



Council workshop: Emissions Target Refresh Options

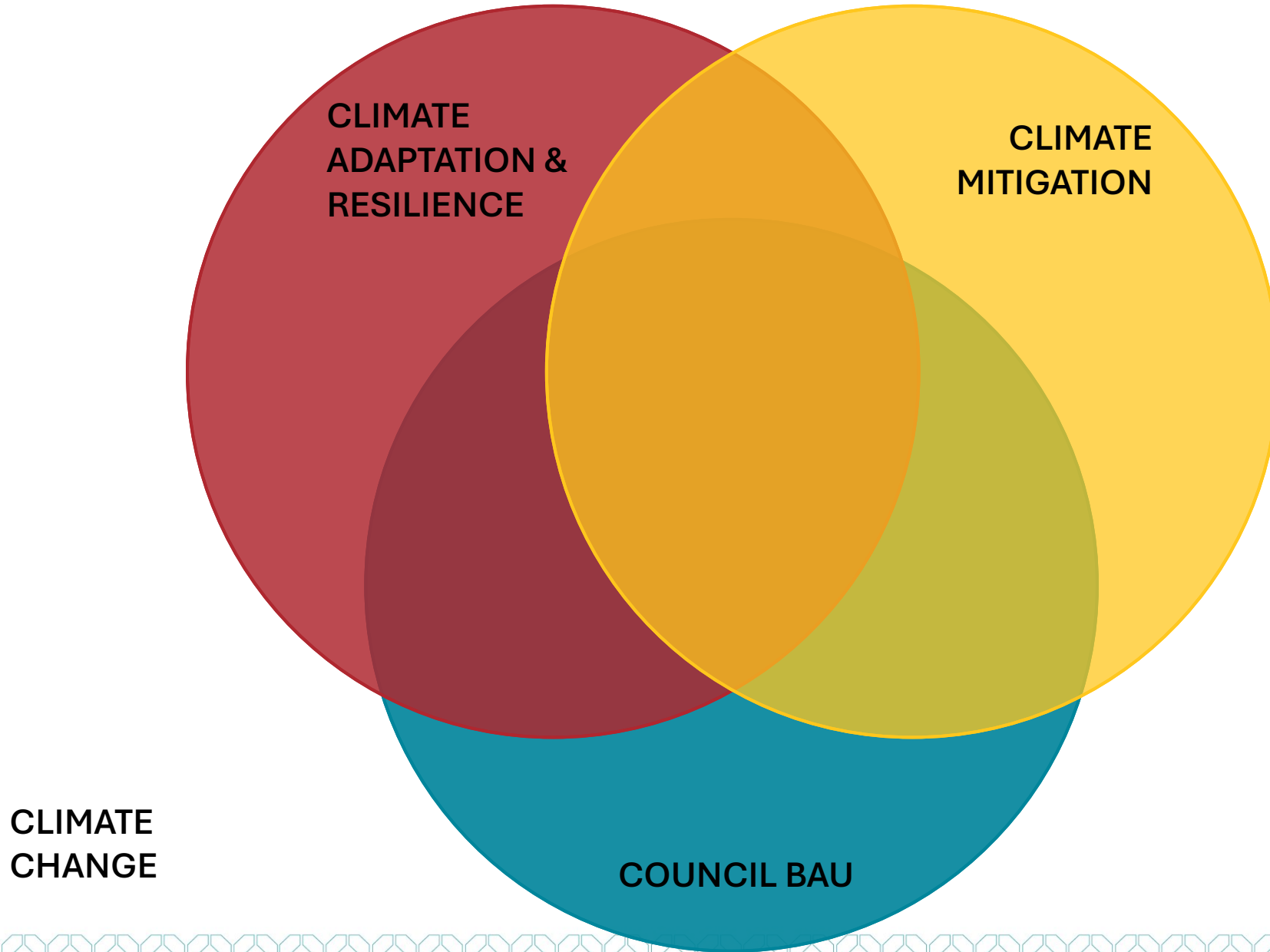
30 March 2026



Content

- Background on current target and DCC Zero Carbon activity
- Overview of best practice, development of target options and peer cities
- Overview of updated city emissions modelling
- Indicative set of target options
- Key Questions for Council to consider





**CLIMATE
CHANGE**

**CLIMATE
ADAPTATION &
RESILIENCE**

**CLIMATE
MITIGATION**

COUNCIL BAU





A: Background on current target

2019: Council adopts Net Zero 2030 target, resolves to develop a plan to achieve the target

2022: Council adopts the Zero Carbon Policy for DCC, which directs DCC to prioritise gross emissions reductions and target emissions reductions at both Dunedin and DCC scales

2023: Council adopts the Zero Carbon Plan, which outlines the key shifts needed for Dunedin to become a net zero emissions city (excluding biogenic methane)

May 2025: Council includes Zero Carbon transport funding in the 9 Year Plan starting 2027/28, notes staff will update modelling and provide advice on city emissions target options following completion of the 2024/25 Dunedin emissions inventory



A: DCC Zero Carbon (Climate Mitigation) Activity

PLANNING:
TARGETS & PLANS

MAINSTREAMING:
POLICY, PROCESS &
CAPABILITY

ACTION:
PARTNERSHIPS &
INITIATIVES

METRICS:
MONITORING &
REPORTING



A: DCC Zero Carbon (Climate Mitigation) Activity

In place / supported by ZC BAU

PLANNING: TARGETS & PLANS

Dunedin

- Short- and long-term targets and modelled pathway
- Zero Carbon Plan

DCC

- Short- and long-term targets and modelled pathway
- DCC Emissions Management and Reduction Plan (EMRP)

MAINSTREAMING: POLICY, PROCESS & CAPABILITY

- Zero Carbon Policy
- DCC Procurement Emissions Standards & training
- Zero Carbon prompts in Council report templates
- Zero Carbon prompts in Project Management Framework

ACTION: PARTNERSHIPS & INITIATIVES

- Annual actions as per 10YP & annual Zero Carbon implementation plan (both DCC and city scale actions, led by teams across DCC), linked to other plans e.g. WMMP, DMP, F&E Strat, Ōtepoti Pathways
- Priority partnerships and relationships: Zero Carbon Alliance; Zero Carbon business support programme; DCHL Carbon Roadmap

METRICS: MONITORING & REPORTING

Dunedin

- Triennial emissions inventory
- 6 month & annual Zero Carbon Plan implementation reporting to ELT and Council
- Annual intl CDP reporting

DCC

- Annual externally verified emissions inventory
- 6 mo & annual EMRP reporting to ELT and Council

A: DCC Zero Carbon (Climate Mitigation) Activity

	In place / supported by ZC BAU		Additions / evolutions in 2026	
PLANNING: TARGETS & PLANS	Dunedin <ul style="list-style-type: none"> Short- and long-term targets and modelled pathway Zero Carbon Plan 	DCC <ul style="list-style-type: none"> Short- and long-term targets and modelled pathway DCC Emissions Management and Reduction Plan (EMRP) 	Dunedin <ul style="list-style-type: none"> Refresh of targets and pathway Light Zero Carbon Plan refresh Advice on 10 Year Plan (10YP) alignment 	DCC <ul style="list-style-type: none"> Light EMRP refresh Advice on 10 Year Plan alignment
MAINSTREAMING: POLICY, PROCESS & CAPABILITY	<ul style="list-style-type: none"> Zero Carbon Policy DCC Procurement Emissions Standards & training Zero Carbon prompts in Council report templates Zero Carbon prompts in Project Management Framework 		<ul style="list-style-type: none"> Light refresh of DCC Procurement Emissions Standards & training Zero Carbon training for project managers and policy/planning staff [Light refresh of the Zero Carbon Policy] Zero Carbon considerations in asset management Further development of guidance for infrastructure projects 	
ACTION: PARTNERSHIPS & INITIATIVES	<ul style="list-style-type: none"> Annual actions as per 10YP & annual Zero Carbon implementation plan (both DCC and city scale actions, led by teams across DCC), linked to other plans e.g. WMMP, DMP, F&E Strat, Ōtepoti Pathways Priority partnerships and relationships: Zero Carbon Alliance; Zero Carbon business support programme; DCHL Carbon Roadmap 		<ul style="list-style-type: none"> Annual actions as per 9YP and 25/26 Zero Carbon implementation plan, including carbon removals/sequestration options Further development of partnerships through Zero Carbon Alliance; community outreach, engagement and activation actions; Business South Invest Ōtepoti Climate workstream; DCHL Carbon Roadmap 	
METRICS: MONITORING & REPORTING	Dunedin <ul style="list-style-type: none"> Triennial emissions inventory 6 mo & annual Zero Carbon Plan implementation reporting to ELT and Council Annual intl CDP reporting 	DCC <ul style="list-style-type: none"> Annual externally verified emissions inventory 6 mo & annual EMRP reporting to ELT and Council 	Dunedin <ul style="list-style-type: none"> First annual public facing Zero Carbon Plan progress report 	DCC <ul style="list-style-type: none"> [Enhanced climate-related transition risk framework]

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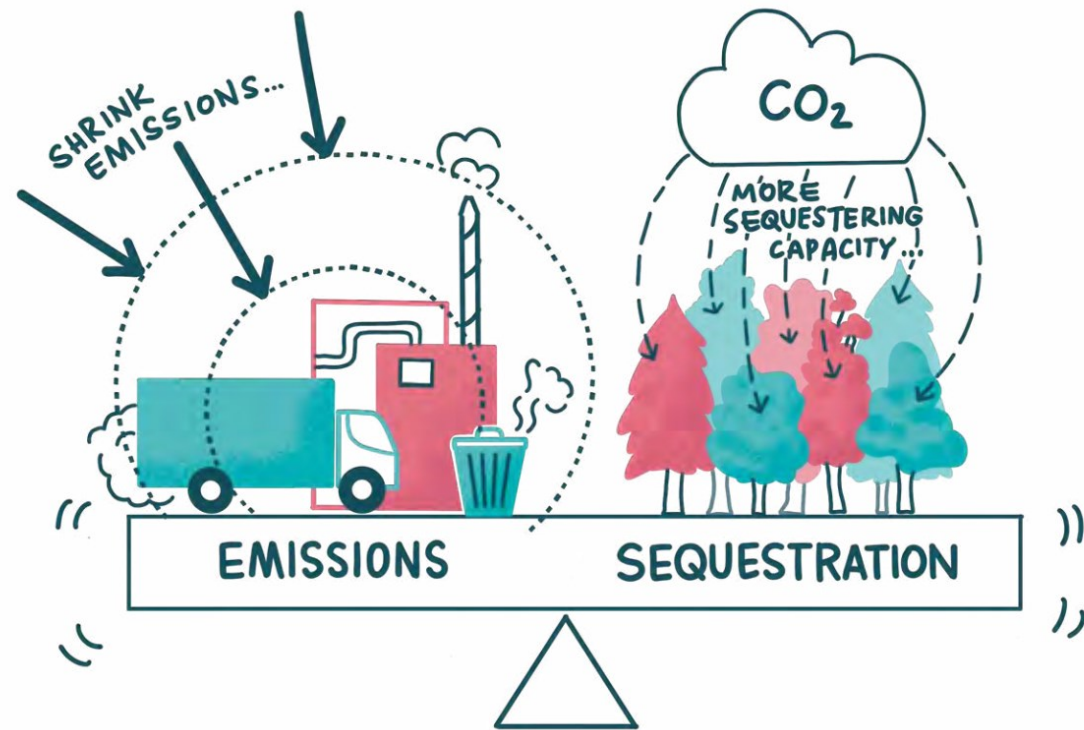
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Dunedin's Zero Carbon Target:

- Net zero emissions (excl. biogenic methane) by 2030
- Biogenic methane reductions in line with Govt targets



reducing gross emissions + growing carbon removals



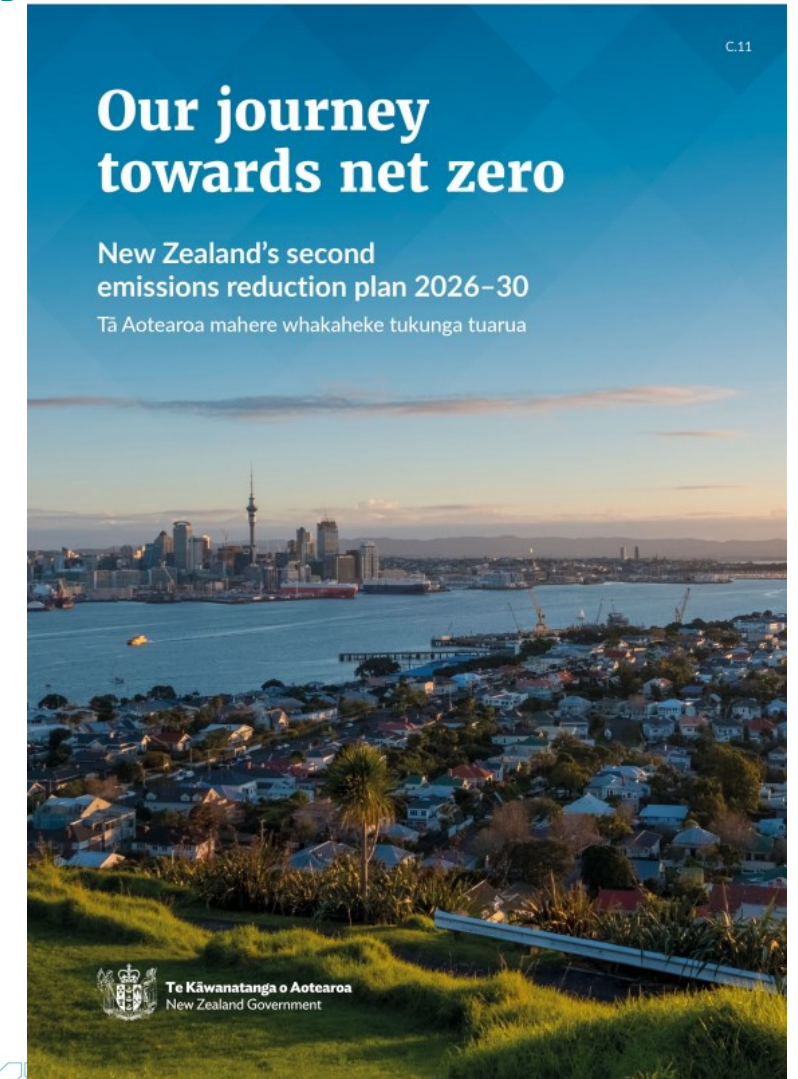


Zero Carbon will not be achieved by 2030

2023: Dunedin's **Zero Carbon Plan** demonstrated a modelled path to the 2030 target assuming

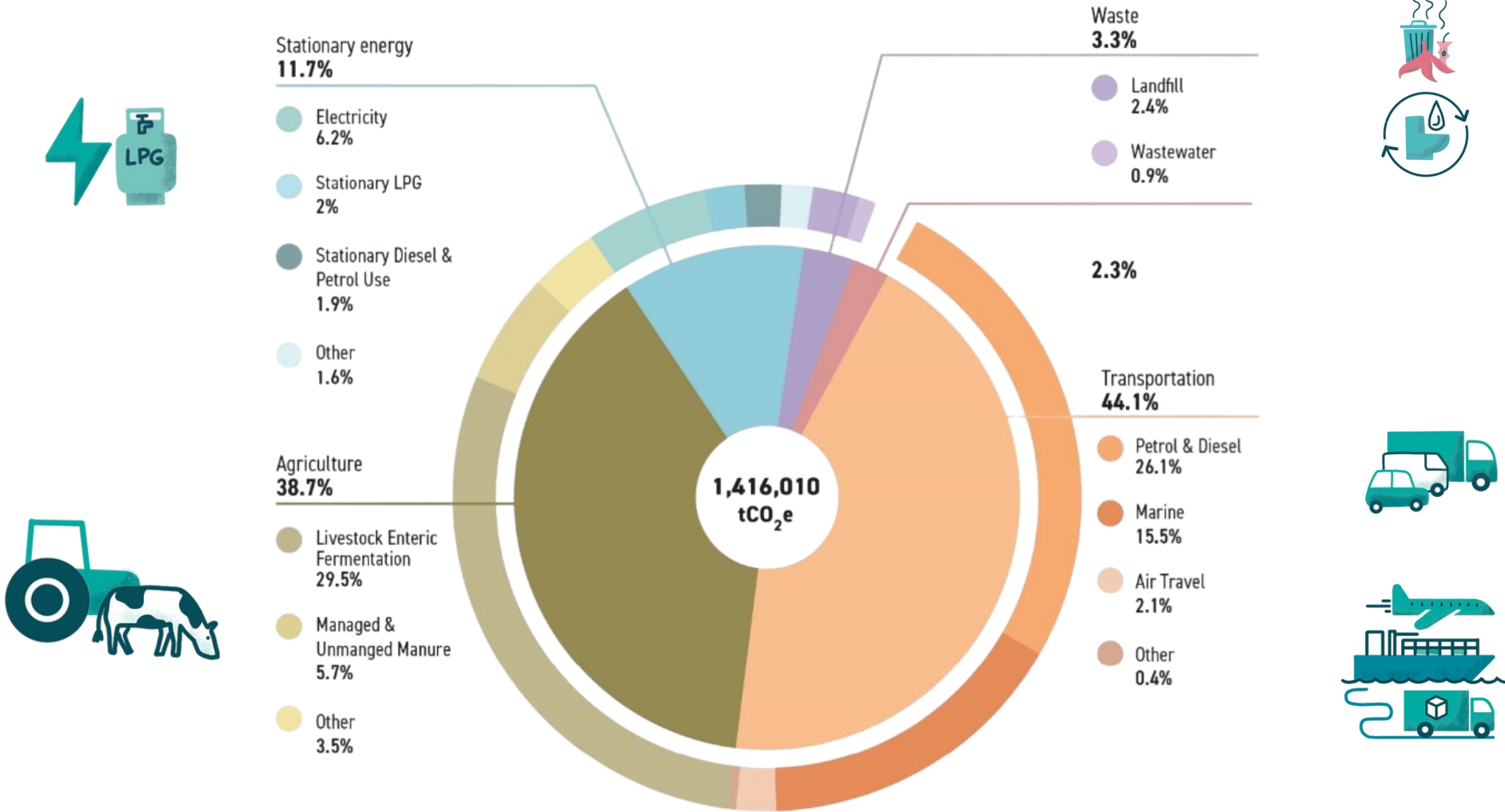
- tailwinds scenario
- decisive action from everyone.

2026: Headwinds central government policy scenario. Updated modelling: only biogenic emissions element of 2030 city target remains achievable, but 24/25 data shows reductions from city baseline remain relatively steady.





Ōtepoti Dunedin's emissions (2024/25)

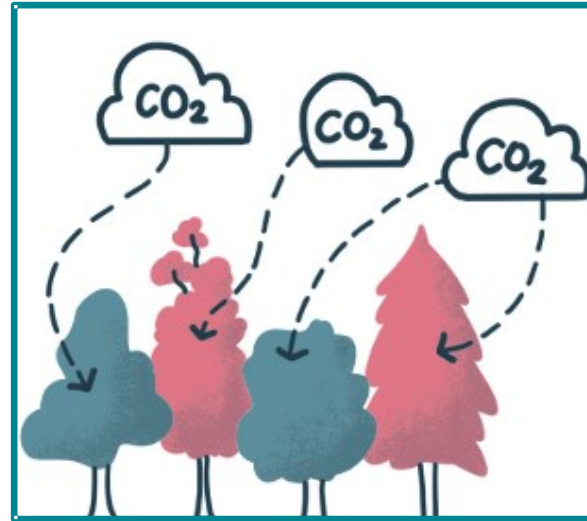




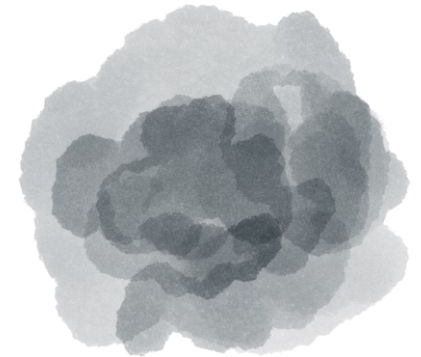
Ōtepoti Dunedin's emissions (2024/25)



Gross emissions
(1.416 million tCO₂e)



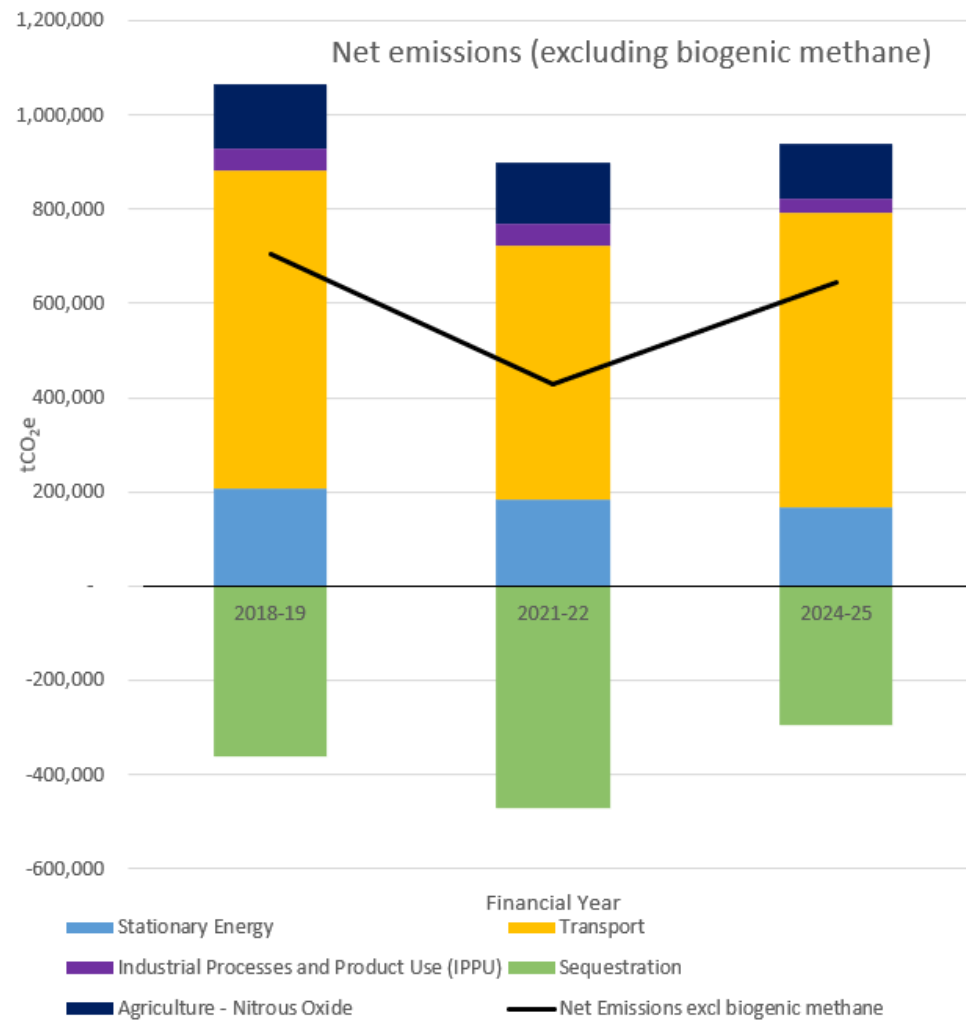
Absorbed emissions
(296k tCO₂e)





Emissions Trends

- **Overall gross emissions 13% down on 2018/19**
 - **Waste sector emissions have halved since 2019**
 - **Coal use emissions dropped 70%**
 - **Transport emissions fell 8%**
 - **Agriculture emissions down 9%**
 - **Industrial Processes and Product Use (IPPU) emissions decreased by 27%**





Developing Target Options

- **What's best practice?** Leading framework guidance and cities
 - IPCC, Science-based targets, C40 cities
- **What's peer practice?**
 - New Zealand cities
 - Local governments with similar profiles
- **What's plausible?** Three modelled scenarios
 - High Ambition Scenario (big shift in policy/mandate for change)
 - Accelerated Ambition Scenario (investment/policies improve compared with current settings)
 - Status Quo/BAU Scenario (mostly follows ERP2 path)





Best Practice - findings

- Steep gross reduction curves for cities in developed nations
- Methane curves significantly steeper than NZ Govt approach
- Latest IPCC findings are clear that climate stabilisation requires both:
 - Deep and sustained reductions in CO₂ reaching net-zero
 - Significant reductions in methane and other non-CO₂ gases.





Best Practice - findings

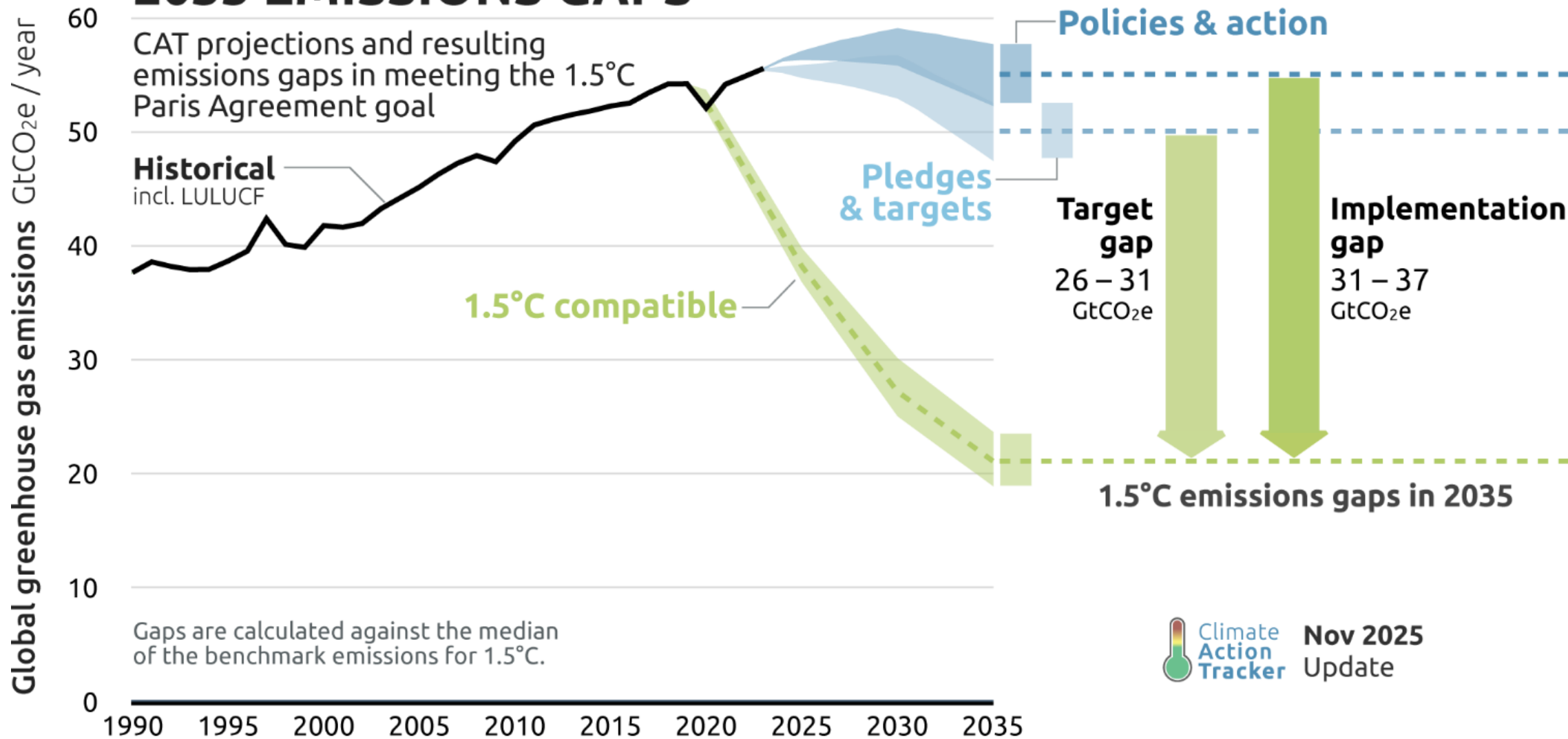
GHG/capita	City GDP/capita (USD \$)	Indicative city target reduction for 2030 per capita emissions (% change from 2015 levels)*	City 2050 target (from baseline year 2015)	Example cities that match this profile
High (>5.1 tCO ₂ e/capita)	High (>\$15,000/capita)	-70% to -75%	Net zero emissions	Toronto Melbourne New York City Yokohama Heidelberg Wroclaw
	Low (<\$15,000/capita)	-10% to -15%	Net zero emissions	Cape Town eThekweni Tshwete Rio Grande São José dos Campos
Low (<5.1 tCO ₂ e/capita)	High (>\$15,000/capita)	-55% to -60%	Net zero emissions	Stockholm Seoul London Chula Vista Helsinki Barcelona
	Low (<\$15,000/capita)	-0% to -5%	Net zero emissions	Quito Nairobi Amman Buenos Aires Johannesburg Pasig City

*These ranges are based on an estimation using existing targets of C40 cities.





2035 EMISSIONS GAPS





Peer city - findings

- A range of peer cities were considered, including:
 - Other NZ territories
 - Scottish and Irish territories with similar agricultural emissions share to Dunedin
- Most still operating under target V1
- A range of approaches are used, from:
 - gross emissions reduction targets with no net zero commitment
 - Net zero targets
 - Short and long term targets
 - Statements to contribute to national level targets, without stating an explicit city/district target





Peer city - comparisons

DCC Peer Cities	Community Target	Biogenic Methane Considered separately?
Christchurch City Council	Gross reduction of 50% by 2030, compared to 2016/17 Net zero greenhouse gas emissions by 2045, At least a 50% reduction in methane emissions by 2045	Yes - 50% reduction by 2045
Hamilton City Council	<ul style="list-style-type: none">• Gross reduction of 30% by 2030• Gross reduction of 82% by 2050	No
Dumfries and Galloway Council (Scotland)	<ul style="list-style-type: none">• Net zero on or before 2040• Become a carbon negative region by 2045	No
Mayo, Kerry, and Cork County Councils (Ireland)	Contribute to Ireland's national targets of: <ul style="list-style-type: none">• 25% reduction in agricultural (biogenic) methane by 2030• National climate neutrality by 2050	Nationally: yes for 2030. Not considered separately for 2050





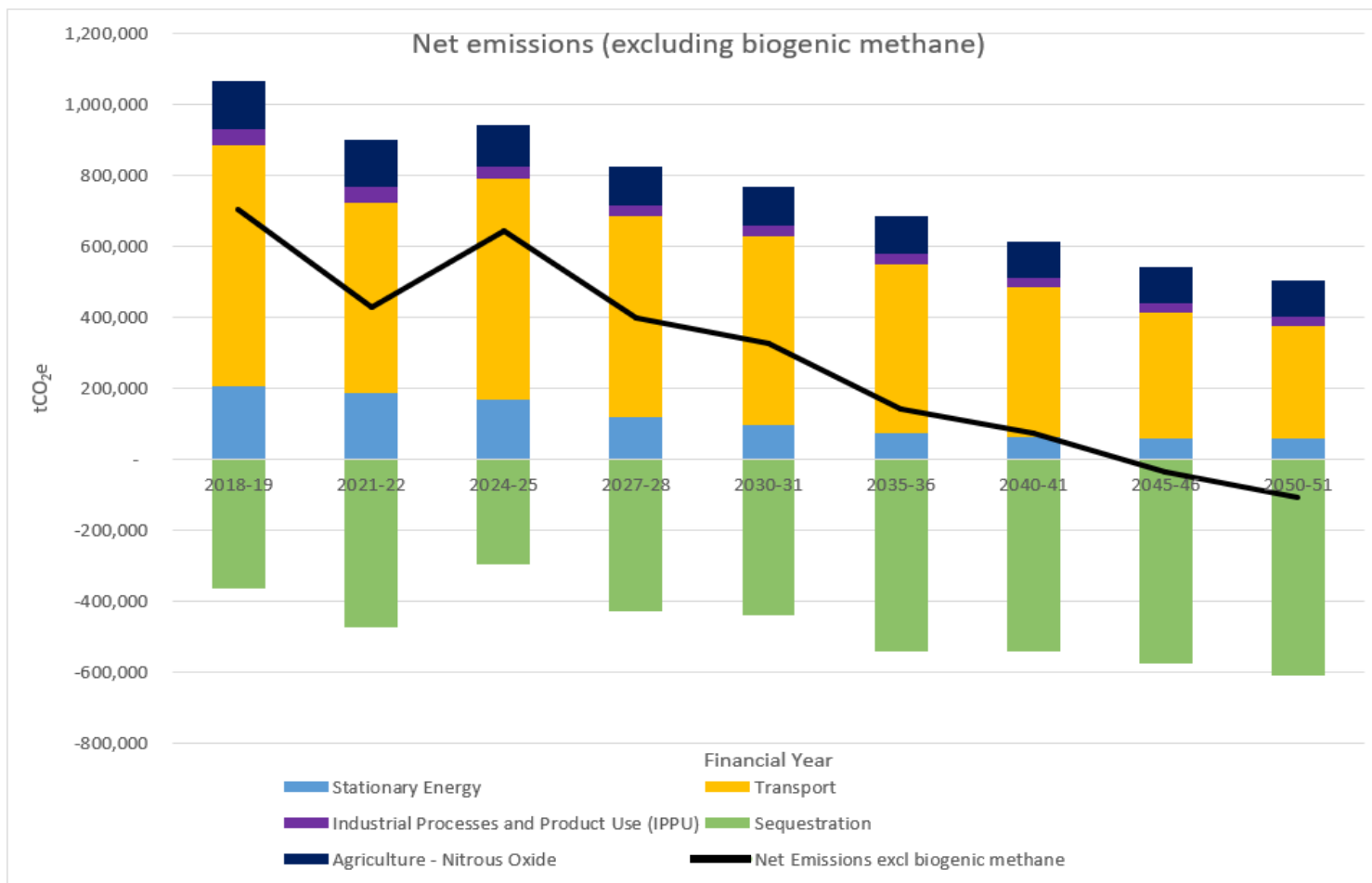
Dunedin City Emissions Modelling - findings

- Under all scenarios gross emissions paths are far less steep than best practice suggests
- All scenarios achieve net zero (excl biogenic methane) by 2050:
 - High Ambition by 2041
 - Accelerated Ambition by 2045
 - Status Quo/Following National Emissions Reduction Plan track by 2050
- No scenario can achieve net zero (all gases) by 2050





Emissions Modelling - Accelerated Ambition Example



Lots of Options for a refreshed city target

A Status quo – Net Zero 2030, split-gas, single year target

What the option is

- A single year net zero target for 2030 (excluding methane)
- Methane managed through separate target, aligning with national policy settings

What it does well

- Already agreed by Council and embedded into existing strategies
- Clear headline date and ambition
- Explicitly recognises the different warming impacts of methane
- Strong alignment with NZ national methane policy
- No change management or reframing required

Key Drawbacks

- Sensitive to single year timing effects, particularly given forestry harvest cycles and sequestration variability
- Binary "hit or miss" framing
- Updated modelling suggests achieving net zero 2030 is very unlikely, creating credibility and delivery risks
- Less aligned with emerging international best practice (avoids gas specific, single year targets)
- NZ's national policy on methane not seen as international best practice.

Example uses

- Christchurch City Council (Net Zero 2050, split gas, single year)
- Far North DC (Net Zero 2050, split gas, single year)
- London (Net Zero 2030)

B Single gross emissions reduction target (no net zero claim)

What the option is

- A gross emissions reduction target by a specified year (all sources, all gases).
- **No commitment to a long-term net zero position**

What it does well

- Very clear and intuitive
- Encouraging tangible action in energy, transport, industry and waste.
- **Removes the risk of over-reliance on sequestration, forestry assumptions, or future technologies.**

Key Drawbacks

- May appear less ambitious to stakeholders expecting a net zero commitment.
- Does not explicitly plan for or encourage carbon removals, which may be necessary to address residual emissions long-term.
- Less aligned with international "net zero" narratives

Example Uses

- ?

C Gross emissions reduction target with separate sequestration principles

What the option is

- A target focused solely on reducing gross emissions (single gas)
- A separate, explicit set of principles or ambitions for sequestration, such as transparency, permanence, in-district focus
- Net outcomes reported but not the headline target

What it does well

- Clear separation for public audiences, reduces confusion associated with "net zero"
- **Alignment with best-practice governance separating emissions reduction from removals**
- Enables councils to remain ambitious on reductions, while having structured principles for sequestration planning

Key Drawbacks

- **Gross-only reductions can appear less ambitious than other regions using net zero framing.**
- Requires discipline to ensure sequestration principles are meaningful, not symbolic

Example Uses

- ?

D Budget-envelope (carbon budget) approach (gross or net)

What the option is

- A cumulative emissions limit over a defined period (e.g. 5, 10, 15 years)
- Can be gross only or net zero with clear rules around removals
- Performance assessed against the total emissions "spent" over time, not one year

What it does well

- Strong alignment with climate science (cumulative emissions matter)
- Handles uncertainty and volatility better than single year targets
- Supported by international best practice (e.g. C40, leading cities).
- Reduces end year loading or last-minute reliance on offsets
- Particularly suited to forestry harvest cycles, large land areas, uncertainty in policy settings (Stockholm example)
- Supports an honest reset where 2030 targets are unlikely to be met

Key Drawbacks

- Less intuitive for public audiences
- requires strong governance to avoid becoming a modelling artefact
- High communications and capability burden
- Not yet used by NZ local authorities, but aligns with NZ national emissions budget framework

Example Uses

- London
- Oslo
- Stockholm

E Two-stage target: near-term gross emissions focus, long-term net zero ambition

What the option is

- A near-term focus on gross emissions reduction (or a gross budget)
- Long term net zero ambition (2040 or 2050).
- Provides a structured pathway where gross emissions are prioritised early, and removals used for later residuals

What it does well

- Clear framing for the public (reduce now, offset later)
- Mirrors global best practice
- Reduces near-term dependence on offsets, driving decarbonisation
- Allows long-term planning for sequestration

Key Drawbacks

- Potential to assume the net zero stage is "far away" and therefore less urgent
- Requires careful monitoring to ensure the gross emissions target is not weakened by expectations about future removals

Example Uses

- Wellington Regional Council
- Bay of Plenty Regional Council
- Hamilton City Council



Key Questions to consider

- Should a target retain net zero focus?
- Should a refreshed target keep a split gas approach?
- A short-term (2030) gross reduction target, long term (2040/2050) net zero target?





Key Questions to consider

- Level of ambition for methane:
 - Retain current?
 - Align with Government?
 - Align with best practice?
- Level of ambition for net zero (all other gases):
 - Stretch target 2040
 - Mid-range scenario 2045
 - Government current settings default 2050





Questions/Feedback?

