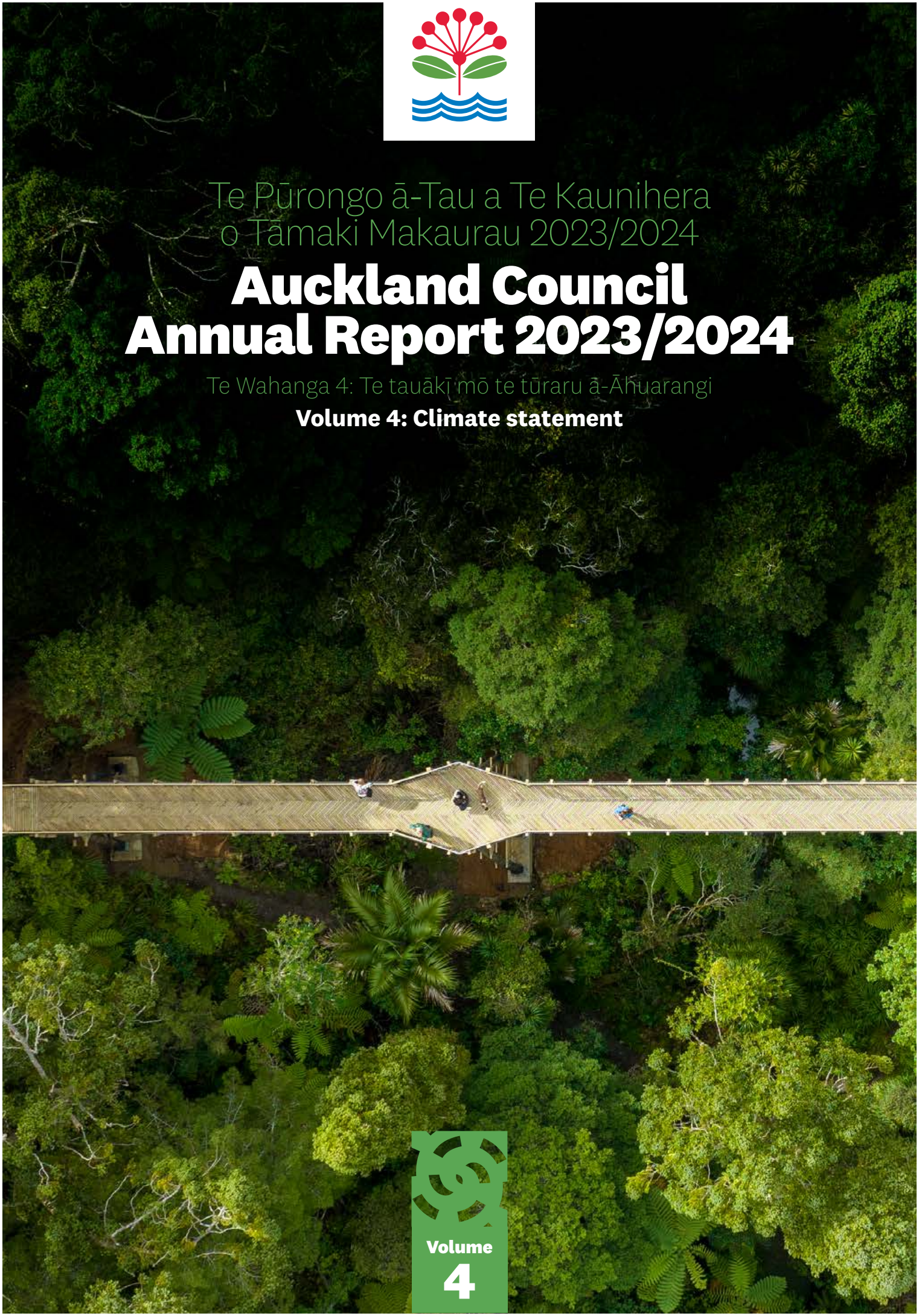


Te Pūrongo ā-Tau a Te Kaunihera o Tāmaki Makaurau 2023/2024

Auckland Council Annual Report 2023/2024

Te Wahanga 4: Te tauākī mō te tūraru ā-Āhuarangi

Volume 4: Climate statement

Volume 4

Mihi

Nau mai e te tai Whakarunga e
te Tai Whakararo

Nau mai e te tai Tama-wahine, e te tai
Tama-tāne,

Nau mai ki Tāmaki i whakawhenuatia
rā, i ngā waitapu e rua nei arā ki a
Waitematā i te Mānukanuka.

Koia i maea ake i te kōpū o
Papatūānuku e takoto mai nei,

Tuia ki a Ranginui e tū iho nei.

Ko ngā aituā hoki tēnei e tangihia ana e
tō tātou manu!

Hoki wairua mai, hara mai haere

Piki taku manu, kake taku manu ka tau
me he manu-kau noa nei ē!

Ko koe te manuhiri kua tau,

Ko au te mana Kaunihera ka kī

Ko au, ko au, ko te Kaunihera
o Tāmaki Makaurau!

Nau mai, Tautī mai, Whakatau mai nā.

Welcome the southern and northern
tides, the tides of East and West.

Welcome to Tāmaki, the land born of
the sacred waters Waitematā and the
Manukau

You who emerged from the womb
of Papatūānuku laying here and
amalgamate with Ranginui above.

Those who have passed are lamented,
called hither and then home.

Come forth, climb, or ascend, likened
to birds that settle.

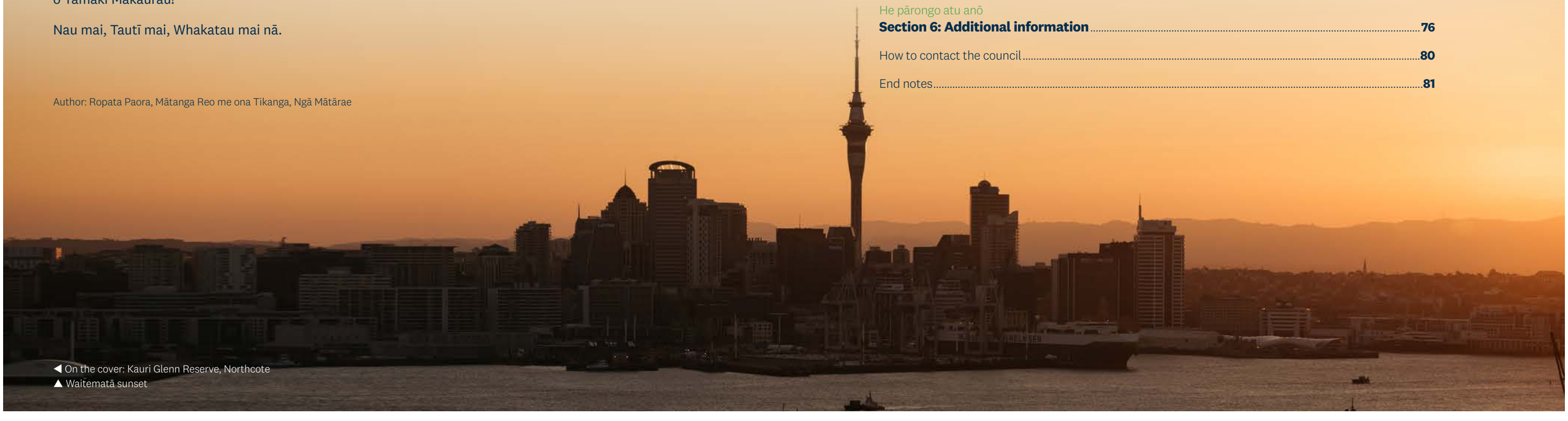
You are the visitor who has arrived.
And the Kaunihera who say,

It is I, it is we, the members of
Auckland Council!

Welcome, welcome, greetings to all.

Author: Ropata Paora, Mātanga Reo me ona Tikanga, Ngā Mātārae

Rārangi kōrero
Contents



◀ On the cover: Kauri Glenn Reserve, Northcote
▲ Waitematā sunset

Ā mātou kōrero

Our story

Auckland Council is the territorial authority for the Auckland region and the largest local government organisation in New Zealand. The group includes Auckland Council, its subsidiaries (council-controlled organisations[1] and Port of Auckland Limited), associates and joint ventures.

Auckland Council's purpose is to promote the social, economic, environmental and cultural well-being of Auckland communities in the present and for the future and to enable democratic local decision-making. To do this, the group provides a diverse range of activities, services, facilities and infrastructure to support Aucklanders in their daily lives and to deliver positive outcomes.

This annual report tells the story of:

- what we did as the group to respond to what Aucklanders said they want
- how we contributed to the positive outcomes for Aucklanders and the broader economy
- how we performed relative to our Annual Plan 2023/2024 and the third year of our 10-year Budget 2021-2031 (our 10-year budget).

About this volume

This volume, our climate statement, has been prepared for the Auckland Council Group (group) which is made up of Auckland Council, its council-controlled organisations (CCOs), Port of Auckland Limited (POAL), associates and joint ventures.

Auckland Council issues debt on the NZX, Singapore and Swiss Stock Exchanges. Because of the size of the issued debt, Auckland Council is a climate reporting entity for the purposes of the Financial Markets Conduct Act 2013. This requires it to prepare a group climate statement annually in accordance with the Aotearoa New Zealand Climate Standards (climate standards).

This volume has four parts which will show you:

- how our governance bodies have oversight of climate-related risks and opportunities, and what management's role is in assessing and managing those risks and opportunities
- how climate change is currently impacting the group and how it may do so in the future
- how we identify, assess and manage climate-related risks and how these processes fit into our existing risk management processes
- how we measure and manage climate-related risks and opportunities using targets and metrics.

He kupu nā te Āpiha Matua mō te Pūtea i te Rōpū

From the Group Chief Financial Officer

Climate change is a significant threat to many parts of Tāmaki Makaurau, the Auckland region and the Auckland Council Group. It is critical for us to consider climate-related risks and opportunities when making decisions about how we operate and how we use our resources for the current and long-term benefit of all Aucklanders.

This financial year we started the buy-out of properties that were damaged in the 2023 severe weather events – those properties that pose an unacceptable risk to life, where the risk can't otherwise be reduced. We will also now start paying grants to support homeowners whose properties pose a risk to life, but changes to the property can reduce the risk to a tolerable level. Our financial statements include a funding provision of $553 million for future buy-outs and grants. The total cost of this programme is being part funded by central government. The weather event has brought into sharp focus the risks caused by a changing climate and in response the council has identified the need to invest more in resilience and maintenance of our water networks, and to find ways to limit development in some areas susceptible to natural hazards.

The impacts of these weather events highlight the need to understand the risks of climate change on the Auckland region and the Auckland Council Group when considering our long-term strategic planning. We need to put plans in place to proactively manage, mitigate or avoid our organisational climate-related risks to ensure we are in the best place to support Auckland's transition to a low-carbon, climate-resilient future. Our Long-term Plan 2024-2034, adopted in June this year, puts resilience to climate change front and centre.

We are now a Climate Reporting Entity, and this is our first climate statement prepared using the Aotearoa New Zealand Climate Standards. Our kaimahi across the Auckland Council Group have done a lot of work during the year to help the group begin to understand and embed our greatest climate-related risks and opportunities into our decision making, to measure our greenhouse gases (Scope 1 and 2) at a group level and much more. You will see this mahi reflected in our climate statement, as we continue this journey towards an Auckland that is resilient, thriving and a safe place to live.

He moana pukepuke e ekengia e te waka
A choppy sea can be navigated

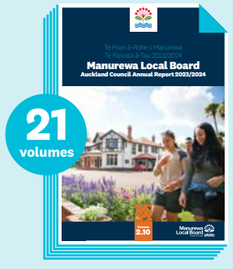
Nāku iti noa, nā | Yours sincerely

Ross Tucker
Āpiha Matua mō te Pūtea i te Rōpū
Group Chief Financial Officer

Annual Report 2023/2024 Volumes

1

Overview and service performance
An overview of the financial and non-financial performance of the group.



2

Local board reports
A collection of individual annual reports for each of the 21 local boards, reporting financial and non-financial performance.

3

Financial statements
The financial statements of the Auckland Council Group and Auckland Council for the year ended 30 June 2024.

4

Climate risk statement
A summary of the group's approach to climate-related risks and opportunities.

Introduction and highlights of our climate statement

The health of Tāmaki Makaurau Auckland's taiao is crucial to all who live and work here. Without a sustainable connection to the land and sea, everything that forms the basis of our individual and collective identities could be significantly impacted.

Auckland is experiencing the effects of a changing climate from extreme storm events, tidal surges and coastal inundation, extreme heat events and droughts. These impacts are expected to increase in frequency and severity which means we could see the degradation of our natural environment and damage to the built environment, which in turn will impact the wellbeing of all Aucklanders.

The group is committed to becoming sustainable. We aim to leave a positive legacy for the next generation and do our part in the global efforts to limit warming to 1.5 degrees above pre-industrial levels and with this, avoid the most devastating impacts of climate change.

The purpose of this climate statement is to set out how Council thinks about the risks presented by climate change, how we will navigate those risks, and the progress we are making in traversing this challenge.

It will also enable existing and potential investors, lenders and other creditors to assess the merits of how the group is considering climate-related risks and opportunities, and then make decisions based on these assessments.

This is our first such statement, and therefore it lacks comparative information that will be built up over time. We also expect the way we assess and manage our climate challenges to change over time and we will evolve both how we report and mitigate risks, and take advantage of any opportunities.

This statement shows that in terms of our governance structure, strategy and risk assessment we have made some progress in response to climate challenges, and we are also progressing in some areas towards the targets we have set. But we are currently not on track to achieve all targets, and so there is more work needed to determine actions, opportunities and funding gaps to provide future solutions. A summary of our work so far is set out in the remainder of this section.

◀ Waitākere Ranges

Te Mana Hautū
Governance

- As a local government organisation, much of our governance is dictated by legislation.
- Each group entity has their own board committees to support their oversight of climate-related risks
- Each group entity has sustainability and risk departments that take a lead in ensuring that the entity assesses and manages climate-related risks and opportunities.

How our governance body oversees climate-related risks and opportunities

How management assesses and manages climate-related risks and opportunities

For more information head to Section 1: Governance, page 14

▲ Whatipū

Te Rautaki
Strategy

How climate change is currently impacting the group and how it may do so in future

For more information head to Section 2: Strategy, page 24

$132m spent on buy-outs and grants

$13m million spent on the storm response fund

$117m million spent repairing Auckland's transport network

$26m spent on remediation of drinking water and wastewater networks

Current impacts

- The group's focus during this reporting period has been on repairs of key assets as a result of the 2023 extreme weather events such as:
  - the ongoing recovery of the transport network
  - building resilience through various projects including the Making Space for Water programme
  - providing support to Aucklanders whose homes were damaged through flooding and land instability through Risk Category 3 property buy-outs and Risk Category 2P property grants
  - other rates relief and business support programmes.
- The group's reliance on electricity is increasing as we decarbonise our operations and move to electric alternatives.
- Insurance costs continue to increase.
- Central government has updated infrastructure funding and financing policy which has given rise to a risk that funding may be channelled to projects other than climate change mitigation and adaptation.
- The Local Government (Water Services Preliminary Arrangements) Act 2024 was enacted in September 2024 enabling Auckland Council to implement a new model for water service delivery.

Our biggest climate-related risks

- This year we assessed and ranked the group's climate-related risks. Our highest ranked risks were (from highest to lowest)
  - Increased damage to and reduced access to the group's key assets, infrastructure and facilities
  - Inability to respond to the changing needs of Aucklanders under different climate scenarios
  - Failure to consider climate change effectively in governance structures, decision making and long-term planning.
- The group's climate-related risks and some key information about the anticipated impacts of our highest rated risks were communicated to the council's Budget Committee during the development of the group's long-term plan.
- During 2023/2024, we carried out climate change resilience testing.
- We intend to develop a first version of a group transition plan by mid-2025.

Te Whakamauru Tūraru

Risk management

How our climate-related risks are identified, assessed, and managed and how those processes are integrated into existing risk management processes

For more information head to Section 3: Risk Management, page 36

- Our risks were identified using scenario analysis in 2022, then assessed and ranked during the current year using local and international methodologies.
- We will conduct an annual review of the group's climate-related risks and ratings. We may assess risks more frequently in cases where there has been significant change to the internal or external environment, significant climate events, or the group's scenarios are updated.
- A group climate-related risk management framework is being developed to provide a structured and cohesive approach for identifying key elements at risk, selecting timeframes, and providing guidelines on roles and responsibilities across the group.
- Processes for managing the group's climate-related risks are under development, as is the integration of climate related risk management into overall risk management processes.

▲ Oakley Creek storm debris

Ngā Pae Ine me ngā Whāinga

Metrics and targets

How we measure and manage climate-related risks and opportunities

For more information head to Section 4: Metrics and targets, page 42

Group Scope 1 GHG Emissions **113,316 tCO2e**

Group Scope 2 GHG Emissions **19,575 tCO2e**

- We have a target of net zero GHG emissions by 2050.
- Based on the current allocation of funding for group GHG emissions reduction initiatives, the group is not on track to achieve our 2050 net zero target. Our decarbonisation project is seeking solutions for funding gaps and GHG emissions reductions.
- The group has climate-related performance metrics and targets in our Statement of Performance in Volume 1 of this annual report.

Group GHG emissions intensity

*Group GHG emissions intensity is stated as tCO2e per $million total expenditure, which includes capital and operating expenditure less depreciation and amortisation.

Group Scope 1 **14.2 tCO2e per $m***

Group Scope 2 **2.5 tCO2e per $m***

Tauākī Tautuku
Statement of compliance

How this statement meets our legal requirements

Auckland Council is a Climate Reporting Entity under the Financial Markets Conduct Act 2013 (FMCA). This Auckland Council Group Climate Statement for the year ended 30 June 2024 is Auckland Council's first climate statement prepared in accordance with the requirements of the FMCA and complies with Aotearoa New Zealand Climate Standards (climate standards). NZ Climate Standard 2 (NZCS2) *Adoption of Aotearoa New Zealand Climate Standards* has optional adoption provisions that may be used in the first or second years of reporting in accordance with the climate standards. The provisions recognise that it may take time to develop the capability to produce high-quality climate-related disclosures, and that some disclosure requirements, by their nature, may require an exemption. The Auckland Council Group (the group) has elected to use the following adoption provisions from NZCS2:

NZCS2 Adoption provision 2: Anticipated financial impacts

Anticipated financial impacts have not yet been determined. Climate impact pathways of the group's most material risks have been determined and are being used as the basis for determining anticipated financial impacts. Work is underway to develop a quantification methodology.

NZCS2 Adoption provision 3: Transition planning

The group is currently developing its climate transition plan with staff across the group. When complete, we will be able to disclose how the group's business model and strategy might change to address its climate-related risks and opportunities, and the extent to which the group's transition plan is aligned with capital deployment and funding decision-making processes.

NZCS2 Adoption provision 4: Scope 3 GHG emissions

The group's consolidated Scope 3 GHG emissions have not yet been determined. For consistency with prior year reporting, the group has presented the Scope 3 GHG emissions for each group entity.

NZCS2 Adoption provision 6: Comparatives for metrics

The group has not disclosed any comparative information for metrics reported in the climate statement.

NZCS2 Adoption provision 7: Analysis of trends

The group has not disclosed any comparative information for metrics reported in the climate statement, thus trends cannot be determined. Section 3: *Performance by Groups of Activities* in Volume 1 *Overview and Service Performance* of this annual report includes some climate-related performance measures with two years comparatives. The most material of these measures are referred to on page 49, *Other climate-related performance metrics and targets*.

Te Tāpua o te Pārongo
Materiality

How we decide what is or isn't important

This statement includes information where we consider it to be quantitatively or qualitatively material. In determining what is material, we have considered the nature of the group as a local government entity and the views of our primary users who are existing and potential investors, lenders and other creditors. We have determined materiality separately for financial information, non-financial information and GHG emissions.

Financial information

A financial amount is considered material if it exceeds $114 million, although lower amounts may be disclosed where it is considered to provide clarity and transparency of material topics. This amount is based on a percentage of group operating expenditure.

Non-financial information

During 2024, we conducted a materiality survey to assess what topics our primary users considered material. The following topics were raised that were within the scope of this climate statement.

- Mitigation
- Risk of liability for climate mitigation requirements
- Mitigation response/ activities
- Adaptation - Investment necessary to increase resilience
- Impacts on owned assets - Water networks and plants, public transport assets, waste assets
- Impact on our services - Emergency planning, water security/quality, waste, public transport
- Progress towards targets.

GHG emissions

Materiality

A materiality threshold of five per cent of the group's consolidated emissions at a scope level applies when considering errors, omissions and the consideration of errors and restatement of prior year comparatives or baselines because of changes in assumptions.

De minimis

The group applies a de minimis threshold (i.e. a threshold below which emissions are so minor, they can be disregarded) of 1 per cent of the group's consolidated emissions at a scope level. The threshold is used when considering the exclusion of a source of emissions from the GHG emissions inventory. If the emissions source is lower than the threshold, it may be excluded.

The group also applies a de minimis threshold of five per cent of the group's consolidated emissions at a scope level, to the sum of all excluded emissions sources. If the sum exceeds the threshold, some of the omitted sources will be included in the inventory to reduce excluded emissions below five per cent.

1

Te Mana Hautū

Governance

▲ Planting at Duder Regional Park

As a local government organisation, much of our governance is dictated by legislation. It is also reflects the political environment, as the Governing Body consists of elected members who represent their communities. Elected members acting as the Governing Body fare responsible for major decisions including the allocation of funding, the provision of services and overall strategic direction.

1.1 Our Governing Body's oversight of climate-related risks and opportunities

The group is governed by an elected Governing Body (which includes the mayor) and elected local board members. Under the Local Government Act 2002 (LGA) in performing its role, the council must act in accordance with a number of principles, including that it should:

- ensure prudent stewardship and the efficient and effective use of its resources in the region's interests
- in taking a sustainable development approach consider
  - peoples' social, economic and cultural wellbeing
  - the need to maintain and enhance environmental quality
  - the reasonably foreseeable needs of future generations.[2]

The mayor has the power to establish committees and appoint the chairperson of each committee[3]. Auckland's mayor has established several Governing Body committees which provide focus on the most critical areas of the group. The responsibilities for these committees in relation to climate change are set out in our Governing Body Terms of Reference[4] and are summarised below.

Governing Body

The Governing Body meets at least monthly. Its terms of reference include providing oversight of the group climate-related risks, ensuring that climate change, and the impacts of climate change on the group are integrated within governance structures and considered in decisions. It does this by considering the climate impact of decisions included in the climate impact statement within all reports brought by management; and delegating specific decision-making responsibilities related to climate-related risks and opportunities to committees.

Governing Body committees

Governing Body committees comprise elected members only and meet monthly, except the Audit and Risk Committee, which has three independent members and meets five times a year. Specific responsibilities in relation to climate change include:

- the Policy and Planning committee which is responsible for setting climate change policy.
- the Audit and Risk Committee which is responsible for:
  - ensuring appropriate responses to risk are in place across the group (which includes climate-related risks)
  - ensuring that climate change and its impacts on the group are integrated within governance structures and considered in decisions.

Climate skills and expertise of elected members

Any New Zealand citizen may stand for election if they meet various administrative requirements and are not serving a long prison sentence. Because governors are elected and not appointed the council cannot control whether its governors have suitable climate-related expertise at the time of election.

Following triennial local body elections, Auckland Council management provides induction for new members. In November and December 2022, the Governing Body and Audit and Risk Committee received induction into climate reporting and climate change considerations related to the council and the region.

A training programme is being developed to assist elected members and staff who wish to increase their knowledge of climate change and its effects and anticipated effects on the council and the region. The programme is expected to start in 2025.

Process of elected members being informed

All reports submitted by management to the Governing Body, its committees and local boards require a climate impact statement to support elected members and officers understanding of:

- the impact of a proposed decision on GHG emissions and the approach to reduce emissions
- what effect climate change could have over the lifetime of the proposed decision and how these effects are being taken into account in the advice.

Oversight in development of group strategy

The group does not currently have an overall business strategy document but has many plans and strategies that guide our strategic direction. They can be found on our website at Our plans and strategies[5].

The Auckland Plan 2050 is the foundation of our strategic direction. It is our regional long-term spatial plan which addresses our key challenges of

- population growth
- shared prosperity
- environmental degradation[6].

The content of this document was developed in a series of workshops with the Governing Body and the Planning Committee. It was adopted in June 2018 and the Governing Body receives annual monitoring reports and three yearly progress reports.

Te Tāruke-ā-Tāwhiri: Auckland's Climate Plan is our regional plan to reduce GHG emissions and prepare the region for the impacts of climate change[7]. It provides strategic direction for the council in addressing the challenges of climate change. The Governing Body provided input into the development of this document in several workshops and the Environment and Climate Change Committee adopted it in July 2020. The Governing Body receives annual progress reports.

Every three years, the council prepares a **long-term plan** which is a 10-year budget that sets out the group's

- strategic direction
- financial and infrastructure strategies
- focus areas
- financial budgets and performance targets to support the achievement of Auckland Plan 2050 and Tāruke-ā-Tāwhiri outcomes.

Many workshops are held for elected members to provide input. Management provides supporting reports with information, suggested activities, programmes and option analysis. Climate impacts of large projects, programmes and areas of spend are highlighted in mandatory climate impact statements in each report.

Setting and monitoring progress against metrics and targets

The Governing Body sets climate-related targets in the group's long-term plan considering management's recommendations. Performance against these targets is reported in the annual report, and those measures that can be measured quarterly are reported in a quarterly performance report to the Governing Body.

Climate-related performance metrics are not incorporated into remuneration policies for the council, any CCO or POAL.

Responsibilities for climate-related matters in organisational structures

The Governing Body appoints the Auckland Council Chief Executive on behalf of Auckland Council and conducts reviews of the Chief Executive's performance through the Performance and Appointments Committee as set out in the LGA. Section 9 of the Auckland Council Governance Manual[8] sets out the criteria for a chief executive appointee, their roles and responsibilities, and their relationship with the mayor. It states that the chief executive is responsible for management of the council, for ensuring activities are managed effectively and efficiently, and for employing staff. There is no explicit requirement to ensure appropriate skills and competencies are available to provide oversight of climate-related risks and opportunities, however, the Director Group Strategy and Chief Executive Office who reports directly to the Chief Executive, is responsible for the Chief Sustainability Office (CSO).

The CSO is responsible for leading the council's strategic direction on sustainability and climate action. It is tasked with strategic planning, analysis and advice on climate change and is responsible for the development of Te Tāruke-ā-Tāwhiri: Auckland's Climate Plan. It also supports operational managers in developing strategies to adapt to and mitigate climate-related risks, and to make use of climate-related opportunities. The CSO reports to the Policy and Planning Committee on sustainability matters as required, e.g. for approval of Auckland Council submissions on central government climate policy proposals and updates on spend of funds specifically tagged for climate initiatives.

During the year, the CSO completed the group's first risk assessment of our most significant group climate-related risks. The results of the assessment will be shared with the council's Executive Leadership Team in the first half of the 2024/2025 financial year. Going forward, the CSO is planning to incorporate the risks into the regular fortnightly risk reporting to the Executive Leadership Team.

The Director Group Strategy and Chief Executive Office is also responsible for the risk and assurance department. The risk team supports operational managers in proactively managing enterprise risks, including climate-related risks, in alignment with council's risk management framework. The risk team reports Auckland Council's most significant risks to the Audit and Risk Committee on a quarterly basis, and to the Executive Leadership Team as mentioned above.

1.2 Oversight of CCOs and POAL

There are two layers of governance for each CCO and POAL:

- oversight by the Auckland Council governing body and committees
- oversight by the directors/trustees of each CCO and POAL.

Oversight by the Auckland Council Governing Body and committees

The legal framework relating to the governance of CCOs is set out in the LGA and the Local Government (Auckland Council) Act 2009 (LGACA). The governance of POAL is set out in the Port Companies Act 1988. Governance mechanisms are similar despite the different legislative bases.

- The Governing Body appoints directors/trustees.
- The council must adopt a policy on the accountability of its substantive CCOs.
- The council may set shareholder expectations of each substantive CCO in a statement of expectations which is updated as required. The council has a statement of expectations that provides general expectations of substantive CCOs and is updated every few years as required.
- The directors/trustees of each CCO respond annually to the council's expectations in a three-year statement of intent (SOI) which outline the organisation's strategic objectives and the performance measures by which its board will monitor the achievement of those objectives.
- Directors of POAL provide the Governing Body with a statement of corporate intent annually with similar content to statements of intent.

The council's Audit and Risk Committee monitors risks across the group as part of its terms of reference.

Appointment of directors and trustees

The Governing Body appoints directors/trustees of CCOs and POAL in accordance with the council's Appointment and Remuneration Policy for Board Members of Council Organisations[9]. The policy outlines the process for appointment, which starts with a strategic review of skills requirements. The policy outlines core competencies expected of all substantive CCO and POAL board members, one of which is a commitment to integrate the council's climate action plans into the strategies and operations of the group entity.

CCO accountability policy and statement of expectations of substantive CCOs

Legislation provides a broad outline of the content of the accountability policy; however, the detail is determined by the Governing Body. The CCO Accountability Policy is included the Long-term Plan 2024-2034. Our current Statement of Expectations of Substantive Council-Controlled Organisations[10] was issued In July 2021.

The CCO Accountability Policy includes common expectations of all substantive CCOs, including those related to climate change. It requires each substantive CCO to contribute towards implementation of Te Tāruke-ā-Tāwhiri, Auckland Climate Plan and building a climate resilient future by:

- supporting the implementation of actions identified in Te Tāruke-ā-Tāwhiri Auckland Climate Plan
- supporting the delivery of our GHG emissions targets
- planning for the impacts of climate change
- embedding climate change considerations into policies, planning and investment decision-making.

The Statement of Expectations of Substantive Council-Controlled Organisations 2021 refers to the expectations in the CCO Accountability Policy and adds:

> 'Council has a strong expectation that CCOs will build Te Tāruke-ā-Tāwhiri into their policy and strategy processes, so that climate change outcomes are not so much a separate category of goals, but an overlay or lens that is built into decision-making and behaviour.
>
> It should be clearly evident through the work programmes in the Statements of Intent how each CCO is addressing the climate challenge at a practical level.'

The council's expectations have been supplemented annually in letters of expectation from the mayor, with content agreed by the Governing Body or committee. The letters include specific areas of focus for the year ahead.

As POAL is not a CCO, the mayor issues it with an annual letter of expectations that sets the expected direction for its statement of corporate intent. The content of the letter of expectation is determined by elected members, and generally aligns with the long-term plan and elected members' priorities. The letter of expectation to inform POAL's 2023-2026 statement of corporate intent included an expectation to move container freight to rail to reduce Auckland's GHG emissions.

Audit and Risk Committee monitoring

The Auckland Council Audit and Risk Committee reviews the effectiveness of enterprise risk management across the Auckland Council Group. Its responsibilities include ensuring that climate change, and the impacts of climate change on the group, (including the related financial, social, environmental, and cultural impacts) are integrated within governance structures and considered in decisions. Where an identified risk may impact on Auckland Council or the wider group, the committee will also ensure that all affected entities are aware of, and appropriately managing, the risk. To achieve this, the boards and management of each CCO and POAL are required to present their critical risks and a summary of their performance annually to the Audit and Risk Committee, before annual reports are published[11]. The CCOs also provide quarterly enterprise risk updates, and POAL an annual risk update. Although there is no specific requirement to report on risks considered critical to the group as a whole, during 2023/2024 Auckland Transport, Watercare and Tātaki Auckland Unlimited reported the impacts of climate change as a risk to the Audit and Risk Committee. POAL reported risks of negative environmental impacts and natural disaster.

Oversight by directors and trustees

The high-level governance roles and duties of directors/trustees of CCOs and POAL are set out in the LGA, LGACA, Companies Act 1993, Trusts Act 2019, Charities Act 2005, and Port Companies Act 1988 as applicable.

CCO and POAL directors/trustees must hold management accountable for developing a strategy to address the council's expectations and for achievement of performance targets set out in their statements of intent (SOI)/ corporate intent. Further, each group entity has their own board committees to support their oversight of climate-related risks. Details of these committees and frequency with which there are interactions between them and management, as well as the frequency with which management reports these to boards are summarised below. Management of each CCO and POAL are informed about, make decisions on and monitor climate related risk in preparation for, and as part of, the periodic reporting to the relevant board or committee.

Group entity	Frequency of board meetings	Process and frequency of being informed and monitoring of climate-related metrics		Board committee responsible for oversight of climate matters	Frequency of committee meetings	Process and frequency of being informed
Auckland Transport	8 times per year	Chief Executive's report at each meeting. This covers operational highlights, issues, opportunities, risks and performance against SOI targets (including climate-related matters)		Finance and Assurance Committee: Oversight of climate-related risks Design and Delivery Committee: Oversight of performance against its sustainability strategy (including climate-related targets and indicators)	At least 5 times per year At least 8 times per year	Quarterly report on enterprise risks, which include climate change response Quarterly report on progress of sustainability strategy and performance against climate-related targets
Watercare Services	10 times per year	• Chief Executive's report at each meeting. This includes an item on sustainability and climate-related matters, including performance against climate-related targets • Quarterly report on enterprise risks, which include climate-related risks • The board paper template includes a non-mandatory climate and sustainability section		Audit and Risk Committee: Supports board with oversight of climate-related risks	At least 5 times per year	Quarterly deep dive presentation from management of a particular enterprise risk (which will be a climate-related risk as and when considered appropriate)
Tātaki Auckland Unlimited (comprising two CCOs – Tātaki Auckland Unlimited Trust and Tātaki Auckland Unlimited Limited)	At least 10 times per year	• Chief Executive's monthly report includes a climate innovation and sustainability dashboard every second month to provide an update on progress and challenges. Until January 2024, this dashboard highlighted two to three climate-related risks for various assets. From February 2024, it has instead reported progress against the new Climate Change and Environment Strategic Plan • Since November 2023, the board paper template has included a mandatory climate change and sustainability section • The board reviews a high-level strategic risk register before it is submitted to the Auckland Council Audit and Risk Committee • The annual report provides an update on performance against Tātaki Auckland Unlimited (TAU) Trust's GHG emissions reduction target.		Risk and Finance Committee: Oversight of climate-related risks and the financial impacts of climate-related events	6 times per year	• Quarterly report on environmental and climate change as one of TAU's strategic risks • A climate change and sustainability update is a standing agenda item for 3 meetings per year. Further updates are provided when required • A mandatory climate change and sustainability section was added to the Risk and Finance Committee report template in May 2024
Port of Auckland Limited	10 times per year	• Standing agenda item at every board meeting for the Audit and Risk Committee Chair to provide a Committee update. This would include an update on sustainability and environmental matters (including climate-related performance targets) if applicable. • Chief Executive's report provided at every meeting, provides an update on progress with high level sustainability initiatives, when necessary.		Audit and Risk Committee: Oversight of climate-related risks and opportunities as well as performance against climate-related targets	At least 4 times per year	Quarterly report on progress and performance with Sustainability and Environmental programmes, which includes performance against climate-related targets and climate-related risks
Eke Panuku Development Auckland	10 times per year	• Quarterly report on enterprise risks, which include climate-related risks. • The board paper template includes a mandatory climate and sustainability section.		Audit and Risk Committee: Assists the board with oversight of climate-related risks	4 times per year	Quarterly report on enterprise risks, which covers all corporate risks, including sustainability and climate change risks

Climate skills and expertise of directors/trustees

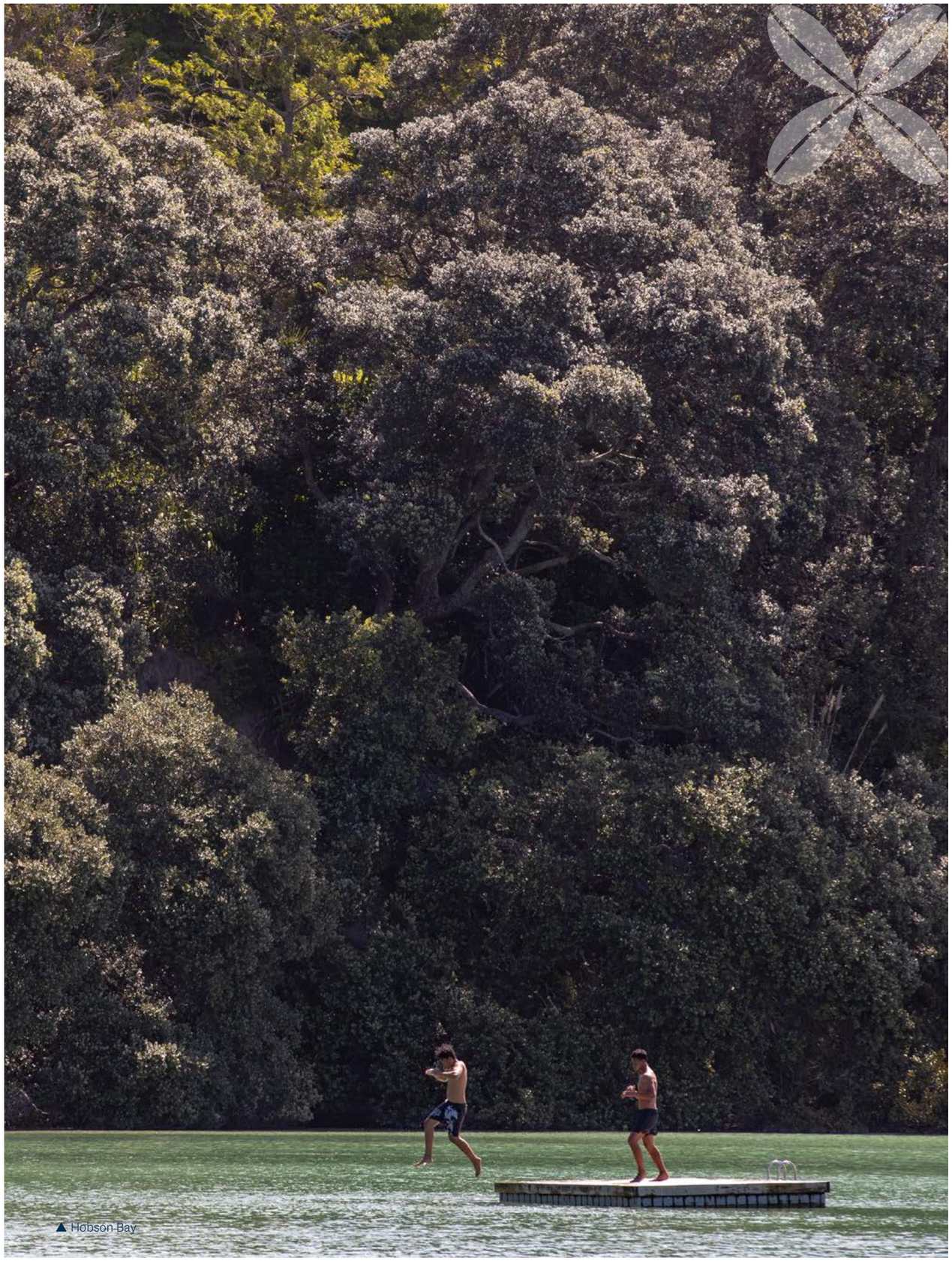
The council maintains skills matrices for board members of all substantive CCOs. These skills matrices form the basis for the council's recommendations to the Performance and Appointments Committee on the appointment of new directors. For Auckland Transport and Watercare Services Limited, the matrices identify the specific skill sets related to the response to climate change that are desirable to have on these boards.

The CCOs and POAL do not have formal programmes for climate-related training or workshops for board members and executive leaders, however some training has been provided by several entities on an as-needs basis, and as part of induction of new board members. Further, the CCOs and POAL have expressed interest in using the elected member training programme being developed by the council for their boards.

Responsibilities for climate-related matters in organisational structures

Like Auckland Council, the heads of sustainability and risk departments report into an executive leader. Each group entity has a sustainability and/or corporate responsibility department that is responsible for leading the organisation's strategic direction on sustainability and climate action. Each group entity has a risk department responsible for maintaining a risk framework, supporting their organisation in identifying and assessing risks, and reporting the most significant risks to their respective risk committees. All these departments have staff that are responsible for working with Auckland Council to ensure alignment of frameworks and strategy, and the sharing of best practice.

▲ Weiti River cleanup



▲ Hobson Bay

2

Te Rautaki

Strategy

▲ Tāwharanui Regional Park

2.1 Current impacts and financial impacts

The impacts of climate change are already being felt across the Auckland region, with the most significant experienced during this reporting period detailed below.

Physical impacts

Extreme weather events

In 2023, the region experienced two extreme weather events that caused widespread damage from flooding and high winds. Impacts included damage to roads and property, land instability and landslips, fallen trees, and loss of life. Although these events occurred in 2023, the response will continue long-term, so financial impacts were also felt in 2023/2024.

The region is now in recovery mode. The group's focus during this reporting period has been on repairs of key assets, such as the ongoing recovery of the transport network, building resilience through various projects including the Making Space for Water programme[12], providing support to Aucklanders whose homes were damaged through flooding and land instability through Risk Category 3 property[13] buy-outs and Risk Category 2P property[14] grants, other rates relief and business support programmes. The Long-Term Plan 2024-2034 estimated the total cost for the recovery of the transport network, Making Space for Water, the property buy-outs and grants provision, along with certain other resilience projects, is expected to cost $2 billion over 10 years, with central government funding $1.1 billion of this.

To facilitate the process for the Risk Category 3 property buy-outs and the Risk Category 2P property grants provision, the group developed the Future of Severely Affected Land process. During 2023/2024, the group created a funding provision for the total future cost specifically for these buy-outs and grants of $553 million and spent a total of $132 million during the year.

Significant judgements and assumptions

The Long-Term Plan 2024-2034 estimated $2 billion cost for Making Space for Water, buy-out of Risk Category 3 properties and Risk Category 2P property grants and transport reinstatements

Making Space for water costs

- The feasibility and design phases assume availability of necessary resources.
- Inflation is applied in accordance with Long-term Plan 2024-2034, Volume 1, p76

Risk Category 3 property buy-out costs.

- 902 properties will be bought from 2023/2024 to 2025/2026 at an estimated average cost (after demolition and other costs) of $978,000 each.

2023/2024 estimate of future costs of Risk Category 3 properties and Risk Category property grants

Significant assumptions and judgements are detailed in Volume 3, page 72 of this annual report.

In June 2023, Auckland Council's Governing Body approved a storm response fund, with key deliverables to date including:

- an improved response to public complaints over flooding
- new recruits and renewed equipment for Auckland Emergency Management
- early warning flood systems and coastal monitoring
- local board response plans.

The actual spend of the storm response fund for 2023/2024 was $13 million against a budget of $20 million.

Auckland's transport network incurred significant damage during the 2023 weather events, resulting in additional repair costs estimated to be up to $360 million over three years, with $117 million spent in 2023/2024.

Significant judgements and assumptions

Transport network additional repair costs

The estimate is based on cost estimates per contract area, with indicative costs for larger complex sites with major slips requiring further investigation and geotechnical testing, updated subsequently when more accurate information has been obtained. The costs include area-wide allowances for missing scope items, minor damage not costed etc. They also include an allowance for project risks, contingency and a cost escalation allowance.

Our drinking water and wastewater networks also incurred significant damage. The total cost of the remediation works is estimated to be in the region of $75 million, which is mainly capital expenditure. We spent $12 million of this in 2023/2024, along with a further $14 million of operating expenditure.

During 2023/2024, Auckland experienced an increase in sink holes, landslips and potholes that are believed to be, in part, a result of the 2023 weather events. The collapse of the Ōrākei Main Sewer (OMS) in Parnell during September 2023 was of particular significance. It is likely that the collapse is a result of several factors acting together including land instability from the 2023 weather events, and the age and condition of the pipe. To reduce the risk of future sewer collapses in Parnell, we are re-lining 1.6km of the sewer. The total cost of this project is estimated at $87 million, which is mainly capital expenditure. We spent $19 million of this in 2023/2024, along with a further $8 million of operating expenditure.

In March 2023, we established the council-led Tāmaki Makaurau Recovery Office to coordinate the repair and rebuild efforts on behalf of the Auckland Council group, central government, and community partners and stakeholders. Over the reporting period, $33 million of new operational expenditure was spent to set up the Recovery Office, with an average of 80 full-time employees from across the group (including contingent workers) mobilised to support its work, accounting for 27 per cent of the operational spend. This number is expected to progressively decrease over the next two to three years until recovery activities are fully transitioned into regular council activities. The group has developed a Recovery Transition Plan that will reorganise how support is provided to impacted communities as we transition out of recovery mode. Some recovery activities are outside our normal range of operations and will be led out of the Recovery Office until they are complete.

Transition impacts

Market impacts

Electricity costs

Electricity costs have increased significantly during the year, and continue to increase due to:

- high inflation and interest rates affecting electricity providers
- higher levels of investment required to maintain ageing electricity infrastructure and to increase its resilience due to the increase in intensity and frequency of extreme weather events.

The group's reliance on electricity is increasing as we decarbonise our operations and move to electric alternatives. On 1 January 2024, the group (excluding POAL and including only some of Auckland Transport's electricity usage) switched its electricity provider to a renewable energy provider. We are looking at long-term solutions to manage these costs through the decentralisation of our energy sources.

Renewable energy

During the current year, POAL decided to install a solar array on the top of its Bledisloe car handling facilities as part of its renewable energy plan. At a time where electricity costs are increasing, installation of this solar array will offset increases in electricity prices once installed in 2024/2025. This project is at design phase and costs are unknown; therefore, the financial impact has not been provided.

Insurance costs

The insurance market remains in a relatively 'hard' phase, during which insurers increase premiums, moderate their insurance capacity, and offer more restrictive terms and conditions. These conditions are caused by numerous local and global factors including the rise in volume and severity of extreme weather events and natural disasters, inflation (affecting reinstatement costs and operating costs), and unstable global financial conditions. Insurance costs have increased significantly for council over this time, however, due to premium increases being the result of the multiple factors outlined, it is not possible to attribute a specific portion of the increase directly to the impacts of climate change.

In 2022, the group set up a self-insurance fund which is one of the tools we use to manage the transition risk of uncertainty regarding future insurance premiums and provision. Balancing self-insurance with external insurance provision, along with the levers of policy limits and deductibles also help the group to manage these risks.

Policy and legislative impacts

Government policy on infrastructure funding and financing

Central government recently announced a Funding and Financing Infrastructure work programme which will:

- clarify when central government will provide funding for infrastructure
- broaden funding and financing tools available to central government and councils
- modernise central government policies, frameworks and contracting models.

In addition, the Government's Policy Statement on land transport 2024 was issued in June 2024. It sets out how much land transport funding will be provided over the next 10-year period, what needs to be achieved from the funding, and prioritises Roads of Regional and National Significance. The strategic priorities are:

- economic growth and productivity
- increased maintenance and resilience
- safety
- value for money.

This policy statement differs from the 2021 policy statement which had strategic priorities of safety, better travel options, improving freight connections, and climate change. There is a risk that direction from central government and associated transport funding will be channelled to projects other than climate change mitigation and adaptation, resulting in these projects being inadequately funded to enable us to meet our GHG emissions reduction targets and other climate-related commitments.

The Local Government (Water Services Preliminary Arrangements) Act 2024

In May 2024, the central government introduced a new model for water services delivery in Auckland and legislation was introduced in September 2024 enabling Auckland Council to implement a new model for water service delivery. The legislation prohibits Auckland Council from providing financial support to Watercare.

Auckland Council issues green bonds against eligible green bond assets. Of the group's $4.2 billion of eligible green bond assets, $548 million (13 per cent of total) are Watercare's assets. This legislation reduces the pool of eligible assets available to the council to raise green bonds but gives rise to a new opportunity for Watercare to raise debt in a sustainable format. The council's treasury team has been preparing to remove Watercare's assets from council's eligible asset schedule and ensure sufficient headroom is available so that the council can continue to issue green bonds.

2.2 Scenario analysis

Developing climate change scenarios

In 2022, the group developed two transition scenarios and used an RCP 8.5 physical scenario to identify organisational climate-related risks and opportunities at both the group entity and group level. The process for creating the transition climate change scenarios can be found in Volume 4 of our 2021/2022 Annual Report.

In 2023, we developed three integrated scenarios based on our 2022 scenarios. These scenarios were developed to support our assessment of the resilience of our business and strategy to climate-related risks and opportunities. To ensure that they were relevant and appropriate for this purpose, we included elements that are New Zealand-specific and are reflective of the council as a local government organisation that relies on central government funding and policies. They were also developed to assist in exploring the risks associated with different pathways that we have either have made commitments against (Kākāriki) or are preparing for (Kahurangi, Whero). The RCP scenarios in the IPCC Fifth Assessment Report have been used as they were the latest projections scaled to New Zealand at the time of developing these scenarios. Furthermore, they aligned with the requirements of the Aotearoa New Zealand Climate Standards.

This work included two key phases:

- review and update the 2022 transition scenarios to reflect evolving science, trends, future policy, technology, market and societal shifts.
- develop three integrated climate scenarios incorporating integrated climate scenarios that were developed separately by Auckland Transport.

The integrated scenarios were developed through four key steps.

- We set a focal question to guide the scenario analysis process – 'How could climate change affect the Auckland Council Group's ability to deliver services and infrastructure that meets the needs of Aucklanders between now and 2050?'
- We compared existing datasets for each Auckland Council Group and Auckland Transport scenario.
- We identified common linkages between each scenario and noted any gaps.
- We examined information from the first two steps and the transition scenarios to identify the most appropriate attributes to take forward to the new scenarios.

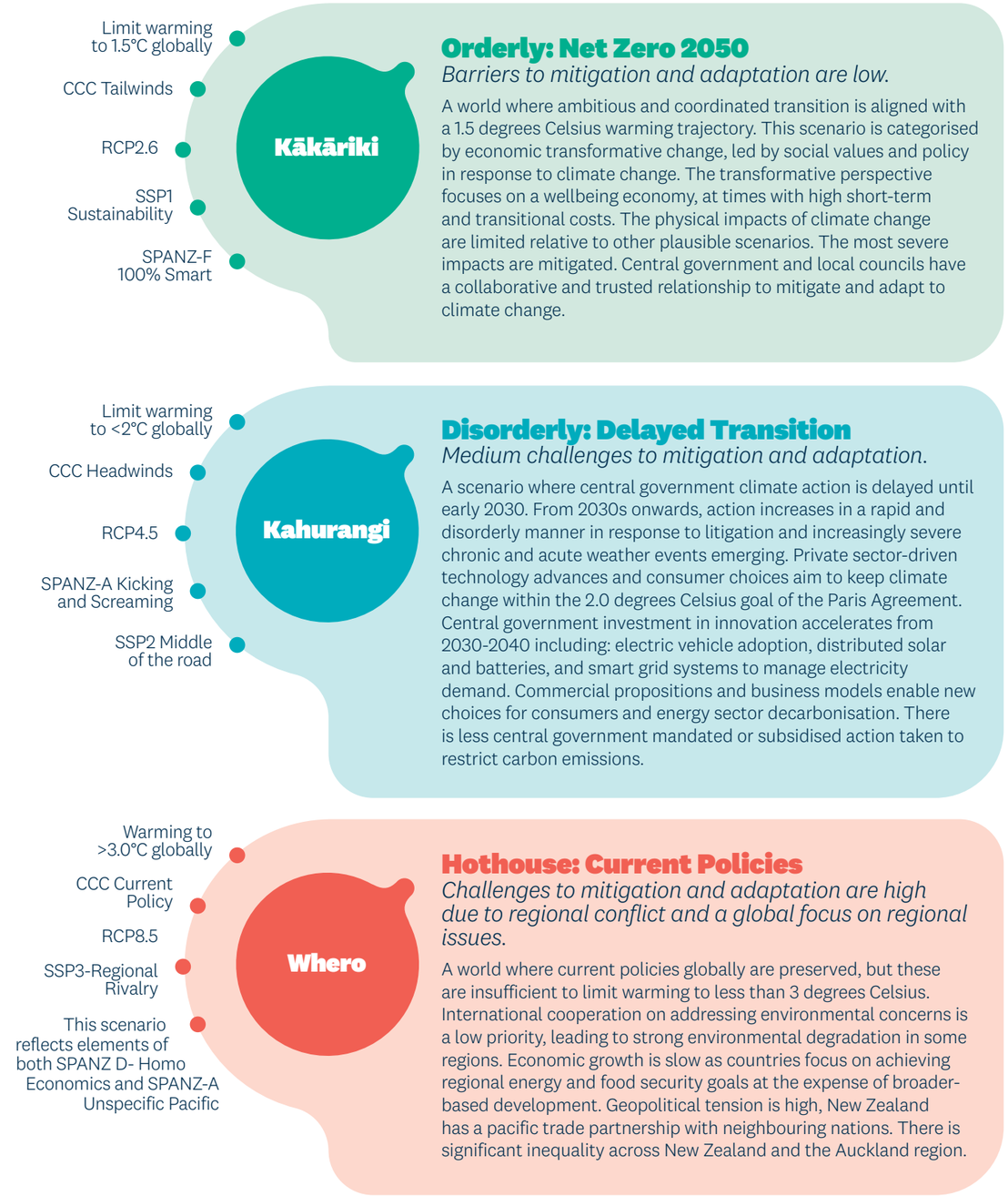
Auckland Council's climate disclosure governance group[15] reviewed and approved recommendations on what elements of the 2022 scenarios should be carried forward into the integrated scenarios and the final integrated scenarios.

The time horizons identified for the integrated scenarios are:

- **short-term**: three years from 2023 to 2026 to align with short-term budgeting processes
- **medium-term**: 10 years to 2034 to align with the Long-term Plan 2024-2034
- **long-term**: 27 years to 2050 to align with Auckland Plan 2050.

The Auckland Council Group integrated three climate change scenarios are as follows.

Reference scenarios[16]



The group's integrated climate change scenarios have been used to stress test the group's resilience, as an input into our Long-term Plan 2024-2034 and in the detailed assessment of our climate-related risks. We are working through how we use these scenarios in the development of our transition plan.

Performing scenario analysis

The climate change scenarios developed in 2022 for scenario analysis were used to identify our climate-related risks. At that time, we carried out workshops across the group for each group entity except Auckland Transport which ran a separate, independent process. The workshops were facilitated by Auckland Council staff and consultants from Tonkin + Taylor and Informed.City. Participants included staff from each substantive CCO (except Auckland Transport) and POAL in various departments including operations, strategy, finance, sustainability, legal, risk, governance and Māori outcomes.

Elements of the risk and opportunity identification process were:

- Physical risks were identified using RCP 8.5 projections as an underpinning assumption.
- Transition risks were identified using the Kākāriki and Kahurangi scenarios developed in 2022, described above.
- Themes were identified with stakeholders to help to structure the risk and opportunity identification process. These themes were:
  - built
  - natural
  - economy
  - human
  - governance
  - Te Tiriti o Waitangi.

In addition to the Te Tiriti o Waitangi theme, we also considered whether any of the risks or opportunities identified in the workshop would have a significant impact on Māori.

Risks were categorised as being either direct or indirect and were documented in a structured manner in risk workbooks.

2.3 Climate-related risks and opportunities

The Auckland Council Group's material climate-related risks are detailed below. The ranking of these risks reflects the outcome of the detailed risk assessment that was performed this year. All of these risks apply to short, medium and long term horizons. They are ranked from the highest to the lowest risk.

Risk ranking	Headline risk statement	Climate risk type	Climate hazard / transition driver
1.	Increased damage to and reduced access to the group's key assets, infrastructure and facilities due to increased frequency and severity of acute weather events.	Physical	Extreme acute weather
2.	Inability to respond to the changing needs of Aucklanders under different climate scenarios and meet increased demand/load on group services such as emergency management, use of facilities and support for climate refugees, etc.	Transition	Social changes
3.	Failure to consider climate change effectively in governance structures, decision-making and long-term planning.	Transition	Governance
4.	Inability to deliver on key adaptation and mitigation climate-related targets and objectives.	Transition	Financial
5.	Increase in the spread of diseases and other biosecurity issues as a result of increased warming/humidity and extreme weather events.	Physical	Extreme weather and chronic warming
6.	Inability to affordably and easily access debt capital and other financial products as a result of climate change.	Transition	Market changes and change in investor sentiment
7.	Failure to balance delivery of climate-related priorities with broader group objectives and strategy.	Transition	Governance
8.	Increased prevalence of extreme seasonal variations in precipitation (drought or flood) drives increased water security and quality issues and reduced ability to manage waste and stormwater.	Physical	Seasonal variations in precipitation changes

Risk ranking	Headline risk statement	Climate risk type	Climate hazard / transition driver
9.	Inability to maintain service delivery standards in a cost-effective manner while transitioning to a low carbon organisation.	Transition	Financial
10.	Reduction in or increased cost of insurance to underwrite assets as a result of climate change.	Transition	Market changes
11.	Failure to adopt and demonstrate Manaakitanga (respect and care) to disadvantaged communities as part of climate response (transitional and physical events).	Transition	Social changes
12.	Chronic changes in weather patterns such as increasing temperatures and sea level rise resulting in increased infrastructure, facilities, and asset damage.	Physical	Chronic changes such as increased temperatures and sea level rise
13.	Loss of natural capital, including indigenous vegetation natural ecosystems, and taonga for Māori as a result of physical effects of climate change.	Physical	Extreme weather events and chronic temperature increases
14.	Failure to adequately address climate change in authentic partnership with Mana Whenua and with consideration of key Māori (Mana Whenua and Mātāwaka) priorities.	Transition	Reputational
15.	Increased frequency and severity of acute extreme weather events in NZ and overseas could lead to significant supply chain disruption and operational pressure at the Auckland Port and other key Auckland transport terminals.	Physical	Extreme weather events
16.	Inability for Auckland Council to meet health, safety and wellbeing obligations to staff and broader community as a result of increased prevalence of extreme weather events (storms, floods etc.).	Physical	Extreme weather events

We used a 2023–2050 time horizon for transition risks to reflect the time horizon of the Auckland Plan 2050. We extended the time horizon for identifying physical risks out to 2100 to reflect the long-time horizons of regional infrastructure planning.

The group's climate-related risks and some key information about the anticipated impacts of our highest rated risks were communicated to the council's Budget Committee during the development of the group's long-term plan. Further work is required to ensure the group's climate-related risks are more meaningfully considered during future capital deployment processes.

More information on the methodology used to assess the risks can be found in Section 3: *Risk management* section of this climate statement.

Climate-related opportunities

Some of the group's key climate-related opportunities are:

- accessing a wider pool of investors through sustainable financing (transition opportunity).
- investing in decentralised, renewable energy solutions to reduce reliance on fossil fuels and save costs (transition opportunity).
- take advantage of new technologies and low emissions alternatives for public transport, such as electric buses and ferries, to save costs and reduce our reliance on fossil fuels (transition opportunity).
- creating green assets from land that isn't suitable for housing (physical opportunity).
- strengthening partnerships with mana whenua through adaptation and mitigation responses to climate change (physical opportunity).

2.4 Anticipated impacts and financial impacts

During 2023/2024, we carried out climate change resilience testing to understand how resilient our business is to climate change, and to identify areas where the group is vulnerable to future climate impacts. Further, the group's climate-related risks were assessed and analysed by group entity representatives against five key areas of impact defined from the group's strategic context: Service Delivery, Community Outcomes, Funding, Reputation or Strategic Priorities.

Participants from across the group attended a workshop where they were asked to assess each climate change risk at a 2034 horizon and identify:

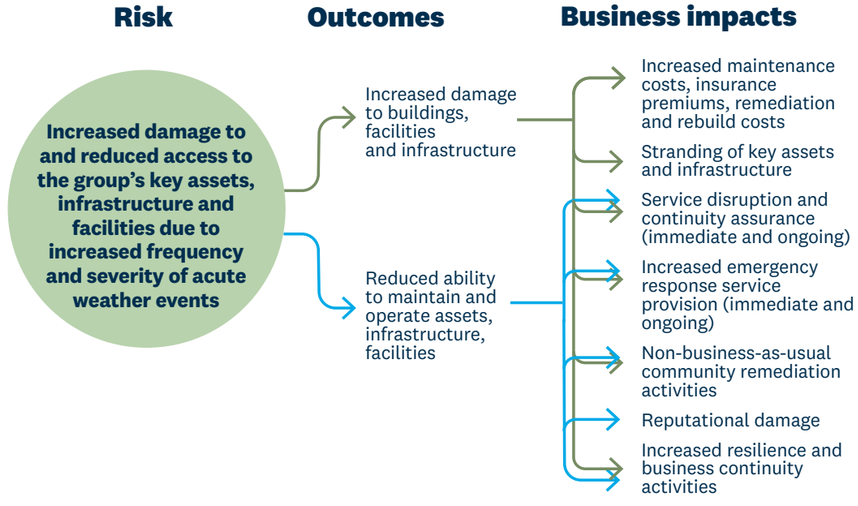
- the primary area of impact
- the scale of impact
- whether the risk was factored into decision-making.

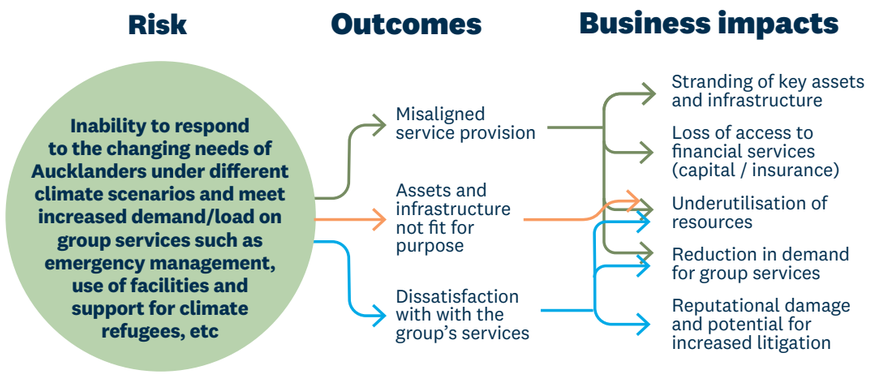
Key observations included:

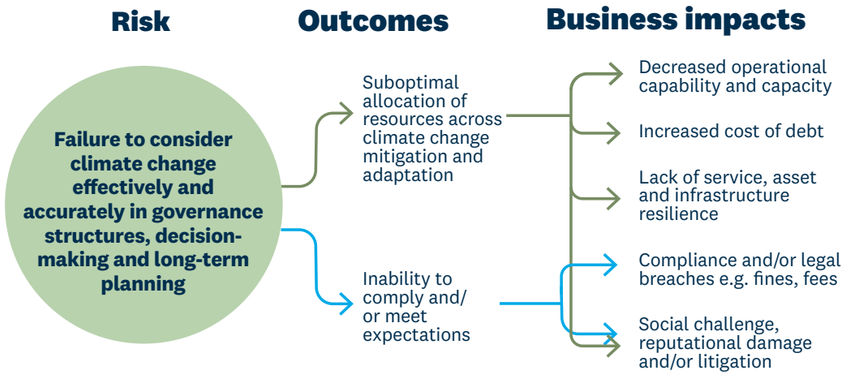
- Service delivery had the greatest impact from climate risks.
- Most climate-related risks resulted in a negative impact for the group (as opposed to a neutral impact).
- The average size of impact from the climate-related risks assessed across the group has been assessed as medium.
- Auckland Transport and Watercare were found to assess climate change risk impacts the highest, with an average impact rating of medium-high for all risks.
- More than half of the climate-related risks are currently considered in decision making across the group, this excludes risks where no response was provided.

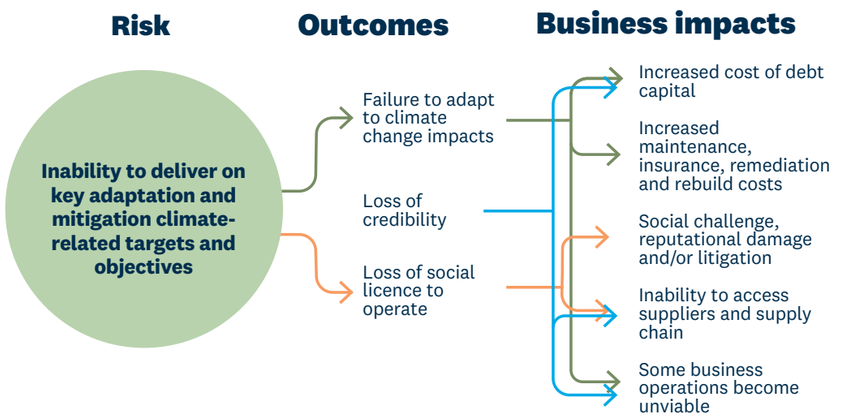
The group also developed impact pathways which showed the potential business and financial impacts of our highest ranked climate-related risks.

Qualitative financial impacts were identified. Impact pathways for the group's top four climate-related physical and transition risks using our Whero (current policies) scenario are shown below. The pathways highlight the causality and not the severity of the impacts.









2.5 Our strategies and transition planning

The group's structure and business model can be found in Volume 1, *2 Our strategy and how we create value*, pages 10 to 17. The governance structures, purpose, responsibilities and many of the functions and activities are largely set out in legislation.

As detailed in the *Governance – Oversight in development of group strategy* section on page 17, the group does not currently have an overall business strategy document but has many plans and strategies that guide our strategic direction. In addition to the three key plans that set the group's strategic direction i.e. the Auckland Plan 2050 and Te Tāruke-ā-Tāwhiri: Auckland's Climate Plan and long-term plan, another important strategic document is the Transport Emissions Reduction Pathway (TERP) which supports Te Tāruke-ā-Tāwhiri's target to halve Auckland's regional emissions by 2030. TERP sets out what needs to have happened by 2030 to have reduced the region's transport emissions by 64 per cent and provides a pathway of key activities that are anticipated to impact regional transport emissions. While these pathways have been identified, the actions required are not all under the group's control, and those that are, are not fully funded in the long-term plan.

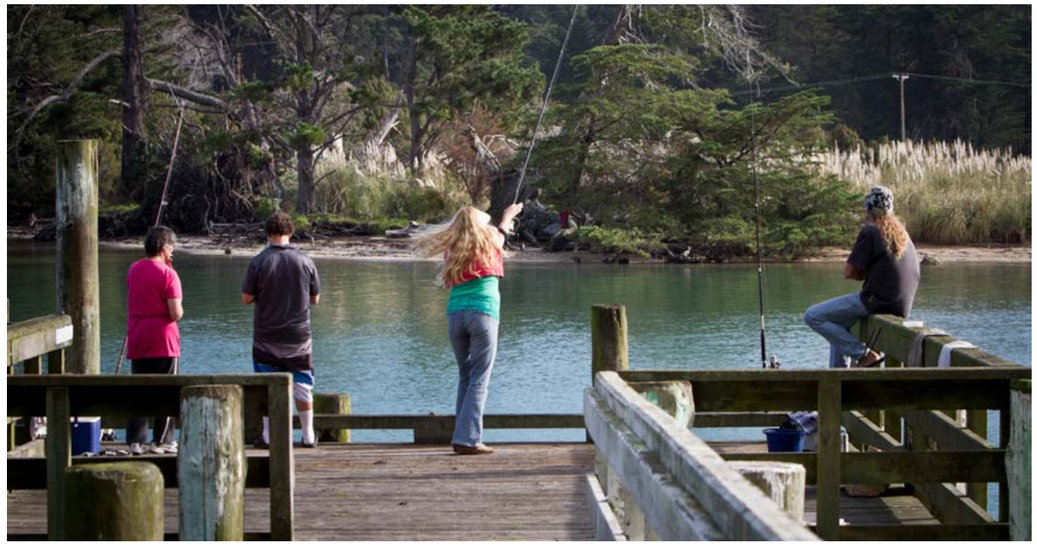
The group is in the early stages of developing a transition plan. Staff from Auckland Council's finance and strategy departments, and the Chief Sustainability Office formed a transition plan project team in 2023 and are working together to understand what it means for the group to develop a transition plan. The group's transition plan's scope will be restricted to the group's services, activities and assets delivered and owned by the group as opposed to the broader Auckland region.

The project team's first observation was that Auckland Council does not have a group-level organisational strategy in which transition plan aspects can be incorporated. As such, the project team made the decision to develop a standalone transition plan that can feed into the group's strategic direction over time.

The project team suggested three steps to develop the group transition plan by identifying: the group's current vulnerabilities to the transition to net zero by 2050 actions to address the risks and impacts identified in stage one an approach for implementation, including different pathways, that will form the final transition plan.

It recently tested the workability of the first stage using the council's Waste Solutions department as a pilot. They will review and refine the methodology for the first stage based on the outputs of the pilot.

We intend to develop a first version of the group transition plan by mid-2025 so that it will be available to inform the development of the group's Long-Term Plan 2027-2037.



▲ Wade River Road Wharf, Weiti River, Whangaparaoa

3

Te Whakamauru Tūraru

Risk management

▲ Boardwalk, Queen Street, Papakura

3.1 Processes for identifying, assessing, and managing climate-related risks

Processes for identifying climate-related risks

In 2022, the group identified climate-related risks and opportunities at both the group and group entity level in scenario analysis workshops with staff across the group. These risks were then consolidated where overlaps existed, and some were reframed for ease of reporting. This resulted in 16 group climate-related risks that could have a material impact on the group. The detailed approach to identify our group climate-related risks in 2022 can be found in Volume 4 of the 2022/2023 annual report.

Going forward we will use the following four-step process to identify climate-related risks:

- Establish the context and define the scope and parties involved
- Define climate hazards
- Analyse existing and identify new climate-related risks through scenario analysis
- Evaluate (screen) risks according to the potential consequences to ensure the most material risks are taken forward for a detailed risk assessment.

Tools and methods used to identify climate-related risks

Some of the key tools used to identify our group climate-related risks include:

- Scenario analysis: The group's climate-related risks were identified using scenario analysis. You can find more information on our scenario analysis process under the strategy section.
- Stakeholder engagement: Key stakeholders were identified from across the group with relevant expertise to participate in the risk identification process.
- Hazard maps: Various sources of group-owned geospatial data (e.g. Auckland Council GEOMAPS, Auckland's Hazard Viewer) and NIWA data have been leveraged to get a better understanding of the climate hazards that drive climate-related risk.

Short-term, medium-term, and long-term time horizons considered

The time horizon used to identify the group's transition risks was 2023–2050 to reflect the time horizon of the Auckland Plan 2050. The time horizon for identifying physical risks extended out to 2100 to reflect the time horizons of regional infrastructure planning.

Exclusion of parts of the value chain

All the groups assets and core activities were considered when identifying climate-related risks. We also explored the impact of climate change on the group's broader value chain e.g. suppliers, community groups, and how this would impact the group's ability to deliver its core activities and assets. Although the group has a key role in managing many risks to the community, for the purposes of this climate statement, direct risks to the community and region have been excluded as they fall outside the scope of this climate statement.

Frequency of assessment

The group's scenario analysis process will be reviewed on a three -yearly basis to ensure the scenarios, are aligned with the latest policies and science, and the risks identified through scenario analysis are current and useful. To ensure alignment between the climate scenarios and climate-related risks, the group will review the identified climate-related risks alongside the scenario review. However, if the group identifies any new climate-related risks that have a material impact to the group or a specific group entity, that risk will be included and prioritised prior to the scenario review.

Prioritisation of climate-related risks relative to other types of risks

The identification of climate-related risks is a standalone process and does not currently take place alongside the identification of other risks.

Processes for assessing climate-related risks

Tools and methods used to assess the scope, size, and impact of climate-related risks

Our risk assessment method is principally based on a qualitative rating of exposure, vulnerability (based on sensitivity and adaptive capacity), and organisational consequences. This method draws on the IPCC conceptual risk framework[17], the ISO 31000 – *Risk Management Guidelines (ISO31000:2018)*, and the Ministry for the Environment's approach in the *National Climate Change Risk Assessment for New Zealand* – Method Report[18], which consider the likelihood of damage, and the resulting impacts.

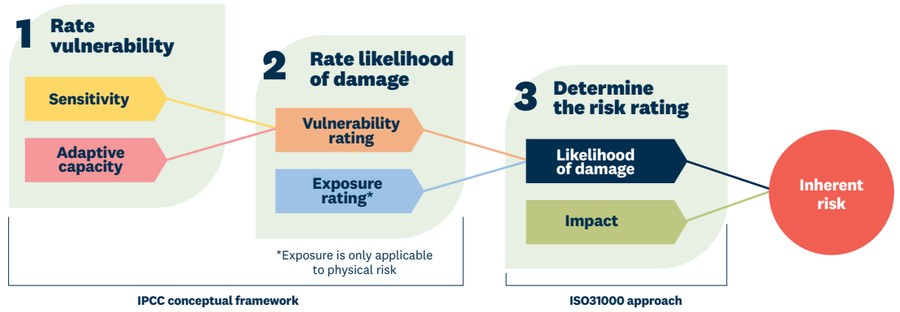
Given the complex nature of many climate-related risks, detailed risk assessments are generally a qualitative, or semi-quantitative exercise, drawing on specialist and local knowledge (which acknowledges the uncertainty in estimating risk parameters such as exposure and vulnerability). We also see the methodology and management of climate-related risks as something that will evolve over time until a more robust process and comprehensive data is available, leading to more mature climate-related risk practice.

The group has evaluated for each risk, the exposure and impact against all three integrated climate change scenarios (Kākāriki, Kahurangi and Whero) and at three different timeframes (current, 2034 and 2050). For sensitivity and adaptive capacity, the status was assumed, which means only permanent controls were considered. Any planned or future adaptive responses or controls were considered for the residual risk rating. The three timeframes chosen aligns to the time periods of our strategic direction.

Our risk assessment methodology is described below.

Assess the level of inherent risk

The first part of the assessment captures the inherent risk rating which can be broken up into three steps and finally combining the inherent likelihood of damage and the inherent impact ratings.



The definitions of the above terms follow.

Term	Definition
Adaptive capacity	The ability of systems, institutions, humans, and other organisms to adjust to potential damage, to take advantage of opportunities, or to respond to consequences.[19]
Sensitivity	The degree to which the organisation or an element at risk is affected, either adversely or beneficially, by climate variability or change.[20]
Exposure	The presence of people, livelihoods, species or ecosystems, environmental functions, services, resources, and infrastructure, or economic, social or cultural assets in places and settings that could be adversely affected.[21]
Impact	Impacts are also referred to as consequences or outcomes. They are the effects on natural and human systems of hazards such as extreme weather and climate events and of climate change.[22] These impacts can be financial, non-financial, tangible or intangible. It can be expressed quantitatively (e.g., units of damage or loss, disruption period, monetary value of impacts or environmental effect), semi-quantitatively by category (e.g., high, medium, low level of impact) or qualitatively (a description of the impacts).

Assess the level of residual risk

The second part of the assessment considers the presence of controls and responses, or mitigating factors that may modify the risk. These controls and responses are also rated for different levels of effectiveness ranging from 'strong' to 'response gap' under the different scenarios, resulting in the residual risk rating (risk and impacts remaining after mitigation (e.g., GHG mitigation actions) and adaptation responses).

Rank group climate-related risks

We consolidate the risk ratings from group entities for each group climate-related risk using a weighted score ranking process which reflects the status of the inherent rating components. Ranking is based on the total average score calculated from the impact, and likelihood of damage, giving higher scores to higher rated risks. This is then weighted by the number of entities. Although all our group climate-related risks are important; we rank them so that we can prioritise the management of the highest risks.

Short-term, medium-term, and long-term time horizons considered

The group evaluates climate-related risks using the three selected climate change scenarios (Kākāriki, Kahurangi and Whero) and at three different timeframes (current, 2034 and 2050). The three timeframes help the group manage the risks alongside Whanake Ora (short term strategy), the long-term plan (10-year Budget) and the Auckland Plan 2050 (30-year plan).

Exclusion of parts of the value chain

The group's entire value chain has been considered when assessing climate-related risks, and nothing has been excluded except where the risks directly relate to the region or the community.

Frequency of assessment

The group assessed its climate-related risks for the first time during the first half of 2024. In future, we will conduct an annual review of the group's climate-related risks and ratings. We may assess risk more frequently in cases where there has been significant change to the internal or external environment, significant climate events, or the group's scenarios are updated out of cycle.

Prioritisation of climate-related risks relative to other types of risks

While the group recognises that climate-related risks are unique in nature and distinct from other types of risks, we currently don't prioritise them relative to other strategic risks.

Processes for managing climate-related risks

Processes for managing the group's climate-related risks are under development, however the key processes underway have been detailed below in the tools and methods section.

When established, the group's climate-related risk management approach will aim to effectively manage the material climate-related risks that could impact group assets, core services, financial performance, stability, and reputation.

Tools and methods used to manage climate-related risks

Group climate-related risk management framework

A Group Climate-related risk management framework is being developed to provide a structured and cohesive approach for identifying key elements at risk, selecting timeframes, and providing guidelines on roles and responsibilities across the group. It will also assist the group in assessing climate related risks and provide a guide for climate-related risk management that can be used by operational teams, alongside existing operational risk management approaches.

This framework has been shared with each group entity, and some elements of it have been applied in practise at a group and entity level. Other elements, including climate risk management approaches, will be developed once the first version of the framework is approved. We intend to roll out the framework and its methodology more widely in financial year 2025 after it has been formally approved.

Group risk rating assessment template

The Group Risk Rating Assessment template serves as a Group Risk Register for all the group climate-related risks. Further tools and methods for managing climate-related risks may be explored and developed in the future if needed.

3.2 Integration of climate-related risk management into overall risk management processes

Climate-related risk management maturity varies across the group, which makes integration of climate risk management into overall risk management processes a challenge. We are making efforts to mature risk practises, increase the consistency of risk process application, and increase the level of understanding of climate risks across the group. Some of the areas where climate-related risk management has been integrated into overall risk management processes (to varying levels of maturity) are listed below:

- **Risk category** – Climate-related risks have been included as a key organisational risk category (or sub-category of environmental risk) across the group and feature, to some extent in each group entity's risk registers.
- **Risk impact table** – Most group entity level risk impact tables have environmental impact as one of their impact criteria and support considerations given to environmental impacts driven by a climate-related risk when any risk is being assessed.
- **Risk appetite statements** – Each group entity has identified risk appetite for climate-related risks.
- **Climate impact assessment** – Some entities prepare climate impact assessments for material projects and key activities.
- **Other tools in development** – A dynamic adaptive pathway planning approach is being implemented at Watercare and Auckland Council to help understand the options and trigger points for infrastructure planning and delivery of services in an uncertain future.
- **Asset management** – Some entities are working towards linking climate-related risk management with asset management.
- **Risk reporting** – Climate-related risks are reported as described in the governance section.
- **Risk profiling** – Auckland Transport conducts annual risk profiling for its board and executives that provides a summary of mitigating actions or controls for each enterprise risk including its Climate Change Response enterprise risk.
- **Specialised teams** – Dedicated teams across the group provide specialised expertise, advice, and strategic direction (e.g. Climate Innovation, Sustainability) on enterprise level climate-related risks, and operational business units manage the risks day-to-day.

4

Ngā Pae Ine me ngā Whāinga

Metrics and targets

Medlands Beach, Aotea Great Barrier Island ▲

4.1 Greenhouse gas emissions

This section sets out the group's consolidated Scope 1 and 2 GHG emissions inventory (consolidated GHG inventory), together with the methods and assumptions used to determine it. The group has not yet finalised its policy and approach to consolidating Scope 3 GHG emissions, however we plan to include them in the consolidated GHG inventory in 2024/2025.

For consistency with prior year reporting, each group entity's unconsolidated Scope 1, 2 and 3 GHG emissions inventory, and the methods and assumptions for determining these, are included in Additional information, Group entity GHG emissions, page 50.[23]

Measurement standard and consolidation approach

The consolidated GHG inventory is calculated and reported in accordance with the GHG Protocol Corporate Standard, the GHG Protocol Scope 2 Guidance and ISO 14064-1:2018.

The group has used an operational control approach to determine its organisational boundary for consolidating our GHG emissions. We have operational control over an operation if Auckland Council (as parent of the group), or one of its subsidiaries, has the full authority to introduce and implement the operating policies at the operation.

To ensure consistency and coherence with the group's financial statements and to meet the principle of completeness of information, the subsidiaries included in the consolidated GHG inventory are the same as those included in the group's consolidated financial statements in Volume 3 *Financial Statements* of this annual report.

The GHG emissions of the group's joint ventures, associates, and shareholdings are not included in the group's Scope 1 and 2 consolidated GHG inventory. To the extent possible, the GHG emissions of these operations will be included in the group's consolidated Scope 3 – *Investments* GHG emissions in future reporting periods.

Consolidated GHG emissions inventory

GHG Protocol Classification	ISO Classification	Activity Type	2024 tCO2e
Scope 1	Category 1 Direct emissions	Stationary combustion	10,866
		Mobile combustion	15,409
		Direct fugitive emissions	31,554
		Industrial processes	50,242
		Land use, land-use change and forestry	5,246
Scope 1 Total			**113,316**
Scope 2	Category 2 Indirect emissions from imported energy	Imported electricity (location-based)	19,575
Scope 2 Total			**19,575**
Scope 1 and 2 Total			**132,891**

Movement in GHG emissions compared to prior years and analysis of trends

This is the first year that the group has determined its consolidated GHG inventory. No comparatives are provided and, accordingly, no analysis of the movements or the trends compared to prior years can be performed.

GHG emissions calculation methods, assumptions and estimation uncertainty

The emission factors used to calculate most of the group's 2023/2024 consolidated GHG inventory are sourced from the Ministry of the Environment NZ (MfE), Measuring Emissions: A guide for organisations, published in May 2024 (2024 MfE Guide). The main exceptions to this are:

- for certain refrigerants, the emissions factors are sourced from the UK Government, Department for Energy Security and Net Zero, GHG Conversion Factors for Company Reporting 2024, published in July 2024[24]
- for wastewater emissions the emissions factors are sourced from the Water New Zealand, Standard Methods, Carbon accounting guidelines for wastewater treatment: CH4 and N20, published in August 2021 (2021 Water NZ Guidelines)[25].

The emissions factors obtained from these sources are mainly based on the Global Warming Potential (GWP) rates from the IPCC Fifth Assessment Report (AR5).

The GHG emissions associated with each of the group's Scope 1 and 2 GHG emissions sources are primarily calculated by applying the relevant emissions factor to activity data (such as gas and electricity use, fuel use and water volumes). This activity data is sourced from data from suppliers, data collected and generated in the group, or it is estimated using internal calculation models. For determining the group's Scope 1 process emissions from wastewater treatment, however, the water volume activity data and emissions factors are put into standard equations published in the 2021 Water NZ Guidelines, which make use of additional inputs and assumptions to derive suitable estimates of the corresponding GHG emissions.

There is inherent uncertainty in the measurement and reporting of GHG emissions. This is because the scientific knowledge and methodologies used to determine the emissions factors and processes used to calculate or estimate quantities of GHG emissions sources are still evolving, as are GHG reporting standards and the interpretation of them. The group has completed an uncertainty assessment of some of its activity data and calculation methodologies. We consider the estimation uncertainty of the emissions from most sources of the consolidated Scope 1 and 2 GHG inventory is low. In the few cases that the group has needed to use additional inputs or assumptions alongside the activity data and emissions factors to determine the GHG emissions (such as process emissions from wastewater), we consider the uncertainty to be higher.

We are committed to continuously improve the accuracy and completeness of our GHG emissions inventory. To do this, we will perform an annual review of our organisational boundaries, our methodologies, assumptions and the uncertainty associated with each, and the impact of changes in the emission factors we use.

Summary of specific exclusions of GHG emissions sources

The group has identified and excluded certain GHG emissions sources from its 2023/2024 Scope 1 and 2 consolidated GHG inventory, despite these sources falling within its operational boundary. These excluded sources are either considered to be below our de minimis threshold (less than one per cent of the scope level consolidated GHG emissions) and therefore not material to stakeholders, and/or are not considered feasible to calculate reliably based on the data currently available to the group.

The specific exclusions, and the reason for the exclusion, are listed in the table below:

GHG Protocol Classification	Excluded GHG emissions source	Activity Type	Reason for exclusion
Scope 1 and 2	Non substantive CCOs and Auckland Council subsidiary entities exempted from CCO status	Various	These sources are considered below the de minimis threshold.
Scope 1	Transport associated with the New Zealand Maritime Museum, Victoria Street West Operations and Auckland Stadiums	Combustion	The data is not available. The group will continue to monitor the availability of suitable data in future years.
Scope 1	Refrigerants from some group vehicles, some office fridges, and leased office air-conditioning	Direct fugitive emissions	The data is not available and/or the emissions from these sources are considered below our de minimis threshold.
Scope 2	Leased assets at the Waterfront	Imported electricity	Some of the group's waterfront property assets are under lease agreements with third parties and have shared-space facilities. In these cases, there is insufficient data to determine the GHG emissions attributable to the group. The group is looking at ways to accurately obtain this data in future years.

GHG emissions target

In 2021, the council identified three key performance indicators for its sustainability-linked financing products (SLFPs), including a GHG emissions reduction key performance indicator. At that time, the council and CCOs[26] had each committed to a 50 per cent reduction in Scope 1 and 2 GHG emissions by 2030 and net zero by 2050. For the purpose of the SLFPs, a decision was made to set a group GHG emissions reduction target (excluding POAL) of the same 50 per cent reduction in Scope 1 and 2 GHG emissions by 2030, using the group's 2018/2019 GHG emissions as a baseline. The group's baseline 2018/2019 emissions figure, and the group's progress against this reduction target each year, were determined by simply collating each individual group entity's GHG emissions, rather than by applying the rigorous consolidation methodology that has been used to prepare the group's consolidated inventory this 2023/2024 reporting year.

There are significant challenges with applying our new calculation methodology retrospectively to prior years, therefore our historical 2018/2019 baseline emissions figure is no longer appropriate. A suitable group baseline and revised annual targets are now being explored as part of a group decarbonisation project. We intend to include the new baseline, annual targets and performance against those targets in the 2024/2025 climate statement.

Based on the current allocation of funding for group GHG emissions reduction initiatives, the group is not on track to achieve our 2050 net zero target. Our decarbonisation project forms part of the work to determine actions, opportunities, funding gaps and solutions to achieve meaningful reductions in GHG emissions.

4.2 GHG emissions intensity

The group is a non-commercial organisation with the primary purpose of providing services for Aucklanders. Many of the services are dependent on infrastructure and other assets that the group must build and maintain. As a result, the group calculates GHG emissions intensity as a function of capital and operating expenditure. The intention of this measure is to encourage careful capital investment through accounting for and seeking to minimise embodied emissions while encouraging the reuse of our existing assets and aiming for operational efficiency. Capturing both embodied and operational emissions intensity supports a whole of life carbon approach to reduce the overall footprint of our activities and investments.

As the group has not determined Scope 3 GHG emissions for 2023/2024, our current emissions intensity metrics are based on Scope 1 and 2 GHG emissions only. From 2024/2025 onwards, we will calculate this measure based on Scope 1, 2 and 3 GHG emissions.

The group's GHG emissions intensity metrics for the year ended 30 June 2024 are:

- Scope 1: 14.2 tCO2e per $million of total expenditure
- Scope 2: 2.5 tCO2e per $million of total expenditure

Methodology

- Total expenditure includes capital and operating expenditure less depreciation and amortisation.
- Operating and capital expenditure represent amounts disclosed in Volume 3 of this annual report.
- Operating expenditure is derived from the group's Statement of Comprehensive Income and Expenditure. We exclude depreciation and amortisation costs to avoid double counting the cost of capital expenditure.
- Capital expenditure is derived from the group's consolidated Funding Impact Statement.
- The group's Scope 1 and Scope 2 GHG emissions for 2023/2024 are divided by the total expenditure to obtain the GHG emissions intensity metrics.

4.3 Vulnerability to climate-related transition and physical risks

As a conservative estimate, based on our internal assessment to date, we consider that all the group's assets and activities are vulnerable to some degree of climate-related transition and physical risk.

The methodology for providing a more precise metric of the group's vulnerability to climate-related transition and physical risks is currently under development. We hope to disclose this in 2024/2025.

4.4 Alignment with climate-related opportunities

The group has taken advantage of the following climate-related opportunities.

Sustainable financing

The group uses sustainable financing mechanisms to ensure continuing ease of access to financial markets and to drive sustainability across the group. Approximately 30 per cent of the group's $12.9 billion of debt has been raised through green bonds.

Energy use

The group is investing in solar arrays to provide power to certain facilities such as wastewater treatment plants and the port. These solar arrays form a very small percentage of the group's assets (less than one per cent).

Green assets

The group is currently buying out properties damaged in the 2023 severe weather events and now pose an intolerable risk to life. Many of the properties are expected to be turned into green spaces or parks to improve urban biodiversity, community well-being, and to absorb flood waters in extreme rainfall events. The group paid $132 million for 127 properties during 2023/2024 and estimates the present value of future costs to be $523 million for the purchase of approximately 773 properties.

Māori engagement

Auckland Council spent $360,000 during the year to support mana whenua groups to plan and deliver on their climate adaptation and resilience priorities. The group has $9 million set aside in the Long-term Plan 2024-2034 to enable the strengthening of partnerships with mana whenua through adaptation and mitigation responses to climate change.

4.5 Capital deployment towards climate-related risks and opportunities

The group has a $152 million climate action fund from the Long-term Plan 2021-2031 to deploy capital across a range of programmes designed to reduce emissions and adapt to climate change. The fund was to be deployed over 10 years to climate-related activities including:

- planting 200ha of forest and 11,000 street trees
- funding low-emissions buses
- increasing our zero-waste resource recovery network
- progressing towards making Queen Street valley a zero-carbon area.

We spent $16 million of this package in 2023/2024.

The group introduced a Climate Action Targeted Rate (CATR) in 2022/2023, where funds would be ring-fenced for projects considered to have a meaningful impact on the group's climate action goals, including public transport improvements, cycling and walking, and tree planting. The targeted rate would generate $574 million over 10 years and the group would seek to leverage a further $482 million in co-funding from central government and other sources, making the package $1 billion in total.

The CATR was slightly modified in 2023/2024 and was renamed Climate Action Transport Targeted Rate (CATTR) to reflect the change in focus to transport initiatives. This targeted rate is expected to generate $573 million over 10 years, and with central government co-funding of $344 million and public transport fare revenue, the total investment will be $1.045 billion. It is to be used for buses, ferries, walking and cycling. In 2023/2024, we invested $34 million of this targeted rate together with $25 million of co funding received from Waka Kotahi in CATTR programmes.

Aside from these two specific funds, the group's capital investment each year is primarily dedicated to meeting the needs of Auckland's continued growth and renewal of existing council-owned assets. However, the group recognises the need to transition to a low-emissions, climate-resilient future, and therefore climate change needs to be considered in investment decisions. While such climate-related considerations play an important role in some of the group's investment decisions, this is not always the case, but it is something the group is working towards.

In line with this need to consider climate in the investment decision -making process, during the current year's development of the Long-term Plan 2024-2034, management did a considerable amount of work to present elected members with the climate impacts of significant investment decisions, which included supporting investment decisions with Investment Impact Assessments - an evaluation of investments against multiple criteria including a whole of life carbon estimate for a project or investment.

Management also developed a GHG evaluation framework for asset managers to support completion of an investment impact assessment. As a result, the Long-term Plan 2024-2034 estimates that over the 10 years, 13 per cent ($5 billion) of planned investment in infrastructure will align with our emissions reduction targets[27] and 38 per cent ($14 billion) will align with the group's targets of increasing infrastructure resilience[28].

4.6 Internal emissions price

The group does not use an internal emissions price to value GHG emissions.

4.7 Other climate-related performance metrics and targets

The group has other climate-related performance metrics and targets, all of which are included in our Statement of Performance in Volume 1 of this annual report, within the respective group of activity. Refer to Volume 1 for performance against these metrics and targets. The most material metrics and targets from Volume 1 are below.

Group of activity	Measures	Relevance to climate-related risks	Reference
Roads and footpaths	• Number of cycle movements past 26 selected count sites	As a mode of transport, cycling releases zero emissions and contributes significantly less to air pollution	Volume 1, page 45
Public transport and travel demand management	• Total public transport boardings • Percentage reduction of greenhouse gas emissions from Auckland Transport's assets	Shifting from cars to public transport can reduce up to 2.2 tons of carbon emissions annually per individual[29]	Volume 1, page 51 Volume 1, page 52
Water supply	• The average consumption of drinking water per day per resident within the territorial authority district	Lower consumption can reduce the amount of energy and chemicals used to treat, pump, and heat water. It also increases resilience during droughts	Volume 1, page 60
Stormwater management	• The number of flooding events that occur and the associated number of habitable floors affected per 1000 properties connected to Auckland Council's stormwater network • The median response time to attend a flooding event, measured from the time that Auckland Council receives notification to the time that service personnel reach the site (hours)	• This is an indicator of the resilience of the stormwater network • This is an indicator of the timeliness of the group to respond to flooding	Volume 1, page 72 Volume 1, page 73
Regionally delivered council services: *Waste services*	• The total waste to landfill per year (kg per capita) • The quantity of domestic kerbside refuse per capita per annum • The total number of resource recovery facilities	• Waste emissions are largely biogenic methane which has a warming effect 28 times greater than carbon dioxide[30] • Resource recovery facilities divert waste from landfill and enable responsible waste disposal	Volume 1, page 109

As our understanding of the impacts of climate change develops, we will continue to develop metrics that create transparency over our responses to our highest risks and create targets which will encourage climate action in the most important areas of the group.

5

Ngā whakaputanga o te haurehu kati mahana

Group entity GHG emissions

▲ Patuone Walkway, Takapuna

This section does not form part of the climate statement in response to the Aotearoa New Zealand Climate Standards, but is additional information which provides consistency with prior year reporting. It sets out the annual Scope 1, 2 and 3 GHG emissions inventory for each group entity, along with the methods and assumptions they use for determining these.

The group entity level inventories cannot be added to obtain the group's consolidated GHG inventory, as in some cases the methods and assumptions used to calculate them differ from those used to calculate the group's consolidated GHG inventory. Further, the de minimis thresholds applied by each entity to their entity level inventories differ across the group. This has led to some group entities including GHG emissions from certain sources, which are sources that are excluded by other group entities.

5.1 Assurance of group entity GHG emissions

Consistent with prior years, Auckland Council and other group entities have obtained assurance from relevant assurance providers (such as Toitū Envirocare (Toitū)) over their unconsolidated group entity Scope 1 and 2, and in some cases, Scope 3 GHG emissions inventories presented in this section. These assurance engagements are conducted in accordance with the Programme Verification Guidelines included in ISO 14064-1-2018. They include a verification of emissions back to source data and a checking of calculations and assumptions.

Despite the assurance provided by Toitū or other assurance providers, there remain inherent uncertainties in the measurement and reporting of GHG emissions. This is because the scientific knowledge and methodologies to determine the emissions factors and processes used to calculate or estimate quantities of GHG emissions sources are still evolving, as are GHG reporting standards and the interpretation of them. Any significant uncertainties in the information used to compile the group entity inventories are explained in the sections below.

5.2 Measurement standard and consolidation approach

Each group entity's GHG emissions are measured and reported in accordance with the GHG Protocol Corporate Standard, the GHG Protocol Scope 2 Guidance, the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard and ISO 14064-1: 2018. The group entities report on their GHG emissions in tonnes of CO2 equivalents (tCO2e), in compliance with the requirements set by the GHG Protocol and ISO 14064-1: 2018.

Each group entity has used an operational control approach to determine its organisational boundary. That is, each group entity's inventory includes the GHG emissions associated with the operations over which it has operational control. However, each entity has also identified and excluded certain specific GHG emissions sources from its 2023/2024 GHG emissions inventory, despite these sources falling within its operational boundary. These excluded sources, set out in the sections below, are either considered to be below the de minimis threshold in the context of the group entity's GHG emissions inventory and not material to stakeholders, and/or not technically feasible or cost effective for the group entity to quantify at present.

▲ Tāwharanui Beach

5.3 Auckland Council

GHG emissions

GHG Protocol Classification	ISO Classification	Activity Type	2021/22	2022/23	2023/24	Change to prior year
Scope 1	Category 1 Direct GHG emissions	Stationary combustion	6,374	6,284	6,460	
		Mobile combustion	1,508	2,575	1,927	
		Fugitive emissions	72		390	
		Land use, land-use change and forestry	5,803	5,534	5,227	
		Industrial processes (waste facilities)	304	0	0	
Total Scope 1	**Total Category 1**		**14,060**	**14,393**	**14,004**	**-3%**
Scope 2	Category 2 Indirect emissions from imported energy	Imported electricity	3,439	3,080	3,045	
Total Scope 2	**Total Category 2**		**3,439**	**3,080**	**3,045**	**-1%**
Scope 3	Category 3 Indirect emissions from transportation	Business travel and accommodation	211	794	377	
		Upstream and downstream distribution of goods			926	
		Employee commuting and working from home			5,039	
	Total Category 3		**211**	**794**	**6,342**	**699%**
	Category 4 Indirect emissions from products used by organisation	Purchased goods, including fuel and energy related activities	17,758	9,095	195,027	
		Disposal of solid and liquid waste	2,370	2,513	220,783	
		Capital goods			44,272	
		Purchased goods – energy transmission losses	804	2,853	461	
	Total Category 4		**20,932**	**14,461**	**460,543**	**3,085%**
	Category 5 Indirect emissions associated with the use of products from an organisation	Downstream leased assets	174	116	1,664	
		Use stage of sold products				
		Investments			28,258	
	Total Category 5		**174**	**116**	**29,922**	**25,771%**
Total Scope 3			**21,317**	**15,370**	**496,807**	**3,132%**
Total GHG emissions			**38,815**	**32,843**	**513,856**	**1,465%**

Analysis of trend in GHG emissions and significant movements on prior year

Auckland Council's Scope 1 and 2 GHG emissions have decreased slightly compared to 2022/2023. This is due to the ongoing electrification of Auckland Council's corporate property portfolio, along with the impact of the hybrid and full-electric vehicles which now make up a large portion of its corporate vehicle fleet. While many of these low emission vehicles were purchased in 2022/2023, the purchases were made towards the end of the reporting year, therefore their impact on GHG emissions reductions has become increasingly evident this year.

In contrast, Auckland Council's total Scope 3 GHG emissions have increased significantly. This is due to the improvements that have been made by Auckland Council in its ability to capture the data to calculate and report on its Scope 3 GHG emissions in the 2023/2024 reporting year, and therefore its Scope 3 inventory is more complete. It is not possible, however, for Auckland Council to update its inventory calculations from prior years to reflect the additional Scope 3 GHG emissions sources now captured in the 2023/2024 inventory due to lack of historical data. Consequently, a direct comparison of Auckland Council's 2023/2024 Scope 3 GHG emissions with previous reporting years is not appropriate. A more meaningful comparison of year-on-year changes will be possible in future years, as Auckland Council continues to report on this more complete range of its Scope 3 GHG emissions sources.

GHG emissions methods, assumptions and estimation uncertainty

The emission factors used to calculate most of Auckland Council's 2023/2024 GHG emissions are sourced from Ministry of the Environment NZ (MfE), Measuring Emissions: A guide for organisations, published in May 2024 (2024 MfE Guide). The exception is for certain refrigerants, for which the emissions factors are sourced from the UK Government, Department for Energy Security and Net Zero, GHG Conversion Factors for Company Reporting 2024, published in July 2024[31].The emissions factors obtained from these sources are mainly based on the Global Warming Potential (GWP) rates from the IPCC Fifth Assessment Report (AR5).

The GHG emissions associated with each source are calculated by applying the emissions factors to activity data. This activity data is collected from invoices and/or other reports provided by suppliers and/or obtained from data and reports collected and generated in house at Auckland Council through its information management systems.

The emissions factors included in the 2024 MfE Guide are mainly annual factors for the 2023 calendar year, however, in some instances, such as electricity, quarterly factors up until 31 December 2023 are published. In the absence of any emissions factors for the second half of the 2023/2024 reporting year (the six-month period 1 January to 30 June 2024), the annual factors for 2023 have been applied to Auckland Council's data for the whole of the 2023/2024 reporting year. Auckland Council considers this the most appropriate and consistent approach.

The use of 2023 annual factors for data relating to the whole of Auckland Council's 2023/2024 reporting year is considered to introduce some uncertainty to the results. However, given the emissions factors have been applied directly to the activity data without further modification (i.e., application of any other assumptions), overall, the estimation uncertainty of the calculated GHG emissions is considered low.

Summary of specific exclusions

The specific emissions sources which have been identified and excluded from Auckland Council's GHG emissions inventory in 2023/2024 are set out below:

GHG emissions source	Scope *(ISO Category)*	Reason for exclusion
Client and visitor transport to Auckland Council facilities	Scope 3 *(Category 3)*	Emissions associated with client and visitor travel by public transport to Auckland Council facilities are reported separately by the group entity, Auckland Transport. Therefore, they are not included within the Auckland Council entity inventory. In future years, these GHG emissions will be captured in the group's consolidated inventory.
Property due diligence transactions, LIM reports	Scope 3 *(Category 4)*	This is considered below the de minimis threshold.

5.4 Auckland Transport

GHG emissions

GHG Protocol Classification	ISO Classification	Activity Type	2021/22 Restated	2022/23 Restated	2023/24	Change to prior year
Scope 1	Category 1 Direct GHG emissions	Stationary combustion	194	214	157	
		Mobile combustion	1,570	639	474	
		Fugitive emissions	6	1	8	
		Land use, land-use change and forestry	0	0	0	
		Industrial processes	0	0	0	
Total Scope 1	**Total Category 1**		**1,769**	**854**	**638**	**-25%**
Scope 2	Category 2 Indirect emissions from imported energy	Imported electricity	6,757	4,309	5,348	
Total Scope 2	**Total Category 2**		**6,757**	**4,309**	**5,348**	**24%**
Scope 3	Category 3 Indirect emissions from transportation	Business travel and accommodation	63	216	192	
		Upstream and downstream distribution of goods				
		Employee commuting		82	78	
	Total Category 3		**63**	**298**	**270**	**-9%**
	Category 4 Indirect emissions from products used by organisation	Purchased goods, including fuel and energy related activities, and energy transmission losses	92,041	92,495	103,831	
		Purchased goods (water)		2	1	
		Disposal of solid and liquid waste	161	213	208	
		Capital goods (embodied emissions)	121,217	122,851	138,379	
	Total Category 4		**213,419**	**215,560**	**242,419**	**12%**
	Category 5 Indirect emissions associated with the use of products from an organisation	Downstream leased assets				
		Use stage of sold products				
		Investments				
	Total Category 5					
Total Scope 3			**213,483**	**215,859**	**242,689**	**12%**
Total GHG emissions			**222,010**	**221,022**	**248,675**	**13%**

Analysis of trend in GHG emissions and significant movements on prior year

Auckland Transport's Scope 1 GHG emissions have decreased by 25 per cent compared to 2022/2023, the decrease being primarily due to the retirement of the last diesel trains on the Papakura-Pukekohe route.

While electricity use decreased by 8 per cent compared to the prior year (73GWh used in 2023/2024 compared to 80GWh used in 2022/2023), Auckland Transport's Scope 2 GHG emissions increased by 24 per cent compared to 2022/2023. This is due to an increase in the emissions factors applied to determine these Scope 2 GHG emissions. Updates to streetlighting were a significant contribution to Auckland Transport's electricity use reduction given, as of July 2024, there were 122,396 LED luminaires on the network, which represents 98 per cent of the total 124,843 streetlights on the network that are capable of being retrofitted.

Regarding Auckland Transport's Scope 3 GHG emissions, these increased by 12 per cent compared to the prior year. The increase primarily relates to the year-on-year increase in GHG emissions from capital goods (embodied emissions), bus and ferry services related GHG emissions, increased delivery of new infrastructure, significant road rehabilitation and flood recovery work. Public transport service kilometres also increased significantly compared to prior year (as levels continue to rebound to normal pre Covid-19 levels), however the GHG emissions from this were partially offset by a growing electrification of the bus fleet. Low emission buses operating in Auckland Transport's fleet doubled from 90 in 2022/2023 to 180 in 2023/2024, providing more than 13 per cent of total bus service kilometres.

GHG emissions methods, assumptions and estimation uncertainty

The emission factors used to calculate Auckland Transport's 2023/2024 GHG emissions are sourced from Ministry of the Environment NZ (MfE), Measuring Emissions: A guide for organisations, published in May 2024 (2024 MfE Guide). The emissions factors obtained from this source are mainly based on the Global Warming Potential (GWP) rates from the IPCC Fifth Assessment Report (AR5). Wherever emissions factors from the 2024 MfE Guide are not available (for example, materials emissions), the Project Emissions Estimation Tool (PEET)[32] emissions factors are used.

The GHG emissions associated with each emissions source are calculated by applying the relevant emissions factor (sourced from the 2024 MfE Guide or otherwise) to measured activity data (such as gas, electricity, transport fuel use and mileage). This activity data is collected from invoices and/or other reports provided by suppliers, and/or from data and reports collected and generated in house at Auckland Transport through its information management systems. The GHG emissions are calculated by either directly applying the relevant emissions factor to the activity data, or alternatively, using internal models developed by Auckland Transport, which make use of the relevant emissions factors, along with other assumptions and conversion factors, to provide suitable estimates.

The emissions factors included in the 2024 MfE Guide are mainly annual factors for the 2023 calendar year and, where this is the case, these annual factors are used by Auckland Transport to determine the GHG emissions. In some instances, however, both quarterly factors and annual factors are published, in which case Auckland Transport applies the quarterly factors. This applies to electricity emissions factors, for which the 2024 MfE Guide includes quarterly emissions factors up until 31 December 2023. Where relevant quarterly emissions factors are available for the same period covered by the activity data, Auckland Transport applies these quarterly emissions factors, otherwise Auckland Transport applies the quarterly emissions factor related to the equivalent calendar quarter of the prior year (i.e. for electricity activity data for the period 1 January 2024 to 31 March 2024, the quarterly emissions factor for the first quarter of 2023 is used).

While the use of 2023 annual factors for data relating to the whole of Auckland Transport's 2023/2024 reporting year, and similarly, the use of quarterly 2023 factors for data relating to quarters in 2024 introduces some uncertainty to the results, where the GHG emissions are calculated directly from activity data, the estimation uncertainty is generally considered to be low. This is the case for all of Auckland Transport's Scope 1 and 2 GHG emissions. In instances where Auckland Transport's internal models are used for the calculations however, the uncertainty is considered medium to high, as any change to the additional assumptions which are incorporated into these models may significantly impact the result. Internal models are used to estimate several of Auckland Transport's Scope 3 GHG emissions, namely those associated with the purchase of fuel and energy related activities, and capital goods (embodied emissions).

Summary of specific exclusions

The specific emissions sources which have been identified and excluded from Auckland Transport's GHG emissions inventory in 2023/2024 are set out below:

GHG emissions source	Scope *(ISO Category)*	Reason for exclusion
Business travel accommodation	Scope 3 *(Category 3)*	While considered to be below the de minimis threshold for 2023/2024, Auckland Transport intends to include these GHG emissions from 2024/2025 onwards.
Commuting in private vehicles; visits by clients and the public to Auckland Transport facilities	Scope 3 *(Category 3)*	Auckland Transport has not yet developed a robust methodology to measure GHG emissions associated with commuting in private vehicles. Auckland Transport intends to include these emissions from its reporting in 2024/2025 onwards.
Mixed recycling waste	Scope 3 *(Category 3)*	Mixed recycling waste data is insufficient to allow for accurate measurement of GHG emissions.
Upstream emissions associated with fuel, energy and electricity	Scope 3 *(Category 4)*	Sufficient information is not currently available. Auckland Transport is conducting life cycle analyses to capture these GHG emissions and intends to include them in its reporting from 2024/2025 onwards.
Embodied emissions of Auckland Transport owned public transport	Scope 3 *(Category 4)*	Sufficient information is not available to include the embodied emissions of Auckland Transport owned public transport. Auckland Transport is conducting life cycle analyses to capture these GHG emissions and intends to include them in its reporting from 2024/2025 onwards. .
End-of-life phase stage of Auckland Transport's products (i.e., infrastructure maintenance and construction activities)	Scope 3 *(Category 4)*	Sufficient information is not available to report the end-of-life emissions associated with infrastructure development and maintenance project works. Auckland Transport intends to include these GHG emissions in its reporting from 2024/2025 onwards, provided there is sufficient data.
Downstream leased assets	Scope 3 *(Category 5)*	Auckland Transport has not yet developed a robust methodology to measure GHG emissions associated with energy and water use by properties and buildings leased to tenants. Auckland Transport intends to include these GHG emissions in its reporting from 2024/2025 onwards. Indirect upstream and downstream GHG emissions associated with infrastructure construction, maintenance and renewal are measured under Category 4 – Capital goods (embodied emissions).

Mānuka and Kānuka, Waitakere Ranges ▶

5.5 Watercare Services

GHG emissions

GHG Protocol Classification	ISO Classification	Activity Type	2021/22 Restated	2022/23 Restated	2023/24	Change to prior year
Scope 1	Category 1 Direct GHG emissions	Stationary combustion	2,039	4,915	3,582	
		Mobile combustion	1,958	2,289	1,904	
		Fugitive emissions	37,649	29,852	31,083	
		Land use, land-use change and forestry	0	0	0	
		Industrial processes	56,114	57,411	50,242	
Total Scope 1	**Total Category 1**		**97,760**	**94,467**	**86,811**	**-8%**
Scope 2	Category 2 Indirect emissions from imported energy	Imported electricity (market-based)	16,698	12,807	3,884	
Total Scope 2	**Total Category 2**		**16,698**	**12,807**	**3,884**	**-70%**
Scope 3	Category 3 Indirect emissions from transportation	Business travel and accommodation	51	52	56	
		Upstream and downstream distribution of goods	313	110	115	
		Employee commuting and working from home	16	12	6	
	Total Category 3		**380**	**173**	**177**	**2%**
	Category 4 Indirect emissions from products used by organisation	Purchased goods, including fuel and energy related activities	8,019	8,766	7,796	
		Disposal of solid and liquid waste	7,420	5,194	5,514	
		Capital goods				
		Purchased goods – energy transmission losses	1,674	1,673	421	
	Total Category 4		**17,113**	**15,633**	**13,732**	**-12%**
	Category 5 Indirect emissions associated with the use of products from an organisation	Downstream leased assets				
		Use stage of sold products	3,114	2,799	2,782	
		Investments				
	Total Category 5		**3,114**	**2,799**	**2,782**	**-1%**
Total Scope 3			**20,608**	**18,605**	**16,691**	**-10%**
Total GHG emissions			**135,065**	**125,880**	**107,385**	**-15%**

Analysis of trend in GHG emissions and significant movements on prior year

The reduction in Watercare's Scope 1 GHG emissions compared to 2022/2023 is primarily due to a decrease in wastewater volumes compared to last year when the extreme weather events contributed to much higher wastewater volumes. This led to a decrease in the key parameters that drive wastewater process GHG emissions. A change in energy production at the Māngere wastewater treatment plant also resulted in reduced natural gas consumption which influenced the GHG emissions.

Watercare's Scope 2 GHG emissions are calculated using the market-based method. These have decreased significantly compared to the prior year, as more than 50% of electricity purchased in 2023/2024 was from a provider that supports renewable generation. The decrease in the volume of wastewater treated led to reduced electricity consumption, therefore also contributing to the savings in Scope 2 GHG emissions.

The reduction in Watercare's Scope 3 GHG emissions is predominantly due to the decreased purchase of lime used in water and wastewater treatment, along with a reduced volume of sludge and screenings disposed at landfill.

GHG emissions methods, assumptions and estimation uncertainty

To determine Watercare's 2023/2024 wastewater emissions, the emissions factors sourced from the Water New Zealand, Standard Methods, Carbon accounting guidelines for wastewater treatment: CH4 and N20, published in August 2021 (2021 Water NZ Guidelines) have been used. For all other 2023/2024 emissions, Watercare has sourced the emission factors from Ministry of the Environment NZ (MfE), Measuring Emissions: A guide for organisations, published in May 2024 (2024 MfE Guide). The emissions factors obtained from these sources are mainly based on the Global Warming Potential (GWP) rates from the IPCC Fifth Assessment Report (AR5). When using the 2024 MfE Guide emissions factors, however, Watercare converts these emission factors to incorporate the GWP rates from the IPCC Sixth Assessment Report (AR6).

The GHG emissions associated with each of Watercare's emissions sources are calculated by applying the emissions factors (sourced from the 2024 MfE Guide or the 2021 Water NZ Guidelines) to measured activity data (such as gas, electricity, water, transport fuel use and mileage). This activity data is either collected from reports provided by suppliers and/or from data and reports collected and generated in house at Watercare through its information management systems.

The emissions factors included in the 2024 MfE Guide and the 2021 Water NZ Guidelines are mainly annual factors, however, in some instances quarterly factors are published. This applies to electricity emissions factors, for which the 2024 MfE Guide includes quarterly factors up until 31 December 2023. In the absence of any quarterly electricity emissions factors for the final two quarters of the 2023/2024 reporting year (covering the six-month period 1 January to 30 June 2024) however, the average annual electricity factor for 2023 has been applied by Watercare to the electricity data for the whole of the 2023/2024 reporting year. This is considered by Watercare to be the most appropriate approach and is consistent with the approach it has used in previous reporting periods.

The GHG emissions are calculated by either applying the emissions factors directly to the activity data, by inserting the activity data and emissions factors into standard equations set out in the 2021 Water NZ Guidelines which include additional inputs or, alternatively, by using certain internal models developed by Watercare, which make use of the activity data, the emissions factors, along with other internal assumptions to provide suitable estimates of the GHG emissions.

Where Watercare's GHG emissions are calculated directly from the activity data, the estimation uncertainty is generally considered to be low. In instances where Watercare has made use of additional external inputs or other underlying assumptions (i.e., in standard equations from the Water NZ Guidelines and/or internal models), however, there is greater uncertainty, as any change to these inputs or assumptions may significantly impact the calculated GHG emissions figure. This is primarily the case for Watercare's estimates of its GHG emissions from process/ removals arising from industrial processes (wastewater treatment and effluent discharge to land).

Summary of specific exclusions

The specific emissions sources have been identified and excluded from Watercare's GHG emissions inventory in 2023/2024 are set out below:

GHG emissions source	Scope *(ISO Category)*	Reason for exclusion
Vehicle air conditioners and office fridges	Scope 1 *(Category 1)*	This is considered below the de minimis threshold.
Business travel – Rental cars	Scope 3 *(Category 3)*	This is considered below the de minimis threshold.
Purchased goods and services excluding lime and maintenance contracts	Scope 3 *(Category 4)*	This is considered below the de minimis threshold.
Materials from capital projects	Scope 3 *(Category 4)*	Insufficient data is available to determine the GHG emissions from this source.
Purchased fuel and energy related activities excluding transmission and distribution loss	Scope 3 *(Category 4)*	This is considered below the de minimis threshold.
Disposal of waste not landfilled - recycling	Scope 3 *(Category 4)*	This is considered below the de minimis threshold.
Downstream leased assets	Scope 3 *(Category 5)*	This is considered below the de minimis threshold.

Hillary Trail, Anawhata ▶

5.6 Tātaki Auckland Unlimited[33]

GHG emissions

GHG Protocol Classification	ISO Classification	Activity Type	2021/22	2022/23	2023/24	Change to prior year
Scope 1	Category 1 Direct GHG emissions	Stationary combustion	653	778	655	
		Mobile combustion	98	108	102	
		Fugitive emissions	54	139	69	
		Land use, land-use change and forestry	12	13	19	
		Industrial processes	0	0	0	
Total Scope 1	**Total Category 1**		**817**	**1,038**	**845**	**-19%**
Scope 2	Category 2 Indirect emissions from imported energy	Imported electricity	1,647	1,955	1,343	
Total Scope 2	**Total Category 2**		**1,647**	**1,955**	**1,343**	**-31%**
Scope 3	Category 3 Indirect emissions from transportation	Business travel and accommodation	94	332	382	
		Upstream and downstream distribution of goods	84	397	368	
		Employee commuting and working from home	424	655	874	
	Total Category 3		**601**	**1,384**	**1,624**	**17%**
	Category 4 Indirect emissions from products used by organisation	Purchased goods, including fuel and energy related activities	388	297	286	
		Disposal of solid and liquid waste	50	161	153	
		Capital goods				
		Purchased goods – energy transmission losses	196	250	128	
	Total Category 4		**633**	**708**	**567**	**-20%**
	Category 5 Indirect emissions associated with the use of products from an organisation	Downstream leased assets				
		Use stage of sold products		238	172	
		Investments				
	Total Category 5			**238**	**172**	**-28%**
Total Scope 3			**1,235**	**2,331**	**2,363**	**1%**
Total GHG emissions			**3,699**	**5,324**	**4,551**	**-15%**

Analysis of trend in GHG emissions and significant movements on prior year

The reduction in Tātaki Auckland Unlimited's (TAU) Scope 1 emissions is mainly due to the completion of a decarbonisation project at the Auckland Art Gallery - Toi o Tāmaki. This project, which was completed in November 2023, has enabled the gallery to utilise waste process heat instead of natural gas. This has significantly reduced natural gas usage at the gallery, such that emissions due to gas in 2023/2024 are 118 tCO2e, compared to 337 tCO2e in 2022/2023, a reduction of 219 tCO2e.

The reduction in TAU's Scope 2 emissions is due to the more favourable electricity emissions factor being applied to the group entity's electricity consumption this year (a factor of 0.0729 kg CO2e per kWh). In 2022/2023 the 2021 MfE Guide emissions factor of 0.1190 kg CO2e per kWh was used, as the MfE Guide emissions factors were not updated in Toitū's system (eManage) to the 2022 values prior to TAU's audit.

The three main sources for TAU's ISO Category 3 GHG emissions are employee commuting, freight and business travel, including accommodation. The highest source, employee commuting, increased from 2022/2023, due to a higher number of employees travelling to the workplace this year. However, this increase is slightly offset by a corresponding decrease in GHG emissions associated with employees working from home. As with employee commuting, business travel and accommodation increased. Again, this is due to the continued increase in on site business activity as the remote working practices of the covid pandemic become more distant. With regards to freight, this decreased compared to 2022/2023 however it is still a significant contributor to TAU's GHG emissions. As in previous years, these freight GHG emissions mainly relate to the art gallery exhibitions.

For TAU's ISO Category 4 and Category 5 GHG emissions, the main reductions are to, respectively, transmission losses from purchased energy, and electricity usage in downstream leased assets. These reductions are primarily due to the more favourable associated emissions factor changes already discussed.

GHG emissions methods, assumptions and estimation uncertainty

TAU's 2023/2024 GHG emissions are calculated using the Toitū 'eManage' software, within which the emissions factors and GWP rates are incorporated. These emission factors are drawn from a variety of sources including government published emission factors (such as the Ministry of the Environment NZ (MfE), Measuring Emissions: A guide for organisations, published in May 2024 (2024 MfE Guide)), other government publications or data, industry publications or data, international bodies, technical reports, peer-reviewed journals or literature, the IPCC, supplier-specific data (from providers), third-party software or tools or factors that are derived internally by Toitū. In terms of the GWP rates, Toitū is currently using AR5 values.

The Toitū software calculates the GHG emissions associated with each of TAU's emissions sources by applying the relevant emissions factor to measured activity data (such as gas, electricity, transport fuel use, mileage and dollar expenditure). This activity data is either collected from reports provided by suppliers, and/or from data and reports collected and generated in house at TAU through its information management systems.

While the confidence in the activity data collected by TAU is relatively high, there is a varying degree of estimation uncertainty over its GHG emissions calculations using this activity data, depending on the type of activity used. For most of TAU's Scope 1 and 2 GHG emissions estimates, the uncertainty is low, however, there is much greater estimation uncertainty over its Scope 3 GHG emissions calculations. For these Scope 3 GHG emissions, dollar expenditure is often used for the activity data, which is generally considered a less reliable form of data to use for the estimates.

Summary of specific exclusions

The specific emissions sources which have been identified and excluded from TAU's GHG emissions inventory in 2023/2024 are set out below:

GHG emissions source	Scope	Reason for exclusion
Refrigerants at NZMM, Viaduct Events Centre, Aotea Offices	Scope 1	No data is available.
Transport associated with NZMM, Victoria Street West operations, Stadiums	Scope 1 and Scope 3	No data is available.
Water supply to AFS, Town Hall, Viaduct Events Centre	Scope 3	No data is available.
Downstream transport (visitor transport to TAU's sites)	Scope 3	No capacity/capability to gather this data.
Sites where TAU is a landowner (the Museum of Transport and Technology, and Trusts Arena)	N/A	Not within the operational control of TAU.
Sites where TAU provides operational and/or capital funding on behalf of Auckland Council (Trusts Arena, Due Drop Events Centre, Eventfinda Stadium, Stardome Observatory and Planetarium)	N/A	Not within the operational control of TAU.

Korimako ▶

5.7 Port of Auckland

GHG emissions

GHG Protocol Classification	ISO Classification	Activity Type	2021/22 Restated	2022/23 Restated	2023/24	Change to prior year
Scope 1	Category 1 Direct GHG emissions	Stationary combustion	5	5	6	
		Mobile combustion	11,455	11,344	10,990	
		Fugitive emissions	13	21	5	
		Land use, land-use change and forestry	0	0	0	
		Industrial processes	0	0	0	
Total Scope 1	**Total Category 1**		**11,473**	**11,371**	**11,000**	**-3%**
Scope 2	Category 2 Indirect emissions from imported energy	Imported electricity (market-based)	0	0	0	
Total Scope 2	**Total Category 2**		**0**	**0**	**0**	**0%**
Scope 3	Category 3 Indirect emissions from transportation	Business travel and accommodation	27	96	117	
		Upstream and downstream distribution of goods				
		Employee commuting and working from home				
	Total Category 3		**27**	**96**	**117**	**22%**
	Category 4 Indirect emissions from products used by organisation	Purchased goods, including fuel and energy related activities	2	4	3	
		Disposal of solid and liquid waste	29	47	70	
		Capital goods				
		Purchased goods – energy transmission losses	156	169	81	
	Total Category 4		**186**	**220**	**153**	**-30%**
	Category 5 Indirect emissions associated with the use of products from an organisation	Downstream leased assets				
		Use stage of sold products	2,520	1,984	1,392	
		Investments				
	Total Category 5		**2,520**	**1,984**	**1,392**	**-30%**
Total Scope 3			**2,733**	**2,300**	**1,662**	**-28%**
Total GHG emissions			**14,206**	**13,671**	**12,663**	**-7%**

Analysis of trend in GHG emissions and significant movements on prior year

The reduction in Port of Auckland's (POAL) Scope 1 GHG emissions mainly relates to a reduction in mobile combustion emissions. This is primarily due to more efficient terminal operations, resulting in a two per cent reduction in straddle distance travelled.

POAL's Scope 2 GHG emissions are calculated using the market-based method. Its electricity is from a provider that supports renewable generation and, therefore, as with prior years, it does not report any Scope 2 GHG emissions associated with its energy usage.

The reduction in POAL's Scope 3 GHG emissions is due to reduced breakbulk cargo and roll-on roll-off vehicles coming through the port, compared to the prior year, reducing the consumption of its third-party operators.

GHG emissions methods, assumptions and estimation uncertainty

POAL's 2023/2024 GHG emissions are calculated using BraveGen software, within which the emissions factors and GWP rates are incorporated. For most of POAL's GHG emissions, the BraveGen software applies the emission factors sourced from the Ministry of the Environment NZ (MfE), Measuring Emissions: A guide for organisations, published in May 2024 (2024 MfE Guide)). For certain of POAL's fugitive emissions and waste disposal emissions, the BraveGen software applies, primarily, the emissions factors sourced from the UK Government, Department for Energy Security and Net Zero, GHG Conversion Factors for Company Reporting 2024, published in July 2024.

The BraveGen software programme calculates the GHG emissions associated with each of POAL's GHG emissions sources by applying the emissions factors (primarily sourced from the 2024 MfE Guide or the UK Government) to measured activity data (such as gas, electricity, transport fuel use and mileage). This data is either collected from reports provided by suppliers or contractors, and/or from data and reports collected and generated in house at POAL through its information management systems. The estimation uncertainty of the GHG estimates determined using the BraveGen software is considered low.

Summary of specific exclusions

The specific emissions sources which have been identified and excluded from Port of Auckland's GHG emissions inventory in 2023/2024 are set out below:

GHG emissions source	Scope *(ISO category)*	Reason for exclusion
Port Connect	N/A	POAL holds 50% of the entity, however it is not considered to be within the operational control of POAL
North Tugz	N/A	POAL holds 50% of the entity, however it is not considered to be within the operational control of POAL
Marsden Maritime Holding	Scope 3 *(Category 5 - Investments)*	POAL holds only 19.9% of the entity and is not within the operational control of POAL. To date it has not been included in Scope 3 – investments, due to it being considered de minimis, however this will be assessed in more detail in FY25.
Seachange NZ Limited	Scope 3 *(Category 5 - Investments)*	POAL holds only 2.17% ownership and not within operational control of POAL. To date it has not been included in Scope 3 – investments, due to it being considered de minimis, however this will be assessed in more detail in FY25.
POAL – All Sites	Scope 3 *(Category 4 - Freight (couriers))*	Emissions from this source have been calculated as significantly less than 0.1% of POAL's total emissions, therefore excluded as below the de minimis threshold.
POAL – All Sites	Scope 3 *(Category 4 - Waste – Spill Response)*	Emissions from this source have been calculated as significantly less than 0.1% of POAL's total emissions, therefore excluded as below the de minimis threshold.
POAL – All Sites	Scope 3 *(Category 4 - Reimbursed Mileage – Diesel & Petrol)*	Only a minimal amount of reimbursed mileage exists, therefore excluded as below the de minimis threshold.

GHG emissions source	Scope *(ISO category)*	Reason for exclusion
Nexus/Conlinxx	Scope 3 *(Category 4 – Waste)*	Emissions from this source have been calculated as significantly less than 0.3% of POAL's total emissions, therefore excluded as below the de minimis threshold. Discussions are taking place with Nexus about what data there is and if POAL can create a methodology to capture this data in FY25.
POAL – All Sites	Scope 3 *(Category 4 - Waste – Drain Surgeons & Intergroup)*	Emissions from this source have been calculated as significantly less than 0.5% of POAL's total emissions, therefore excluded as below the de minimis threshold. Further, the data collection process of this source is extremely time consuming and not cost effective.
POAL – All Sites	Scope 3 *(Category 4 - Staff commuting)*	POAL has estimated staff commuting emissions as part of its SBTi submission using the Toitū generic formula to be approximately 1%. However, it has not yet established a process for including this emissions source in its BraveGen inventory.
POAL – All Sites	Scope 3 *(Category 4 - Waste – Bio-security waste)*	Emissions from this source have not yet been considered for inclusion in POAL's emissions inventory. While the data to determine these GHG emissions is available, it is not easy to get in a usable format. POAL hopes to establish a method to include these emissions in future years.
POAL – All Sites	Scope 3 *(Category 4 - Waste – tyres)*	Emissions from this source have not been captured in POAL's GHG emissions inventory since 2017 due to barriers in getting the data. POAL is looking at possible ways to capture the data for reporting in 2024/2025.

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5.8 Eke Panuku Development Auckland

GHG emissions

GHG Protocol Classification	ISO Classification	Activity Type	2021/22	2022/23	2023/24	Change to prior year
Scope 1	Category 1 Direct GHG emissions	Stationary combustion	0	0	6	
		Mobile combustion	30	38	14	
		Fugitive emissions				
		Land use, land-use change and forestry				
		Industrial processes				
Total Scope 1	**Total Category 1**		**30**	**38**	**20**	**-47%**
Scope 2	Category 2 Indirect emissions from imported energy	Imported electricity	142	79	78	
Total Scope 2	**Total Category 2**		**142**	**79**	**78**	**-1%**
Scope 3	Category 3 Indirect emissions from transportation	Business travel and accommodation	1	4	7	
		Upstream and downstream distribution of goods				
		Employee commuting and working from home	88	144	144	
	Total Category 3		**88**	**148**	**151**	**2%**
	Category 4 Indirect emissions from products used by organisation	Purchased goods, including fuel and energy related activities		10,420	9,168	
		Disposal of solid and liquid waste	238	233	176	
		Capital goods				
		Purchased goods – energy transmission losses	51	43	29	
	Total Category 4		**289**	**10,696**	**9,372**	**-12%**
	Category 5 Indirect emissions associated with the use of products from an organisation	Downstream leased assets			308	
		Use stage of sold products	408	399		
		Investments				
	Total Category 5		**408**	**399**	**308**	**-23%**
Total Scope 3			**785**	**11,243**	**9,831**	**-13%**
Total GHG emissions			**956**	**11,360**	**9,929**	**-13%**

Analysis of trend in GHG emissions and significant movements on prior year

The reduction in Eke Panuku Development Auckland's (Eke Panuku) Scope 1 GHG emissions relates mainly to a reduction in mobile combustion GHG emissions. This reduction is primarily due to a shift of the Eke Panuku head office to the Auckland Council office at 135 Albert Street. The new premises gives staff access to electric vehicles which was not previously available, and further, the way the fleet use is calculated has been changed to align with the methodology used by Auckland Council's for its staff occupying the same building. In addition, a new electric motor on a fleet boat has been introduced for use at the marinas. Regarding stationary combustion, the move to 135 Albert Street also resulted in the addition of natural gas as an emissions source. Gas was not used in Eke Panuku's previous office.

There is no significant change in Eke Panuku's Scope 2 GHG emissions compared to the prior year.

Eke Panuku's Scope 3 emissions have reduced by approximately 13 per cent. These emissions are largely spend-based emissions, and the main reason for the reduction is that due to budget restraints, there was less capital expenditure on fewer construction projects this year, as compared to 2022/2023.

GHG emissions methods, assumptions and estimation uncertainty

Eke Panuku's 2023/2024 GHG emissions are calculated using the Toitū 'e-manage' software, within which the emissions factors and GWP rates are incorporated. These emission factors are drawn from a variety of sources including government published emission factors (such as the Ministry of the Environment NZ (MfE), Measuring Emissions: A guide for organisations, published in May 2024 (2024 MfE Guide)), other government publications or data, industry publications or data, international bodies, technical reports, peer-reviewed journals or literature, the IPCC, supplier-specific data (from providers), third-party software or tools or factors that are derived internally by Toitū. In terms of the GWP rates, Toitū is currently using AR5 values.

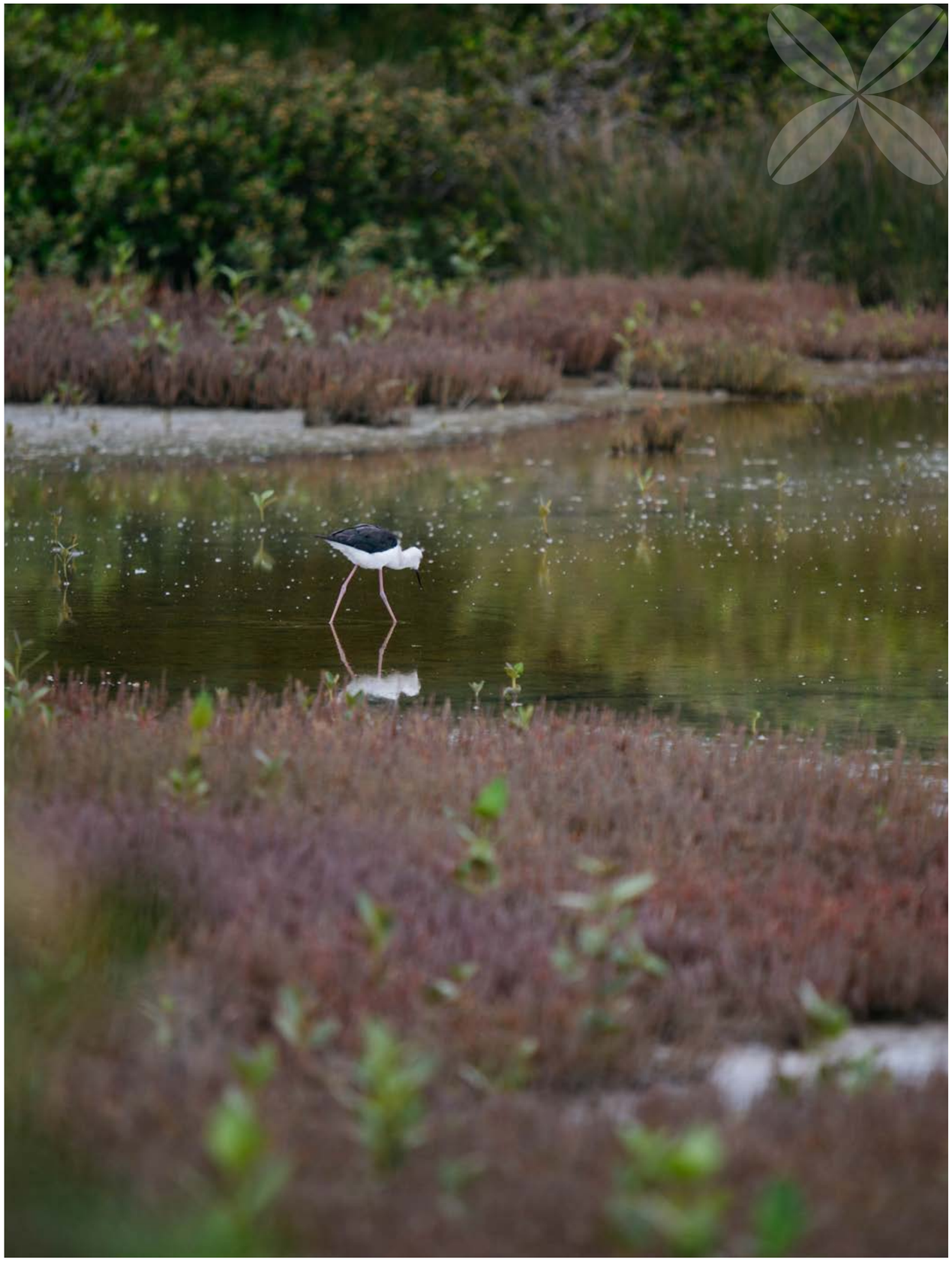
The Toitū software calculates the GHG emissions associated with each of Eke Panuku's emissions sources by applying the relevant emissions factor to measured activity data (such as gas, electricity, transport fuel use, mileage and dollar expenditure). This activity data is either collected from reports provided by suppliers, and/or from data and reports collected and generated in house at Eke Panuku through its information management systems.

While the confidence in the activity data collected by Eke Panuku is relatively high, there is a varying degree of estimation uncertainty over its GHG emissions calculations using this activity data, depending on the type of activity used. For most of Eke Panuku's Scope 1 and 2 GHG emissions estimates, the uncertainty is low, however, there is much greater estimation uncertainty over its Scope 3 GHG emissions estimates. For these Scope 3 GHG emissions, dollar expenditure is often used for the activity data, which is generally considered a less reliable form of data to use for the calculations. It is noted that this year there has been a revision in the calculation methodology for Category 4 emissions associated with Wynyard Quarter's waste (measured in kilograms) as new information about the data accuracy has become available. This has resulted in a drop of 57 per cent from last year. This reduction is likely because of the change of methodology as opposed to the waste itself dropping measurably. It is noted that the data accuracy and level of certainty is still low, and efforts are under way to work with contractors to improve on this for next year.

Summary of specific exclusions

The specific emissions sources which have been identified and excluded from Eke Panuku's GHG emissions inventory in 2023/2024 are set out below:

GHG emissions source	Scope	Reason for exclusion
Refrigerants	Scope 1	This is considered below the de minimis threshold (1% of Eke Panuku's estimated total GHG emissions).
Electricity and waste for leased assets	Scope 2 and Scope 3	As these assets are only partly occupied by tenants, there is insufficient data to determine the GHG emissions attributable to Eke Panuku. The organisation is looking at ways to obtain these data in future years.
Freight and courier	Scope 3	This is considered below the de minimis threshold (1% of Eke Panuku's estimated total GHG emissions).
Marina office waste	Scope 3	This is considered below the de minimis threshold (1% of Eke Panuku's estimated total GHG emissions).
Computer software expense	Scope 3	While this is estimated to be of moderate magnitude (1 to 5% of Eke Panuku's estimated total emissions), the extent to which the organisation can monitor and reduce emissions is low and it is not considered relevant to intended use and/or uses.
Māori engagement including consultation	Scope 3	This source is not considered relevant to report, as Eke Panuku does not want to reduce spend associated with this emissions source.
Certain individual expense categories including, but not limited to: • materials, body corporate charges, telecommunications, website hosting, motor vehicle, catering, audit assurance services, clothing and protective equipment, office supplies, external entertainment, computer hardware, printing, bank charges, online marketing	Scope 3	Each of these spend categories measured individually are considered below the de minimis threshold (1% of Eke Panuku's estimated total GHG emissions).



Wetland Stilt, Ōrākei ▶

6

He pārongo atu anō
Additional information

▲ Glen Innes to Tamaki Drive shared path

6.1 Glossary of terms

Adaptation

Actions taken to help communities and ecosystems cope with changing climate condition (United Nations Framework Convention on Climate Change) or adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities (IPCC).

CCC Tailwinds, Headwinds and Current Policy

Refer to climate change scenarios that New Zealand's Climate Change Commission developed as part of its advice to the New Zealand government on how the 2050 emissions target could realistically be met.

Climate Change Commission (CCC)

An independent Crown entity that advises the New Zealand Government on climate change policy within the framework of the Climate Change Response Amendment Act.

Climate resilience

The ability of a system and its component parts to anticipate, absorb, accommodate or recover from the effects of a hazardous event in timely and efficient manner. This includes ensuring the preservation, restoration or improvement of its essential basic structures and functions.

Decarbonisation

The removal or reduction of carbon dioxide output into the atmosphere.

Eligible assets

Assets that are financed or re-financed through green bonds and conform to the eligibility criteria set out in Auckland Council's Sustainable Finance Framework.

Environmental degradation

The deterioration of the environment through depletion of resources such as air, water and soil; the destruction of ecosystems; habitat destruction; the extinction of wildlife; and pollution.

Food security

The state of having reliable access to sufficient affordable, nutritious food regardless of class, gender or religion.

Greenhouse gas emissions (GHG)

Gases emitted to the atmosphere which contribute to the GHG effect where more than the normal amount of atmospheric heat is retained in the atmosphere. These emissions include water vapour, carbon dioxide, nitrous oxide, methane, ozone, halocarbons and other chlorine and bromine containing substances.

Low carbon organisation

An organisation that uses low-carbon power sources that have a minimal output of GHG emissions into the atmosphere, specifically carbon dioxide.

Mitigation

The action of reducing the severity, harm and seriousness of climate change through emissions reduction.

Net zero

A state in which greenhouse gas emissions going into the atmosphere can be absorbed and durably stored by nature and other carbon dioxide removal measures, leaving zero emissions in the atmosphere. In relation to Auckland Council Group's net zero target, this considers Scope 1 and 2 emissions, minus offsets from sources such as land use.

Paris Agreement

The Paris Agreement is a legally binding international treaty on climate change, adopted by 196 Parties at the UN Climate Change Conference (COP21) in Paris, France, on 12 December 2015. Its overarching goal is to hold "the increase in the global average temperature to well below 2°C above pre-industrial levels" and pursue efforts "to limit the temperature increase to 1.5°C above pre-industrial levels."

Physical risk

Risks related to physical impacts of climate change resulting from either acute natural hazard (e.g. floods, cyclones, and droughts, wildfires), which are weather-exacerbated events whose incidence is increasing with climate change, or from chronic weather hazards (e.g. sea level rise, heat, and water stress) that are realised over time. These types of risks may also lead to indirect risks, e.g. reputational, strategic, operational or liability.

Representative Concentration Pathway (RCP)

Scenarios that include time series of emissions and concentrations of the full suite of GHGs, aerosols and chemically active gases, as well as land use/cover.

Risk register

A tool for documenting risks and associated actions to manage each risk.

Scope 1 GHG emissions

Direct emissions from sources owned or controlled by the group

Scope 2 GHG emissions

Indirect emissions from the generation of purchased energy that the group uses.

Scope 3 GHG emissions

Other indirect emissions occurring because of the activities of the group but generated from sources it does not own or control.

Shared Policy Assumptions for New Zealand (SPANZ)

National-scale socio-economic scenarios developed for New Zealand that are nested within IPCC SSPs and RCPs.

They describe potential mitigation and adaptation policies specific to New Zealand, enabling divergence of New Zealand-specific futures from assumed trends in the global SSPs.

Shared Socioeconomic Pathways (SSP)

Five standard trajectories that represent possible future socioeconomic development for global or regional societies.

Stranded assets

Stranded assets are assets which loses their value, or becomes unusable, in a sudden or unexpected way.

Supply chain

The sequence of processes involved in the production and distribution of a commodity.

tCO2e

Tonnes (t) of carbon dioxide (CO2) equivalent (e). 'Carbon dioxide equivalent' is a standard unit for counting GHG emissions regardless of whether they are from carbon dioxide or another gas, such as methane.

Transition risk

Risks related to the transition to a lower-carbon, climate-resilient economy that is mainly driven through policy and legal, technology, market, financial and reputational drivers.

6.2 Translations of Te Reo Māori terms

Kaimahi
Staff

Kahurangi
Blue

Kaitiaki
Trustee, minder, guard, custodian, guardian, caregiver, keeper, steward

Kaitiakitanga
Guardianship, stewardship, trusteeship

Kākāriki
Green

Mahi
Work

Tāmaki Makaurau
Auckland

Te Taiao
The environment that contains and surrounds us

Te Tiriti o Waitangi
Treaty of Waitangi

Whero
Red

Me pēhea te whakapā mai ki te kaunihera

How to contact the council

Online

aucklandcouncil.govt.nz/contactus

Phone

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Post

Auckland Council, Private Bag 92300, Auckland 1142

Locations that offer council services

Aotea / Great Barrier Island
75 Hector Sanderson Road, Claris, Great Barrier Island

City Centre Library
44-46 Lorne Street, CBD

Helensville
49 Commercial Road, Helensville

Huapai
296 Main Road (SH16), Huapai

Kumeū Library
296 Main Road, Kumeū

Manukau
Ground floor, Kotuku House, 4 Osterley Way, Manukau

Orewa
50 Centreway Road, Orewa

Papakura Sir Edmund Hillary Library
1/209 Great South Road, Papakura

Pukekohe Library, Franklin: The Centre
12 Massey Avenue, Pukekohe

Takapuna Library
9 The Strand, Takapuna

Te Manawa
11 Kohuhu Lane, Westgate

Waitākere Central Library (Henderson)
3 Ratanui Street, Henderson

Waiheke Island
10 Belgium Street, Ostend, Waiheke Island

Warkworth
1 Baxter Street, Warkworth

For opening hours and a list of services available at each service centre, visit
https://www.aucklandcouncil.govt.nz/report-problem/visit-us/Pages/default.aspx

End notes

Any internet site addresses provided below are for reference only and the content of any such web page is not incorporated by reference into, and does not form part of, this document.

[1] Council-controlled organisation is a term defined by the Local Government Act 2002, Section 6. The group's substantive council-controlled organisations include Auckland Transport, Watercare Services Limited, Tātaki Auckland Unlimited Trust, Tātaki Auckland Unlimited Limited and Eke Panuku Development Auckland Limited.

[2] Local Government Act 2002, Section 14, (1)(g) and (h)

[3] Local Government Act 2002, Section 41A, 3(b) and (c)

[4] https://www.aucklandcouncil.govt.nz/about-auckland-council/how-auckland-council-works/governing-body-wards-committees/Documents/governing-body-terms-of-reference.pdf

[5] https://www.aucklandcouncil.govt.nz/plans-projects-policies-reports-bylaws/our-plans-strategies/Pages/default.aspx

[6] https://www.aucklandcouncil.govt.nz/plans-projects-policies-reports-bylaws/our-plans-strategies/auckland-plan/Pages/default.aspx

[7] https://www.aucklandcouncil.govt.nz/plans-projects-policies-reports-bylaws/our-plans-strategies/Pages/te-taruke-a-tawhiri-ACP.aspx

[8] https://governance.aucklandcouncil.govt.nz/media/w35hsbwg/20210310-governance-manual-section-9-the-chief-executive-and-council-staff-final.pdf

[9] https://www.aucklandcouncil.govt.nz/plans-projects-policies-reports-bylaws/our-policies/Documents/board-appointment-remuneration-policy.pdf

[10] https://www.aucklandcouncil.govt.nz/about-auckland-council/how-auckland-council-works/council-controlled-organisations/Documents/statement-expectations-substantive-cco.pdf

[11] Auckland Council Governing Body Terms of Reference 2022-2025, p17, p19, p20

[12] The Making Space for Water Programme aims to reduce the impact of future flooding events and build resilience in the stormwater network.

[13] These properties present an intolerable risk to life where there is no feasible solution to reduce the risk.

[14] These properties present an intolerable risk to life where mitigation is possible to reduce the risk to an acceptable level.

[15] A group comprising Chief Financial Officers of all substantive CCOs and POAL, and Auckland Council senior managers including Chief Sustainability Officer, General Manager Risk and Assurance, General Manager Financial Strategy and Planning, General Manager - Auckland Plan, Strategy & Research, Associate General Counsel - Public Law and Director - Māori Outcomes. Their responsibility is to make key decisions in relation to the development of the climate statement that will impact the group and are responsible for driving the group's progress towards achieving compliance with the Aotearoa New Zealand Climate Standards.

[16] Public scenarios have been referenced to inform the broader context of council's integrated scenarios.

[17] IPCC AR6 Climate Change 2022: Impacts, Adaptation and Vulnerability, Chapter 1, 1.3 Understanding and Evaluating Climate Risks, p143 https://report.ipcc.ch/ar6/wg2/IPCC_AR6_WGII_FullReport.pdf

[18] Ministry for the Environment | Manatū Mō Te Taiao, National climate change risk assessment for New Zealand - Method report, Section 2, p10 https://environment.govt.nz/assets/Publications/Files/national-climate-change-risk-assessment-method-report.pdf

[19] IPCC AR5 Climate Change 2014: Impacts, Adaptation, and Vulnerability, Annex II, p1758 https://www.ipcc.ch/site/assets/uploads/2018/02/WGIIAR5-AnnexII_FINAL.pdf

[20] IPCC AR5 Climate Change 2014: Impacts, Adaptation, and Vulnerability, Annex II, p1772 https://www.ipcc.ch/site/assets/uploads/2018/02/WGIIAR5-AnnexII_FINAL.pdf

[21] IPCC AR5 Climate Change 2014: Impacts, Adaptation, and Vulnerability, Annex II, p1765 https://www.ipcc.ch/site/assets/uploads/2018/02/WGIIAR5-AnnexII_FINAL.pdf

[22] Ministry for the Environment | Manatū Mō Te Taiao, National climate change risk assessment for New Zealand - Method report, Appendix A: Glossary, p52 https://environment.govt.nz/assets/Publications/Files/national-climate-change-risk-assessment-method-report.pdf

[23] The entity level Scope 1 and 2 GHG emissions inventories set out in **Group entity GHG emissions** should not be added to obtain the group's consolidated GHG inventory. The methods and assumptions used to calculate the emissions inventories at the entity level differ in some cases from those used to calculate the group's consolidated GHG inventory.

[24] https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2024.

[25] Water New Zealand, Standard Methods, Carbon accounting guidelines for wastewater treatment: CH4 and N2O, August 2021.

[26] In the case of Tataki Auckland Unlimited, it is Tataki Auckland Unlimited Trust which made the commitment to reduce GHG emissions by 50 per cent by 2030. The entity, Tataki Auckland Unlimited Limited, has not made the same commitment.

[27] Being those projects and programmes which, through the long-term plan capital prioritisation process, were rated by the group as 4 or 5 for GHG emissions reduction, i.e., how well the investment aligns with the commitments under Te Tāruke-ā-Tāwhiri: Auckland's Climate Plan (50 per cent reduction by 2030).

[28] Being those projects and programmes which, through the long-term plan capital prioritisation process, were rated by the group as 4 or 5 for climate adaptation and resilience, i.e. how well the investment will impact resilience to both natural hazards and climate change.

[29] https://www.un.org/en/actnow/transport#:~:text=If%20your%20destination%20is%20too,tons%20of%20carbon%20emissions%20reduced.

[30] This statement is based on information in the Fifth Assessment Report of the United Nations Intergovernmental Panel on Climate Change, completed in 2014. Retrieved from https://www.ipcc.ch/assessment-report/ar5/ (21 April 2022)

[31] https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2023

[32] https://www.nzta.govt.nz/roads-and-rail/highways-information-portal/technical-disciplines/environment-and-sustainability-in-our-operations/environmental-technical-areas/climate-change/climate-change-mitigation/project-emissions-estimation-tool-peet/

[33] The inventory for TAU represents the combined inventory of Tātaki Auckland Unlimited Limited and Tātaki Auckland Unlimited Trust.

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