change in livestock and fertiliser use in the individual territorial authorities since 2017. Changes in agriculture in the Otago region may not reflect changes in the Dunedin City area.
Solid Waste Emissions	
Landfill Emissions	Landfill Waste volume and landfill gas capture system information have been provided by Dunedin City Council. A proportion of waste in Dunedin is collected by companies where Dunedin City Council cannot access the data for the years FY23-FY25. This is assumed to be a small proportion, so this waste is not included in the solid waste calculations.

	This proportion of waste is expected to represent an immaterial amount of GHG emissions relative to the Dunedin City GHG emissions inventory. Solid Waste emissions from landfills are measured using the IPCC First Order Decay method, which covers landfill activity between 1950 and the present day, as per the GPC reporting requirements. This method accounts for the gradual release of emissions from waste over a long period of time and calculates the emissions produced per year from waste in landfills (including emissions from closed landfill sites). This approach differs from that used by individual councils for their organisational footprints, which include council-owned landfill sites. The predominant organisational footprint method calculates the likely future emissions from waste entering landfill that year and attributes those emissions to that year (and doesn't include emissions from waste already in the landfill or emissions from closed landfill sites). Waste volume: - Where information is unavailable, waste volumes have been estimated based on historical national data on a per capita basis (MfE, 2023). Landfill gas capture system efficiency and Landfill gas flaring/burning for energy generation: - Data or assumptions provided directly from council or landfill management contacts Emissions are allocated to territorial authorities based on where the waste was produced, even if the waste is disposed of in a landfill outside the territorial authority.
Wastewater Emissions	
Wastewater Treatment Plants	Wastewater treatment plant emissions have been provided by Dunedin City Council. These were calculated following the WaterNZ (2021) guidance. A new method was adopted for FY25 which resulted in higher emissions due to the method alone (and not real-world changes). Due to this and to enable comparison, the FY19 to FY24 results have been back-calculated from the FY25 results based on the population difference. Calculation of emissions includes emissions released directly from wastewater treatment, flaring of captured gas (if present) and discharge onto land/water. Note that the results for each treatment plant may differ from emissions calculated for other purposes (e.g. council organisational GHG reporting) due to the different requirements of GHG reporting for various purposes.
Individual Septic Tanks	Individual Septic Tanks: - Populations not connected to known wastewater treatment plants are assumed to be using septic tanks. - The population not connected to centralised wastewater treatment has been estimated based on the number of rateable properties not connected to sewerage.
Industrial Processes and Product Use Emissions	
Industrial processes	It is assumed that there are no significant non-energy-related emissions of greenhouse gases from industrial processes in the region (e.g., aluminium manufacturing).
Industrial Product Use	National data covering industrial product use (e.g., fire extinguishers, and refrigerants) have been estimated based on data provided within the New

	Zealand Greenhouse Gas Emissions 1990-2023 (MfE 2025). Emissions are estimated on a per capita basis, applying a national average per person. Due to delays in publishing data, all IPPU data are representative of the national use from 2 years prior.
Forest Emissions and Sequestration	
Exotic Forestry Harvested and Exotic Forest coverage	Harvested forestry, and forest cover information for Dunedin has been derived from Landcare Research data and data provided by two commercial operators representing approximately 70% of commercial forestry in Dunedin. This emissions footprint accounts for forest carbon stock changes from afforestation, reforestation, deforestation, and forest management (i.e., it applies land-use accounting conventions under the United Nations Framework Convention on Climate Change rather than the Kyoto Protocol). It treats emissions from harvesting and deforestation as instantaneous rather than accounting for the longer-term emission flows associated with harvested wood products. The emissions footprint considers regenerating (growing) forest areas only. Capture of carbon from the atmosphere is negligible for mature forests that have reached a steady state.
Native Forest	Native forest land area for each territorial authority has been provided by Landcare Research. FY19 data is the latest data available. It is assumed that there has been no significant change in the area covered by native forest in the Dunedin City area.

11.0 Appendix B: Dunedin City Emissions Inventory FY25 - Full Inventory Tables

Transport Emissions

Table 13 Dunedin City FY25 Transport emissions by emission source

Emissions Source	FY25 Emissions (tCO_2e)	Percentage of Total Gross Emissions in FY25 (%)
Diesel	239,081	16.9%
Marine Freight	176,586	12.5%
Petrol	130,518	9.2%
Cruise Ships	41,049	2.9%
Jet Kerosene	29,377	2.1%
Rail Diesel	3,797	0.3%
Marine Diesel (Local)	2,128	0.2%
LPG	1,172	0.1%
Electric Vehicles (Private)	232	<0.1%
Aviation Gas (Air Travel)	135	<0.1%
Buses (Electric)	53	<0.1%
Total	**624,128**	**44.1%**

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Agriculture Emissions

Table 14 Dunedin City FY25 Agriculture emissions by emission source

Emissions Source	FY25 Emissions (tCO_2e)	Percentage of Total Gross Emissions in FY25 (%)
Livestock Enteric Fermentation	417,084	29.5%
Unmanaged Manure on Pasture	66,425	4.7%
Agricultural Leaching and Deposition (Manure, Urine, and Fertiliser)	42,513	3.0%
Managed Manure	14,428	1.0%
Fertilisers on Land	6,853	0.5%
Total	**547,303**	**38.7%**

Stationary Energy Emissions

Table 15 Dunedin City FY25 Stationary Energy emissions by emission source

Emissions Source	FY25 Emissions (tCO_2e)	Percentage of Total Gross Emissions in FY25 (%)
Electricity Consumption	79,599	5.6%
LPG	28,778	2.0%
Stationary Petrol & Diesel Use	26,617	1.9%
Coal	13,329	0.9%
Biofuel / Wood	9,140	0.6%
Electricity T&D Loss	8,358	0.6%
Biogas	73	0.0%
Total	**165,894**	**11.7%**

Waste Emissions

Table 16 Dunedin City FY25 Waste emissions by emission source

Emissions Source	FY25 Emissions (tCO_2e)	Percentage of Total Gross Emissions in FY25 (%)
Closed Landfill Sites	19,006	1.4%
Open Landfill Sites	11,576	0.8%
Wastewater Treatment Plants	9,442	0.7%
Individual Septic Tanks	3,115	0.2%
Composting (Commercial)	2,953	0.2%
Total	**46,092**	**3.3%**

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IPPU Emissions

Table 17 Dunedin City FY25 IPPU emissions by emission source

Emissions Source	FY25 Emissions (tCO_2e)	Percentage of Total Gross Emissions in FY25 (%)
Refrigerants and Air Conditioning	29,959	2.1%
Aerosols	1,981	0.1%
SF6 - Electrical Equipment	360	0.0%
Foam Blowing	161	0.0%
SF6 - Other	73	0.0%
Fire Extinguishers	60	0.0%
Total	**32,593**	**2.3%**

Forestry Emissions

Table 18 Dunedin City FY25 Forestry emissions

Sector / Emissions Source	FY25 Emissions (tCO_2e)
Harvest Emissions	444,154
Native Forest Sequestration	-183,659
Exotic Forest Sequestration	-556,630
Total (Net)	**-296,134**

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12.0 Appendix C: Dunedin City On-Road Transport Emissions Assessment

12.1 Executive Summary

This section details the additional analysis undertaken to break down Dunedin City's on-road transport Greenhouse Gas (GHG) emissions. On-road transport represented 23% of Dunedin City's total gross emissions in the FY25 governmental financial year (1st July 2024 to 30th June 2025). The study boundary incorporates the jurisdiction of the Dunedin City Council.

The result supersedes the previously published Dunedin City On-Road Transport Emissions for FY22.

Greenhouse gas emissions are generally reported in this document in Carbon Dioxide Equivalent (CO_2e) units and are referred to as 'emissions'.

Key findings of this analysis include:

FY25 On-Road Transport Emissions by Vehicle Type:

- Cars represented 48% of on-road transport emissions and 11% of Dunedin City's total gross emissions. Cars represented 74% of on-road Vehicle Kilometres Travelled (VKT) in Dunedin City.
    - Electric cars represented <0.1% of Dunedin City's on-road transport emissions and 1% of Vehicle Kilometres Travelled (VKT).
- Commercial vehicles represented 51% of on-road transport emissions and 12% of Dunedin City's total gross emissions.
    - Light commercial vehicles (e.g. 'utes' and vans) represented 33% of Dunedin City's on-road transport emissions, while heavy commercial vehicles represented 18% of on-road transport emissions.
- Buses represent 2% of all on-road transport emissions (this includes public transport, electric buses, school buses, and coaches).
    - Electric buses represented 1% of bus emissions in Dunedin City despite covering about a 12% of kilometres travelled by public busses, with diesel buses accounting for 99% of bus emissions.

Changes in On-road Transport Emissions from FY19 to FY25:

- On-road transport emissions decreased by 2%.
- Car emissions have decreased by 7% overall.
    - Car petrol and diesel decreased by 14% and 7% respectively during this period, while hybrid and electric car emissions increased 877% and 255% respectively from low starting points.
- Commercial vehicle emissions increased 4%, driven by a 9% increase in light commercial vehicle emissions.
    - Heavy commercial vehicle emissions decreased by 5% during the same period.
- Bus emissions decreased by 31%. This is likely due to a transition to electric buses, which were introduced in FY23.

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12.2 Methodology

The basis for this assessment is the results presented in the Dunedin City GHG Emissions Inventory 2025. The emissions for on-road transport have been broken down by vehicle class and type using Vehicles Kilometres Travelled (VKT) emissions data from the New Zealand Transport Agency (NZTA) for FY19[5] and vehicle fleet statistics data from the Ministry of Transport[6]. Changes in the vehicle fleet in Dunedin have been used to estimate changes in emissions since FY19. The reported emissions align with the results of the Dunedin City GHG Emissions Inventory for FY25.

For this assessment, the word 'emissions' represents GHG emissions only (in tCO_2e).

Definition of on-road vehicle categories[7]:

- Light duty vehicles:
    - Cars: passenger cars and sports utility vehicles (SUVs). This includes passenger cars and SUVs for commercial purposes (e.g., taxis).
    - Light commercial vehicles: Utes and vans with gross vehicle mass up to 3.5 tonnes. Privately owned non-commercial utes are also included in this category.
- Heavy duty vehicles:
    - Heavy commercial vehicles: commercial vehicles with gross vehicle mass higher than 3.5 tonnes
    - Buses with gross vehicle mass higher than 3.5 tonnes

The bus category includes public transport, school buses, and private commercial buses (including tourist coaches).

Key Limitations

- The results presented take data provided by Waka Kotahi, which have been adjusted to align with Dunedin City's GHG Emissions Inventory for FY25.
- The electricity contribution to plug-in hybrid vehicle emissions has not been calculated for this assessment. However, it is assumed to have a minimal impact on results.
- Data used for this assessment is based on modelling results provided by Waka Kotahi, there are inherent assumptions within all modelling.

[5] Provided directly to AECOM
[6] https://www.transport.govt.nz/statistics-and-insights/fleet-statistics/
[7] https://www.nzta.govt.nz/assets/Highways-Information-Portal/Technical-disciplines/Air-quality/Planning-and-assessment/Vehicle-emissions-prediction-model/VEPM-6.3-technical-report-2023.pdf

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12.3 On-Road Transport Emissions in FY25

On-road transport is the largest contributor to transport emissions in Dunedin City, representing 52% of Transport emissions and 23% of Dunedin City's total gross emissions. Table 19 and Figure 4 detail on-road transport emissions per vehicle category and fuel type.

Of note:

- Cars represent 48% of on-road emissions.
- Commercial vehicles represent 51% of on-road emissions[8].
- Buses represent 2% of on-road emissions
- Electric vehicles (EV), including electric busses, represent 0.1% of on-road emissions represent approximately 1% of kilometres travelled by vehicles.
- Diesel fuel represents 60% of on-road emissions

This highlights the impact of both private and commercial vehicles on Dunedin City's on-road transport emissions.

Table 19 On-road transport emissions by vehicle type and fuel type in FY25 (tCO_2e)

Vehicle Type	Petrol	Diesel	Electric	Total tCO_2e	% of Total
Cars	121,816	32,524	232	**154,572**	48%
Commercial Vehicles	7,504	155,581	1	**163,085**	51%
Buses		5,228	53	**5,281**	2%
Total	**129,320**	**193,333**	**285**	**322,938**	
% of Total	40%	60%	0.1%		

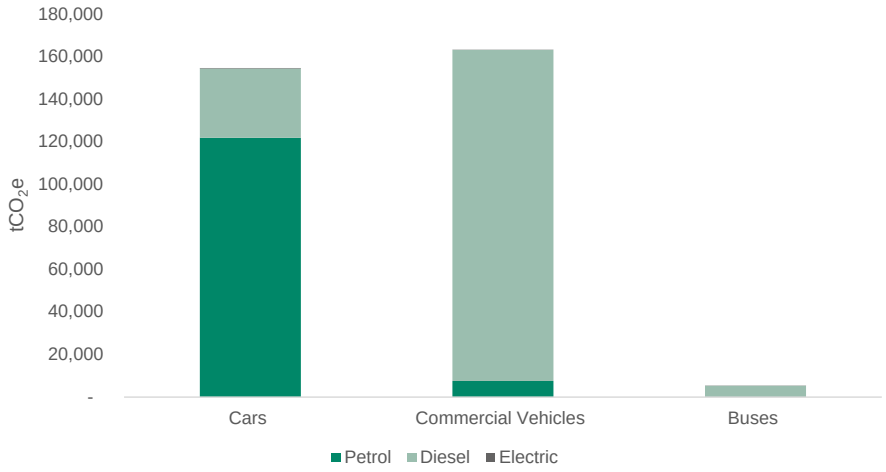

Figure 4 On-road transport emissions by vehicle type and fuel type in FY25

[8] This category includes privately owned non-commercial 'utes'.

Emissions from these vehicle types can be broken down further by vehicle class. Table 20 details on-road transport emissions per vehicle class.

Of note:

- Commercial vehicles lighter than 3.5 tonnes represent 33% of on-road emissions in Dunedin City. Many of these will be commercial 'utes' and small vans, but also includes non-commercial 'utes'.
- Commercial vehicles heavier than 25 tonnes represent 14% of on-road emissions in Dunedin City. This generally represents vehicles used for freight movement.

Table 20 On-road transport emissions by vehicle class in FY25 (tCO_2e)

Vehicle Class	GHG Emissions (tCO_2e)	% of Total
Cars	154,572	48%
Light Commercial Vehicles <3.5 Tonne	106,406	33%
Heavy Vehicles 3.5-25 Tonne	11,943	4%
Heavy Vehicles 25-50+ Tonne	44,736	14%
Bus Urban 15-18 Tonne	4,801	1%
Bus Coach >18 Tonne	480	0.1%
Total	**322,938**	**100%**

Alongside total emissions, emissions have also been compared to the distance travelled by different vehicle types. Table 21 shows the emissions per vehicle class as above but also includes the VKT by each vehicle class in Dunedin City and the average emissions per VKT for each vehicle class.

Of note:

- Cars represent 74% of all VKT in Dunedin City but represent 48% of all on-road emissions in Dunedin City.
- Large (25-50+ tonne) commercial vehicles represent 4% of all VKT in Dunedin City but represent 14% of all on-road emissions in Dunedin City.

These figures do not consider the weight of freight or the number of people being moved per vehicle, where larger vehicles may be more efficient per tonne of freight moved than smaller vehicles or where buses may be more efficient per person than cars.

Table 21 On-road transport vehicle class VKT, emissions, and calculated average emissions per VKT

Vehicle Type	Vehicle Kilometres Travelled (VKT)	GHG Emissions (tCO_2e)	Average tCO_2e per VKT
Cars	689,923,509	154,572	0.0002
Light Commercial Vehicles <3.5 Tonne	182,544,797	106,406	0.0006
Heavy Vehicles 3.5-25 Tonne	18,179,535	11,943	0.0007
Heavy Vehicles 25-50+ Tonne	33,838,428	44,736	0.0013
Bus Urban 15-18 Tonne	3,897,221	4,801	0.0012
Bus Coach >18 Tonne	508,128	480	0.0009
Total	**928,891,618**	**322,938**	**0.0003**

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12.4 On-Road Transport Emissions Change from FY19 to FY25

This section displays the change in on-road transport emissions from FY19 to FY25. During this period on-road transport emissions decreased by 2%.

Table 22 Change in on-road transport emissions by vehicle type (tCO_2e)

Vehicle Type	FY19	FY20	FY21	FY22	FY23	FY24	FY25	% Change (FY19 to FY25)
Cars	165,828	151,390	157,450	143,809	151,112	142,996	154,572	-7%
Commercial Vehicles	156,784	149,609	156,908	153,609	154,448	147,369	163,085	4%
Buses	7,704	7,164	7,259	6,881	5,861	5,701	5,281	-32%
Total	**330,316**	**308,163**	**321,617**	**304,299**	**311,421**	**296,066**	**322,938**	**-2%**

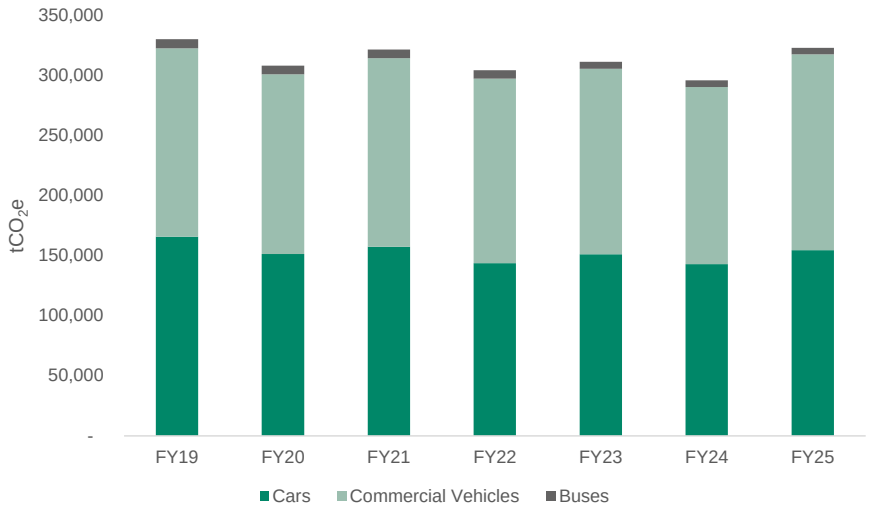

Figure 5 On-road transport emissions by vehicle type FY19-FY25

Notable changes when examining on-road emissions changes from FY19-FY25 (Table 23):

Commercial Vehicles:

- Light commercial vehicle emissions increased by 9%, reflecting a national trend of an increasing number of light commercial vehicles in New Zealand[9]
- Heavy commercial vehicle emissions decreased 5% between FY19 and FY25.

Cars:

- Car emissions decreased by 7% from a high point in FY19, potentially reflecting mode shift to active and public transport, improvements in efficiency, and a fleet shift to lower emission vehicles (electric and hybrid vehicles).
- Car diesel vehicle emissions have decreased by 7%, with car petrol emissions decreased by 14%.

[9] https://ehinz.ac.nz/assets/Surveillance-reports/Released_2025/NumberOfVehicles-2505.pdf

- There has been a large growth in the number of both hybrid and electric vehicles in Dunedin City, and emissions have grown in line with this increase. These vehicles still represent a very small proportion of on-road emissions and are vastly lower-emitting than the equivalent internal combustion engine vehicles.

Busses:

- There was a 32% decrease in bus emissions, likely due to a transition of some busses from diesel to electric.

Table 23 Change in on-road transport emissions by vehicle class (tCO_2e)

Vehicle Type	FY19	FY20	FY21	FY21	FY23	FY24	FY25	% Change (FY19 to FY25)
Car Petrol	129,631	116,612	120,521	106,988	113,233	104,800	111,532	-14%
Car Diesel	35,079	33,150	34,075	32,844	31,536	29,573	32,524	-7%
Car Hybrid	1,053	1,541	2,750	3,845	6,170	8,408	10,284	877%
Car Electric	65	86	104	132	174	215	232	255%
Light Commercial Vehicles	97,293	94,514	100,147	98,330	99,249	96,459	106,406	9%
Heavy Commercial Vehicles	59,491	55,095	56,760	55,279	55,198	50,910	56,680	-5%
Buses	7,704	7,164	7,259	6,881	5,861	5,701	5,281	-32%
Total	**330,316**	**308,163**	**321,617**	**304,299**	**311,421**	**296,066**	**322,938**	**-2%**

12.5 Reducing On-Road Transport Emissions

Efforts to reduce emissions from on-road transport should consider options to address both private car emissions and commercial vehicle emissions as they represent a similar proportion of Dunedin City's on-road transport emissions. Over the study period car emissions have decreased while commercial vehicle emissions have increased, driven by an increase in light commercial vehicle emissions (i.e. from vans, and commercial and non-commercial utes).

Options to reduce private car emissions include encouraging and providing opportunities for mode shifts to active travel and public transport, and efforts to improve the fuel efficiency of the vehicle fleet in Dunedin. Options to reduce commercial vehicle emissions include incentivising lower-emission commercial vehicles and shifting freight to alternative modes such as rail and marine transport.

ITEMS FOR CONSIDERATION BY THE CHAIR

Any items for consideration by the Chair.

KARAKIA WHAKAMUTUNGA

The meeting will close with a Karakia Whakamutunga.