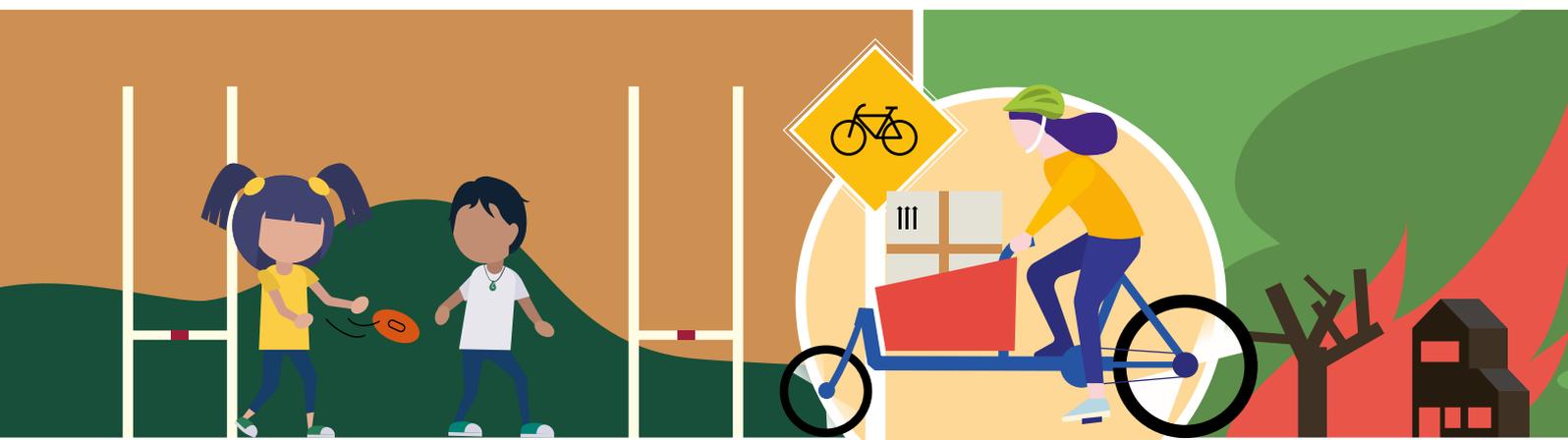


Te Rīpoata ā-Tau 2021/2022
o Te Kaunihera o Tāmaki Makaurau

Auckland Council

Annual Report 2021/2022



Volume
4

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

Volume 4: Climate risk statement

Mihi

Noho mai rā Tāmaki Makaurau,
moana waipiata,
maunga kākārīki.
Mai i ngā wai kaukau o ngā tūpuna,
ki ngā puke kawē i ngā reo o te tini,
i puta ai te kī mōu.
Tū ana he maunga,
takoto ana he raorao,
heke ana he awaawa.
Ko ō wahapū te ataahua,
ō tāhuna te mahora,
te taiao e whītiki nei i a koe he taonga tuku iho.
Tiakina kia meinga tonu ai koe
ko ‘te tāone taioreore nui o te ao,
manakohia e te iwi pūmanawa’.
Tāmaki Mākaurau tirohia te pae tawhiti
he whakairinga tūmanako
mō ngā uri whakaheke o āpōpō,
te toka herenga mō te hunga ka takahi ake
mā ō tomokanga,
te piriti e whakawhiti ai
tō iwi ki ngā huarahi o te ora.
Tāmaki Mākaurau e toro whakamua,
hīkina te mānuka.
Tērā te rangi me te whenua te tūtaki.
Maranga me te rā, he mahi māu me tīmata,
ka nunumi ana ki te pō,
whakatārewahia ō moemoeā ki ngā whetū.
Ko te oranga mutunga mōu
kei tua i te taumata moana.
Whakatuwherahia ō ringa, kūmea mai ki tō uma.
Tāmaki Makaurau
he tāone ūmanga kurupounamu koe;
tukua tō rongo kia rere i te ao.

Tāmaki Makaurau
who bestrides shimmering seas,
and verdant mountains.
From the bathing waters of our forebears,
and hills that echo with voices
that acclaim.
Your mountains stand lofty,
your valleys spread from them
and your streams run freely.
Your harbours are majestic,
your beaches widespread,
the environment that surrounds you is a legacy.
Take care of it so that you will always be known
as ‘the world-class city
where talent wants to be’.
Tāmaki Makaurau looking to the future,
repository of our hopes
for generations to come,
anchor stone for those who venture
through your gateway,
and the bridge that connects
your citizens to life.
Tāmaki Makaurau moving on,
accepting all challenges.
Where even heaven and earth might meet.
Rise with the sun as there is work to be done
and when evening comes,
allow your dreams to glide among the stars.
Perpetual health and growth
is beyond the horizon of cresting waves.
Open your arms and pull them to your embrace.
Tāmaki Makaurau, you are a city
where valued business and enterprise thrives;
let your good name traverse the world.

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Nau mai ki ngā kōrero mō mātou Welcome to our story

Auckland is a beautiful city, with diverse and vibrant communities. The Auckland Council Group’s dedicated staff are committed to meeting your needs by delivering essential and equitable services and investing in the future of our region in a sustainable way.

This report tells the story of how the council and its significant subsidiaries are responding to climate-related risks for the Auckland Council Group. This report covers the Auckland Council Group, which is made up of Auckland Council, Ports of Auckland Limited and five substantive council controlled organisations (CCOs) that include Auckland Transport, Watercare Services Limited, Eke Panuku Development Auckland Limited, Tātaki Auckland Unlimited Limited (formerly Auckland Unlimited Limited) and Tātaki Auckland Unlimited Trust (formerly Regional Facilities Auckland). The latter two entities share sustainability teams and have provided a joint response in the Entity Climate Risk Response section.



Volume 1

Volume 1: Overview and service performance
An overview of the financial and non-financial performance of the group.

Volume 2

Volume 2: Local board reports
A collection of individual annual reports for each of the 21 local boards, reporting financial and non-financial performance.

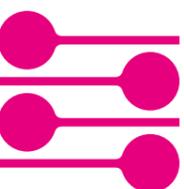
21 volumes

Volume 3

Volume 3: Financial statements
The financial statements of the Auckland Council Group and Auckland Council for the year ended 30 June 2022.

Volume 4

Volume 4: Climate risk statement
A summary of the group’s climate-related financial risks and opportunities.





He karere nā te Āpiha Tumu Pūtea From the Group Chief Financial Officer

Climate change is one of the biggest challenges facing the Auckland region.

Auckland is projected to experience an increase in hot days, a rise in annual average temperatures, and more extreme rainfall events. The Auckland Council Group is committed to tackling the challenges of climate change head-on by putting in place the resources we need for effective climate action. In response to the threat of climate change, we adopted Te Tāruke-ā-Tāwhiri: Auckland's Climate Plan in July 2020. This plan commits the Auckland region to a 50 per cent reduction in greenhouse gas emissions by 2030, achieving net-zero emissions by 2050 and adapting to the impacts of climate change. Auckland Council Group plays an important role in achieving the plan, and we recognise that it will require drastic changes to our organisation.

As we transition towards a zero-carbon economy, identifying and disclosing our climate-related financial risks and opportunities is key to providing a transparent view of our approach. It will assist our stakeholders to understand how our organisation will be financially impacted by climate change.

The group is an early adopter of the Taskforce on Climate-related Financial Disclosures (TCFD) framework in New Zealand. We have voluntarily disclosed under the framework since June 2020. Our journey to compliance with the TCFD has shown us that the group needs to make fundamental changes to our organisation to embed climate risk into our governance and risk management structures, as well as strategic and financial planning processes. It is our belief that the need for comprehensive disclosures can support real and meaningful change in how the group responds to climate change.

This year's disclosure includes some of the recent work we have done on scenario analysis to better understand the group's climate-related risks and opportunities. Although we are still at the beginning of our TCFD journey, we are making significant strides towards understanding the impacts of climate change on our organisation, and with this document,

we have endeavoured to provide this information in a clear and transparent way to our key stakeholders.

During the year New Zealand's External Reporting Board released exposure drafts of New Zealand climate disclosure reporting standards that align with the TCFD. We are following developments closely and once released, we will align our disclosure with those standards.

I am pleased to share the group's third climate-related disclosure, aligned to the TCFD recommendations.

Ngā manaakitanga | Best wishes

Peter Gudsell
Tumaki, Take Tahua Pūtea
Group Chief Financial Officer





Tūponotanga mō te
rerekētanga o te āhuarangi

Climate change risk



Climate change risk

Basis of preparation

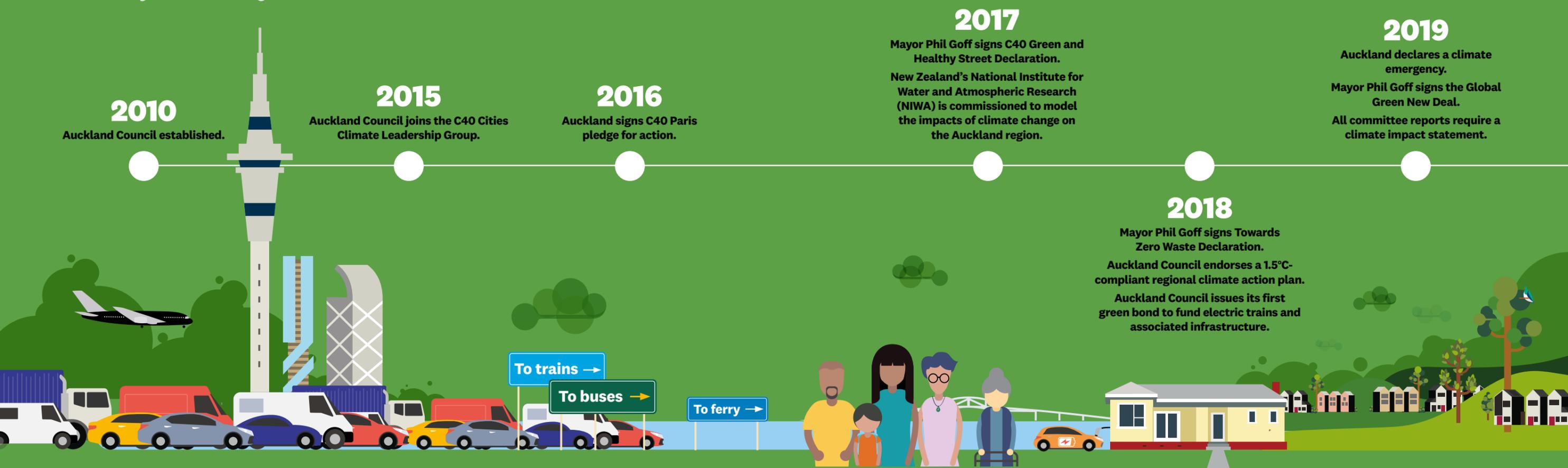
This climate risk statement relates to Auckland Council (the council), Ports of Auckland Limited and the council’s significant council-controlled organisations (CCOs). It does not include any of the group’s joint ventures or associates as they are not under the group’s operational control. It is prepared using the Taskforce on Climate Related Financial Disclosures framework to the extent possible, with a view to moving towards compliance with New Zealand’s External Reporting Board climate disclosure reporting standards when they are released.

Introduction

The health of our environment in Tāmaki Makaurau is of utmost importance to all who live and work here. Without a sustainable connection to the land and sea we are at risk of losing everything that forms the basis of our individual and collective identities. One of the ways that Auckland Council Group (the group) embraces its role of kaitiakitanga in this beautiful city, is by proactively responding to the effects of climate change, leading the way in supporting a low carbon economy and working with local communities to safeguard and support the health of our natural environment.

Since 2015 when the group joined the C40 Cities Climate Leadership Group, we have worked to improve our understanding of climate change and to manage our exposure to the effects of climate change, recognising that Māori are among the first to be directly affected by climate change because of their close relationship with the environment and its resources. Climate change means that we all face the loss of physical structures and resources. These losses have direct impacts on Māori spiritual, physical, intellectual, and social values integral to Māori identity and wellbeing.

Our journey to date





We are committed to supporting a resilient and low carbon economy by reducing our greenhouse gas (GHG) emissions and preparing our organisation and communities for the impacts of climate change. This is evidenced in the work done in our governance, risk management, strategy development and performance measurement areas, which is outlined in this climate risk statement. This year we continued to refine and expand our climate disclosure response, with the most significant inclusion being the development of fit-for-purpose scenarios. We used those scenarios to start identifying our physical and transition climate risks. For further details refer to the Strategy section. We will continue to improve our disclosures as the group moves towards a risk-based approach to climate change that cascades risk management from a governance level to an operational level.

Materiality

Disclosures have been made where we consider them to be quantitatively or qualitatively material. In determining what is material, we have considered the nature of the group’s business as a local government entity and its responsibilities to its key stakeholders including investors, Aucklanders, mana whenua iwi, mataawaka, insurers, the business community, suppliers and central government agencies. We consider information to be material if it could:

- have a significant financial impact on the group’s financial position, financial performance or cash flows
- influence economic decisions of key stakeholders such as investors
- have a significant impact on Auckland’s community as a whole or a significant segment e.g. the potential for unavailability of lifeline services
- have a significant impact on Māori.

2020

Te Tāruke-ā-Tāwhiri: Auckland’s Climate Plan is adopted.
Auckland Council Group publishes its inaugural climate-related risk disclosure.



2021

Auckland Council endorse the C40 Divest/Invest Declaration.
Te Tāruke-ā-Tāwhiri: Auckland’s Climate Plan: Progress report is released.
A Climate Action Targeted Rate goes out for public consultation.

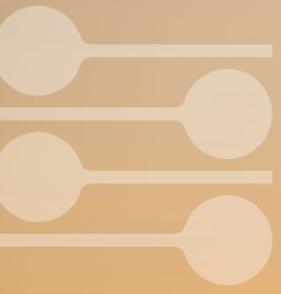


2022

Auckland Council started its first Rangatahi Programme ‘Mātātahi Taiao’ with a focus on climate change.
Auckland Council executed its first Sustainability Linked Loan and Derivative.
Auckland Council adopted its first Climate Action Targeted Rate.
Auckland Council approved Transport Emissions Reduction Pathway.

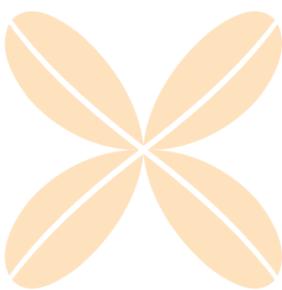
2050





Te Hautūtanga **Governance**

How the Auckland Council Group governs climate-related risks and opportunities.



Governance

Our governors' oversight of climate-related risks and opportunities

Bodies overseeing climate related risks and opportunities

The Auckland Council Group is governed by an elected governing body, elected local boards and the respective boards of each subsidiary and joint venture. The Governing Body has responsibility for oversight of Auckland Council Group's climate change risk. In addition to the Governing Body, the governing body committees, as detailed below, have oversight of various aspects of climate risk. All committees are determined by the Governing Body, so with the local government elections in October 2022, and a change in mayor, these committees may not exist going forward, or their roles may change.

Governing body committees

Environment and Climate Change Committee

A committee of the whole with ultimate responsibility for Auckland and the group's climate change policy and strategy. It oversees progress of Te Tāruke-ā-Tāwhiri:

Auckland's Climate Plan and deals with decision-making around;

- mitigating climate change
- implementing climate and environmental policies and plans
- protecting our coastal areas
- ecology, biodiversity and biosecurity matters
- water, including Auckland's Water Strategy
- waste minimisation
- regional environmental grants.

▼
Meets six times a year

Audit and Risk Committee

This committee has an independent chairperson, two independent members and four elected members. It has responsibility for ensuring appropriate responses to risk in the group.

Auckland Council and CCO management provides the committee with a quarterly update on the organisation's response to significant risks, including climate change.

All climate disclosure matters are reported into this committee.

▼
Meets six times a year

Finance and Performance Committee

A committee of the whole which monitors the group's financial and non-financial performance. Climate change is considered a strategic focus area, and the management reports to the committee on performance every quarter.

Climate change metrics are included in our long-term plan measures. Every three years the committee reviews performance measures recommended by management. It recommends the long-term plan to the Governing Body for adoption.

▼
Meets around 10 times a year

Planning Committee

Oversees the physical development and growth of Auckland. It focuses on land-use planning, housing and the appropriate provision of infrastructure and strategic projects associated with these activities.

This committee plays an important role in the delivery of Te Tāruke-ā-Tāwhiri: Auckland's Climate Plan, with activities including:

- regional strategy and policy
- transportation
- Unitary Plan
- Resource Management Act and urban planning
- future land use and infrastructure
- Auckland Plan
- housing policy and projects.

▼
Meets 10 times a year

Local boards are responsible for developing plans to respond to climate change in their respective areas. The group also works with the forums below.

Other forums influencing climate change governance

Independent Māori Statutory Board (IMSB)

The IMSB was established through the Local Government (Auckland Council) Act 2009 and is independent of the group.

It promotes issues of significance for Tāmaki Makaurau mana whenua and mataawaka and ensures the group acts in accordance with statutory provisions referring to Te Tiriti o Waitangi.

The IMSB maintains a Schedule of Issues of Significance to Māori in Tāmaki Makaurau. One of the key directions is Kaitiakitanga – Ensure sustainable futures (intergenerational reciprocity). Under this direction, a key action is to plan for and analyse Tāmaki Makaurau's climate resilience and mitigation, with consideration of Māori interests, outcomes and measures.

The IMSB works with mana whenua on collaborative or governance mechanisms such as the Tāmaki Makaurau Mana Whenua Forum and co-governance and co-management agreements over areas of significance to mana whenua to ensure the group's policies and practices that are being developed and enable the fulfilment of its kaitiaki role.

Each CCO and Ports of Auckland Limited (POAL) has a board of directors or trustees who have oversight of climate-related risks and opportunities. Further details of their governance mechanisms are provided in the Entity Climate Risk Responses section.

Letters of expectation

Auckland Council issues an annual letter of expectation to CCOs and POAL, providing them with the council's priorities and expectations which then informs the development of their respective Statements of Intent. The letter sets out general expectations across the group and expectations specific to each entity. The CCOs respond with their Statement of Intent and the POAL responds with its Statement of Corporate Intent. Both documents publicly state their activities, intentions and objectives over a three-year financial period. They also provide a basis for Auckland Council to hold their directors to account for their organisations' performance.

The 2022/2023 letters of expectation included expectations on climate change action. They included an expectation to embed climate change considerations into investment decision-making and planning, and corporate policies regarding both emissions reduction and addressing the impacts of current and on-going climate change. They also included the expectation to support the preparation of climate-related financial disclosures for the group.

Tāmaki Makaurau Mana Whenua Forum

The latest expression of collective mana whenua leadership in Tāmaki Makaurau, to give effect to a collective Te Tiriti partner voice for the Tāmaki Makaurau region on relevant region-shaping and national kaupapa. The forum is an independent, governance-level forum with membership held by the 19 recognised mana whenua entities in Tāmaki Makaurau.

One of the ngā ara hei whai (objectives) in the forum's Strategic Plan 2030 is to ensure that climate change risks for mana whenua and te taiao are reduced.

To guide Auckland's approach to climate action, mana whenua, through the Mana Whenua Kaitiaki Forum (now the Tāmaki Makaurau Mana Whenua Forum) partnered with the council to provide a Te Ao Māori perspective throughout the development of Te Tāruke-ā-Tāwhiri.

Climate Political Reference Group

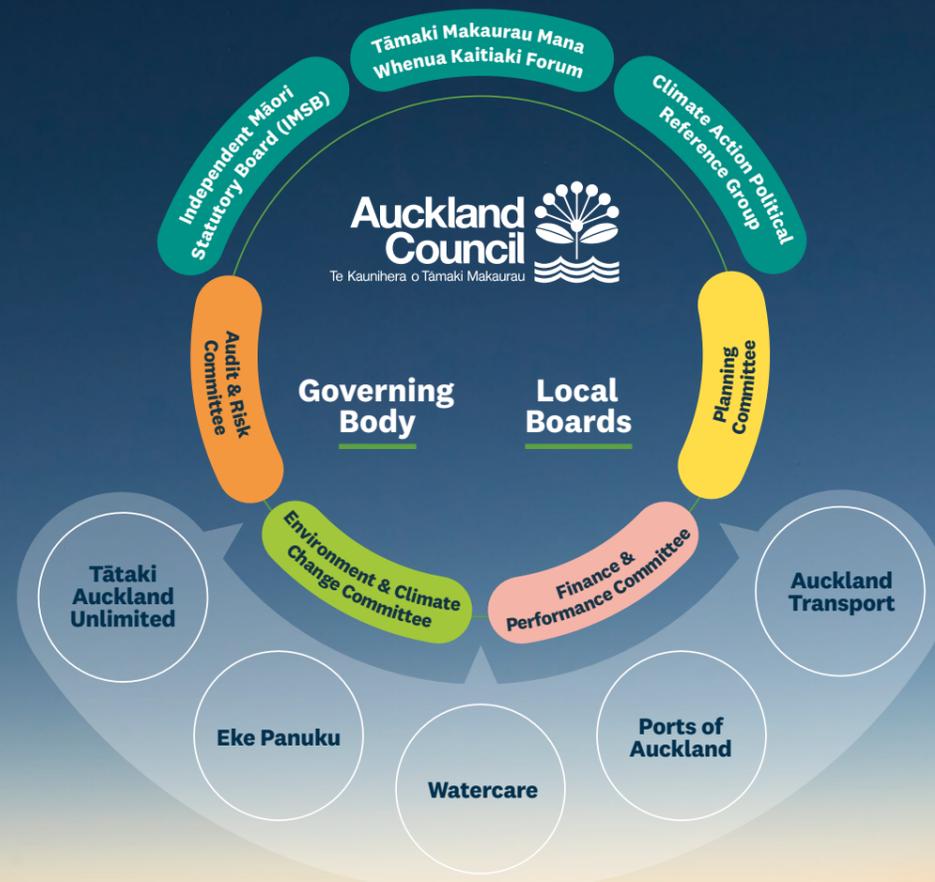
Guides and oversees the implementation of Te Tāruke-ā-Tāwhiri: Auckland's Climate Plan.

It is made up of six councillors (including the Chair and Deputy Chair of the Environment and Climate Change Committee), six

local board members and two Independent Māori Statutory Board members.

This group meets quarterly to provide advice to staff on implementation of Te Tāruke-ā-Tāwhiri: Auckland's Climate Plan.

► Our governance structures that provide oversight of climate risks and opportunities



Political reports

All matters taken to the Governing Body, committees and local boards for oversight or approval require a political report. All political reports include a climate impact statement to identify the impact of a proposed decision on GHG emissions and Auckland’s ability to respond to climate change. This ensures that climate change is considered in all decisions and that those in governance have a better understanding of the impact of their decisions.

Management’s role in assessing and managing climate-related risks and opportunities

Auckland Council management reports to the Governing Body and governing body committees on key climate change related matters.

Auckland Council’s Chief Sustainability Office (CSO) leads the council’s strategic direction on sustainability and climate action. The CSO meets with the chairs of the Environment and Climate Change Committee and the mayor’s office bi-weekly to discuss regional and organisational climate-related matters. The CSO co-ordinates with the respective sustainability teams of each CCO and POAL to ensure that delivery of climate activity is aligned to Te Tāruke-ā-Tāwhiri.

The CCOs and POAL have their own sustainability teams who are responsible for delivering climate action within their respective organisations. The broader role of management in climate activity is emerging and varies across the group. Further details of the sustainability teams roles are provided in the Key Entities section.

A climate disclosure governance group has been established which is chaired by the group’s chief financial officer with executive leadership team representatives from across the group. This group is responsible for leading and driving the group’s progress towards achieving future compliance with the External Reporting Board (XRB) climate disclosure reporting standards. This includes:

- overseeing preparation of the group’s climate disclosure
- setting direction, providing input and influencing the activity required to achieve full compliance
- supporting and enabling the climate disclosure working group to deliver the work required to achieve full compliance with the XRB climate disclosure reporting standards
- ensuring cross-organisation collaboration to achieve alignment and a co-ordinated response.

The governance group does not only oversee the preparation of the disclosure itself, but it ensures that appropriate mechanisms, processes and activities are in place in each group entity in relation to climate change governance, risk management, strategy and the setting of targets and metrics. These mechanisms, processes and activities form the basis of our climate disclosures.

The climate disclosure working group has representatives from across the group’s sustainability, finance and risk teams. It also includes subject matter experts from the group’s Legal, Māori Outcomes and Resilient Land and Coast teams. The working group is responsible for delivering the work required to achieve future compliance with the XRB climate disclosure reporting standards.

Governance review

During the prior year management identified the need to review climate risk governance processes and mechanisms across the group, to ensure that they adequately address the risks that we are facing. The evaluation will help to better understand the extent to which climate change is included in our governance arrangements, namely:

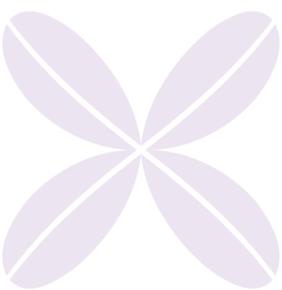
- the extent and nature of each organisation’s oversight of climate-related issues
- the role management plays in assessing and managing those issues.

Our climate governance assessment will help clarify any gaps in oversight and recommend valuable lines of evidence associated with the mainstreaming of climate change into organisational decision-making. The review will be finished in the second half of 2022 and recommendations will be considered and implemented from 2023.



He rautaki
Strategy

Impacts of climate-related risks and opportunities on the Auckland Council Group's business, strategic and financial planning.



Strategy

As guardians of Auckland’s social, natural, economic and financial environment, the Auckland Council Group acknowledges that climate change is one of the most important issues we face as an organisation and a region.

As guardians of Auckland’s social, natural, economic and financial environment, the Auckland Council Group acknowledges that climate change is one of the most important issues we face both as an organisation and a region.

The group’s vision for how Auckland will grow over the next 30 years is outlined in the Auckland Plan 2050 which responds to the three major challenges facing the region: Population growth and its varied implications, sharing the benefits of growth equally among all Aucklanders and reducing environmental degradation.

In June 2019, the council declared a climate emergency, committing the group to take the necessary action to manage and mitigate climate-related risks, while taking advantage of the opportunities created by climate change. Te Tāruke-ā-Tāwhiri: Auckland’s Climate Plan was adopted in 2020 and sets out Auckland’s path to net-zero emissions. The plan’s two core goals are shown below.

Regular monitoring and reporting are fundamental to understanding progress towards the goals of reducing emissions and adapting to climate change impacts. In December 2021, Auckland Council released the first annual Te Tāruke-ā-Tāwhiri: Auckland’s Climate Plan Progress Report. This progress report showed that despite the progress being made, Auckland’s emissions are not remotely tracking in line with the target to reduce emissions by 50 per cent by 2030. Emissions in 2018 had increased by 2.5 per cent on 2016 levels and this gradual upwards trend in gross emissions continues. Overall, Auckland Council’s operational GHG emissions increased in 2021/2022. Scope 1 and 2 decreased by 17 per cent from 2020/2021. Reported scope 3 emissions have increased as more sources of indirect emissions, mainly from contractors, have been included in this year’s inventory.

The council will establish a Regional Leadership Group to accelerate the implementation of Te Tāruke-ā-Tāwhiri through cross-sectoral partnerships and climate action and is currently developing climate change adaptation targets for the region.

It has developed a Climate Impact Assessment Tool to further enable the integration of climate change considerations into its decision-making processes. Many of the programmes funded through the \$152 million climate action package in the 10-year Budget 2021-2031 (long term plan) have been progressed in 2022, including:



Our three major challenges:

- 1. Population growth and its varied implications**
- 2. Sharing the benefits of growth equally among all Aucklanders**
- 3. Reducing environmental degradation**

Our two core goals:

- 1. Reduce GHG emissions by 50 per cent by 2030 and achieve net-zero emissions by 2050**
- 2. Adapt to the impacts of climate change by ensuring we plan for the changes we face under our current emissions pathway**

- there are now currently 37 zero emission buses in the overall fleet bringing the overall percentage of the fleet that is zero emissions up to 2.7 per cent ahead of yearly targets
- completion of Zone 5 Wellesley Street to Mayoral Drive in the Queen Street zero emissions project
- the Rangatahi programme, Mātātahi Taiao, developed and released a call-to-action video to garner rangatahi interest for the Mātātahi Taiao programme through social media, mana whenua and mataawaka networks
- work has begun to reduce corporate emissions, the first project, a 200kW photovoltaic array at Albany Pool, is expected to be completed by the end of 2022, with the next project, at Manurewa Pool expected to be completed by the end of 2022/2023
- the first 5ha of the additional 200ha of native forest planned for unproductive farmland on regional parks has been planted
- Shoreline Adaptation Plan (SAP) has seen the Whangaparoa Pilot completed and endorsed by the Environment and Climate Change Committee with several more in public engagement
- a number of key positions, relating to the LTP Climate Action Programme, within Auckland Council and CCOs, have been filled
- by partnering with Habitat for Humanity 1,611 Aucklanders were reached, who were part of 304 households living with energy hardship, offering them tools and resources to save on power and warm up their homes
- to grow our urban ngahere (forest) development of plans and specifications for tree stock, along with action plans to increase canopy cover for 16 local boards has been completed - planting of 11,000 street trees is due to start in 2023
- ongoing development of Climate Connect Aotearoa, an innovation hub to support collaborative climate action and drive transformation towards a climate resilient and low carbon Tāmaki Makaurau Auckland - phase 1 of Climate Connect Aotearoa is set to launch later in 2022.

A Climate Action Targeted Rate was adopted as part of the Annual Budget 2022/2023, building on the \$152 million climate action investment package in the 10-year Budget 2021-2031. This will increase funding for climate action so as to reduce emissions, lay the foundation for future reductions and prepare for the impacts of climate change. The \$574 million raised will be used to unlock government co-funding of \$354 million. Together with the expected public transport fare revenue of \$127 million, we expect to be able to invest an additional \$1.056 billion in buses, ferries, walking and cycling and our urban ngahere over the next 10 years. Specifically, the targeted rate will deliver:

- 10 new frequent bus routes servicing South Auckland, West Auckland, Ōrakei, Tamaki and New Lynn to Onehunga via Mount Roskill. There will also be an extension to the frequent service on the Northern Express up to Hibiscus Coast station
- improvements to 69 existing bus routes to increase the frequency of bus services
- an additional 79 electric or hydrogen buses
- 6 – 7 additional low emissions ferries and wharf upgrades, including charging infrastructure
- approximately 18 kms of cycling infrastructure
- up to 35km of walking connectivity improvements
- 14,800 street and park trees in areas most vulnerable to extreme heat, and with the lowest canopy cover
- over 4,000 trees/plants to establish tiny forests in parks, food forests and māra kai (including fruit tree planting) and expand bush remnants
- grants for rongoā planting.

As a result of this additional investment, improved bus services will be available to more than a million Aucklanders with 170,000 more people brought within 500 metres of a frequent bus route.

Embedding Te Ao Māori into the delivery of our climate disclosure activity

Te Ao Māori (the Māori world view) acknowledges the interconnectedness and interrelationship of all living and non-living things. It calls for the protection and preservation of whole living systems, and for maintenance, sustainability and regeneration of the whakapapa relationships that enable the well-being of these systems. A framework called Kia Ora Tāmaki Makaurau will ensure the council applies Te Ao Māori in how we respond to the needs of Māori, and as part of our commitment to Te Tiriti o Waitangi.

Our work to date on climate change indicates that Māori in Tāmaki Makaurau are likely to be disproportionately impacted. We are working to better understand those impacts and how we can mitigate or avoid them. To formalise and guide our assessments, we mapped the mana outcomes of Kia Ora Tāmaki Makaurau against the TCFD pillars. Specific lines of enquiry have been overlaid, embedding Te Ao Māori into the Auckland Council Group climate risk response. The matrix below will be used to ensure that key areas of enquiry take place. It has been approved and endorsed by Ngā Mātārae, the council's Māori Outcomes and Relationships directorate. We have started applying the framework to our work on scenario analysis and will continue to apply it to the remainder of this disclosure going forward.

Matrix mapping mana outcomes to TCFD pillars

Principle 1: Ora I te Tuatahi Connection of all things		Principle 2: Mana Māori Motuhake Māori Identity and Wellbeing		Principle 3: Me Mahi Tahī Tātou Work together towards wellbeing outcomes		Principle 4: Kia ora Tāmaki Makaurau Wellbeing for Māori	
Climate Risks	Transition Risks	Policy and Legal	Technology	Market	Reputation		
	Physical Risks	Acute	Chronic				
		Risk Management	Metrics and targets	Governance	Strategy		
Kia ora te umanga Māori business, tourism, and employment	A) Describe the entities processes for identifying and assessing climate-related risks .*	A) Disclose the metrics used by the entity to measure and manage climate-related risks and opportunities in line with its strategy and risk management processes.	A) Describe the board's oversight of climate-related risks and opportunities.	A) Describe the climate-related risks and opportunities the entity has identified over the short, medium, and long term.	Financial Impact and Legalities		
Kia ora te marae Marae development	B) Describe the entities processes for managing climate-related risks .*	B) Describe the targets used to manage climate-related risks and opportunities and performance against targets.	B) Describe management's role in assessing and managing climate-related risks and climate-related opportunities .	B) Describe the impact of climate-related risks and opportunities on the entities business model, strategy, and financial planning.			
Kia ora te taiao Kaitiakiatanga	C) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the entities overall risk management.	C) Describe the methodologies and assumptions used to calculate the entity's metrics and targets .	C) Describe the resilience of the entity's business model and strategy to different climate-related scenarios.	C) Describe the resilience of the entity's business model and strategy to different climate-related scenarios.			
Kia ora te hononga Effective Māori participation			D) Describe the methodologies and assumptions underlying the climate-related scenarios used, and the scenario analysis process employed.				
Kia hāngai te kaunihera An empowered organisation							
Climate opportunities	Resource Efficiency	Energy Source	Products and Services	Markets	Resilience		

Climate-related risks and opportunities

In 2021, Auckland Council did a risk stock-take to identify climate-related risks for the group. The results provided a baseline for assessing the group's most material risks using scenario analysis. In 2022 the Auckland Council Group developed climate scenarios to help expand the identification of its climate-related risks and opportunities.

Scenario Analysis

Process for developing of transition scenarios

We identified four scenarios (two transition and two physical) that broadly captured a world associated with a 1.5°C target and one that was above 2°C. This was in line with the original direction set by the External Reporting Board (XRB) in early consultation, although the XRB has very recently revised its draft standards to include a requirement of three scenarios (1.5°C, 3.0°C and one other) for scenario analysis. Our scenario analysis processes will need to develop in sophistication over time and respond to the XRB standards when issued.

We considered developing a full set of scenarios that combined physical and transition aspects, however as the project unfolded we decided to consider physical and transition aspects separately. We intend to start using integrated scenarios in future years as the group matures in its understanding of climate change risks and opportunities.

The process for creating climate change scenarios was mainly drawn from the following foundational literature:

- Haigh, Nardia. Scenario Planning for Climate Change (p. i). Taylor and Francis. Kindle Edition.
- Taskforce on Climate-related Financial Disclosures (TCFD) (2020) Guidance on Scenario Analysis for Non-Financial Companies
- Schoemaker, P.J.H. 1995. Scenario planning: A tool for strategic thinking, Sloan Management Review, 36/2: 25–40.

The key stages of our transition scenario development process were:

1. Stakeholder engagement and understanding the external environment

The stakeholder engagement process was key to the success of this project. The engagement was collaborative with representatives from Auckland Council, the CCOs and POAL involved in the development of the scenarios with the assistance of climate change consultants. Key activities in this stage included:

- workshops with the Climate Disclosure Governance Group to build their knowledge and understanding of climate change scenario development and analysis
- a desktop review was done to identify current climate-related risks and opportunities to the Auckland Council group
- identification of key staff across the group, who formed the scenario analysis project group, to support the design and delivery of the scenario analysis workshops
- meetings with the scenario analysis project group to agree on scope, timing and project expectations and align the scenario analysis project with any existing and relevant work
- a three-page summary on the scenario analysis project was developed and distributed to key staff across the group. The document introduced scenarios, the process, timing and extent of participation that was required.

2. Setting the focal question and scope

- The focal question was developed in workshops with key staff across the group and the Climate Disclosure Governance Group. The focal question that was developed was: *“How could climate change affect the Auckland Council Group’s ability to deliver services and infrastructure that meets the needs of Aucklanders in 2050?”*
- The time horizon chosen for the transition scenarios was 2023–2050. The transition risk temporal scope was different to the physical scenarios, which had a time horizon out to 2100. The extension of the time horizon for physical risk scenarios was decided due to the long-time horizons of city infrastructure and planning for human settlements.

3. Identifying driving forces

- This stage involved the identification of the driving forces for the two transition scenarios. In total we carried out five workshops with over 70 staff from across the group including the climate disclosure working and governance groups. A total of 230 initial driving forces were captured across all the workshops.
- On completion of the workshops, the project leads reviewed all driving forces for plausibility and duplication. Following the review, it was determined that many of the driving forces were outside the plausibility realm or could be blended with others, giving a short list of approximately 50 driving forces.
- The short list was incorporated into an online survey that enabled workshop participants to rate each driving force. The top five drivers were used for scenario one, Kakariki, and six drivers were used for scenario two, Kahurangi. Sub-drivers were used to provide context to the key driving forces (approximately 4–5 sub-drivers for each driving force). This followed the literature (e.g. Haigh, 2019) which recommends limiting the number of narrative drivers in order to prevent the scenarios becoming too complex.

4. Developing scenario narratives

- The purpose of a scenario narrative is to help end users visualise the scenarios and understand the interconnectedness of the drivers. The narratives were developed by grouping the key driving force and the sub-drivers associated with each transition scenario.
- The scenarios were developed with as much local context as possible, and were written for a general, non-scientific audience.
- A narrated video was prepared to help communicate each scenario’s narrative to various stakeholders.

5. Performing quality checks

- The project’s key representatives across the group carried out multiple quality checks.
- Both scenarios were presented to the Climate Disclosure Governance Group for input, quality checks and approval. Further refinements were incorporated following their review, to ensure that the two scenarios would be deemed as being outlier, but plausible transition futures.

The summary of each transition scenario is presented on the following pages.

Transition scenarios

We called our transition scenarios, Kakariki (green) and Kahurangi (blue). We designed them specifically for the Auckland Council Group, and the colours are reflective of the types of scenarios that they are. The scenarios are fictitious yet plausible, and were designed to challenge our thinking.

Scenario 1: Kakariki

New Zealand is a leader in the transition to net-zero.

The central government recognises that climate change is a threat and leads the “Great Pivot” where all decisions are based on achieving the 1.5 degrees Celsius target and climate resilience. The entire energy system undergoes rapid electrification and associated technology investment increases. The key drivers of risk for this scenario are:

- a) **Duty to act** -The Waitangi Tribunal finds that the Crown has an obligation to Māori to adequately address climate change. Climate change becomes a mandatory relevant consideration in all decision making for government agencies and local authorities.
- b) **Transport Climate Response Plan** is launched which focuses on increasingly stringent vehicle demand policies for cities, support for electric vehicles, new domestic freight routes and active mobility options, rapid phase out of internal combustion engine vehicles and low emission public transport.
- c) **Greenfield development is limited** through policy and regulations and densification allowances are increased.
- d) The **carbon price** increases in line with the Climate Change Commission’s projections, reaching \$140 per tonne in 2030, and \$250 per tonne in 2050. In 2030 it does not align with the higher price set in the EU – which opens the door to increased supply chain costs and potential exposure to carbon tariffs for exports.
- e) **Public interest in council decision-making** increases with community monitoring and media attention as much of the community feel the initial cost of the transition.

Our focal question

How could climate change affect the group’s ability to deliver services and infrastructure that meets the needs of Aucklanders in 2050?

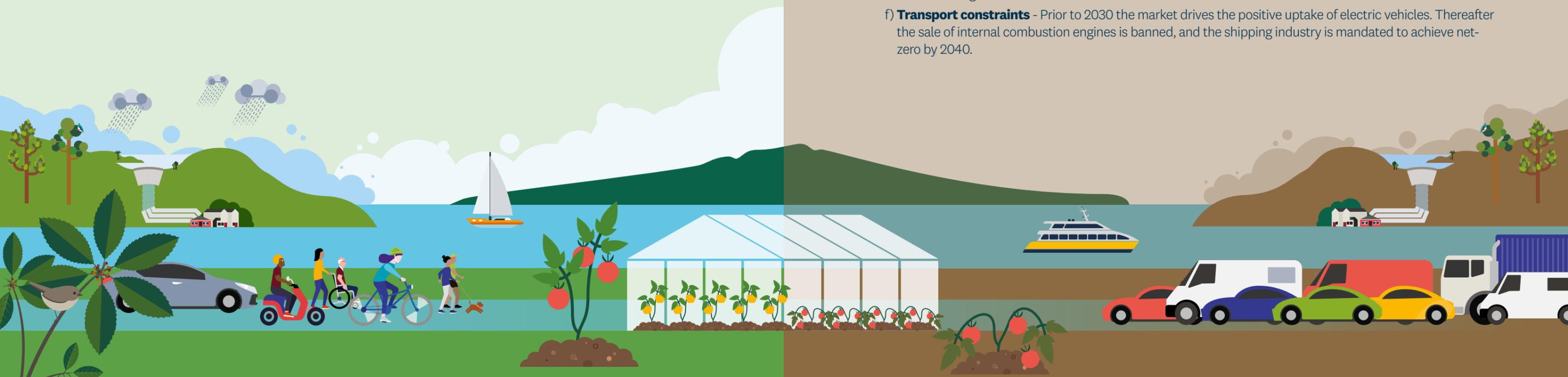


Scenario 2: Kahurangi

New Zealand’s climate response is delayed because of political indecision.

Although climate plans are in place, initial economic impacts and industry lobbying from major polluters delay New Zealand’s climate response. From 2023, the central government relies on the market to act until litigation and community uproar shifts the country into a rapid decarbonisation from 2030. The key drivers of risk for this scenario are:

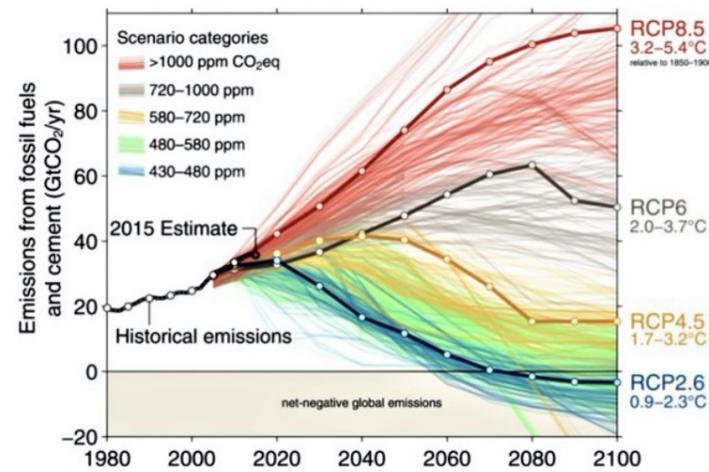
- a) **Litigious landscape** with local and central government embroiled in a raft of litigation.
- b) **Financial sector** shift with ESG reporting further incorporated into credit ratings. Investors and businesses shift away from the New Zealand market and insurers remove or increase price coverage of carbon exposed industries and activities.
- c) **Carbon price** jumps to \$140 per tonne in 2029, then jumps to \$380 in 2030, and increases 5 per cent per annum thereafter.
- d) **Density mandates** are put in place from 2031 as a result of refinements to the National Policy Statement on Urban Development. Only multistorey housing development is allowed, and greenfield development is also curtailed from 2035.
- e) **Social impact and community uproar** from government indecision. A significant rise in the cost of living due to climate change occurs, with low socio-economic households disproportionately impacted. Climate-related immigration increases from Australia and the Pacific from the mid-2030s to 2040.
- f) **Transport constraints** - Prior to 2030 the market drives the positive uptake of electric vehicles. Thereafter the sale of internal combustion engines is banned, and the shipping industry is mandated to achieve net-zero by 2040.



Physical scenarios

The main driver of physical risk relates to concentrations of greenhouse gases in the atmosphere, and this has been extensively modelled by the Intergovernmental Panel for Climate Change (IPCC). Based on IPCC models and reporting, four Representative Concentration Pathways (RCPs) describe different possible climate futures, which depend on the volume of greenhouse gases emitted in the years to come.

Global emission scenarios and the four RCP scenarios²



Carbon Dioxide Emission Pathways until 2100 and the Extent of Net Negative Emissions and BECCS in 2100
Neil Craik, University of Waterloo

- RCP 8.5 represents a 'high-end' emissions trajectory whereby global emissions remain as high or higher than current levels, there is no international policy-driven mitigation, and global temperature increases by ~4 °C.
- The RCP 4.5 trajectory is considered a lower, mid-range stabilisation scenario, whereby there is some mitigation of global emissions, with the aim of keeping global temperature change <2.4 °C.
- RCP 2.6 represents a future where emissions are reduced significantly, and global warming is limited to <2.0 °C.

RCP 8.5 is considered useful as a *high-end, high-risk scenario* (IPCC, 2022³) and therefore has been chosen as the physical scenario in the group's scenario analysis.

Climate-related physical risks are the result of climate hazards and were grouped into three key hazard categories for the scenario analysis:

- coastal hazards (sea-level rise, coastal inundation, coastal erosion, and storm surges)
- flooding and extreme weather (changes in variability of rainfall, extreme weather, flooding, landslides, groundwater rise and salinity stress, wind, and hail)
- increased temperature and drought (Increased temperatures, drought, and increased fire weather).

We used Auckland's climate projections (NIWA, 2020⁴) to assist with identifying the risks relating to the above hazards, under RCP 8.5 only. The next phase of work will involve rating the climate risks that have been identified during this project. Both RCP 8.5 and RCP 4.5 will be used when rating the group's physical climate risks.

Key hazards for RCP 8.5 are summarised in the following table.

Hazard	Present day (1986-2005)	Mid Century RCP 8.5 (2040)	End of Century RCP 8.5 (2110)
Temperature	15°C	+0.9°C	+3.3°C
Hot days (above 25°C) annually	15 to 24 days	+10 to 20 days	+>70 days
Cold nights (below 0°C) annually	Auckland CBD: 1 night Hunua Range: up to 8 nights Northwest of the region: up to 5 nights	0 to 2 fewer cold nights	0 to 3 fewer cold nights in most of the region Hunua Ranges: up to 8 fewer cold nights
Drought (Dry days) annually	237 dry days	+3 to 9 days	+ 12 to 21 days
Precipitation (average annual)	1200 mm - 1800 mm	-5% to +5% change	-5% to +5% change
Extreme weather (100-year event, 24-hour event)	160-240 mm	+8% rainfall depth (24hr, 100yr)	+28% rainfall depth (24hr, 100yr)
Sea level rise	Represented by mean high water spring tide 10%	+0.3 m	+0.8 m
Mean wind speed	4.9 m/s MWS	-1% to -2%	-4%
Increased fire weather (Very High and Extreme forest fire danger days annually)	8.3 days	+40% to 50%	+50% to 100%

Climate risk and opportunity identification

The scope of this work has been limited to risk identification only. We will do a detailed risk assessment once we have finished developing a methodology for rating the group's climate-related risks. Refer the Risk management section for further detail.

During 2022 ran risk assessment workshops across the group, focussing on climate-related physical and transition risks and opportunities separately for each entity except Auckland Transport which ran a separate, independent process.

We are currently reviewing and synthesising the risks that were identified into a set of group risks. These will be included in the group's 2022/2023 climate statement. 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 Kakariki and Kahurangi scenarios described above.
- Themes were identified with stakeholders to help to structure the risk and opportunity identification process. These themes were:
 - a) built
 - b) natural
 - c) economy
 - d) human
 - e) governance
 - f) 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. The risks identified will be included for consideration in focused workshops that will be held with the group's Māori outcome leads in October 2022 where we will further explore the group's risks and opportunities related to Te Tiriti o Waitangi, and the implication of the group's climate-related risks and opportunities to Māori, or climate risks to Māori that might impact the group.
- Risks were categorised as being either direct or indirect. They were documented in a structured manner in risk workbooks, which were sent out to workshop participants to review following the workshops.

Later in 2022 and in 2023, the physical and transition scenarios will be combined to determine the potential financial impact and will also be used to stress-test the group's strategies. Work is also underway to develop the group's climate change adaptation and transition plans, which are expected to be completed in 2023. These plans will better inform the group's strategy and financial planning.

1. We understand that the central government is currently updating the climate change projections under the IPCC's Sixth Assessment Report (AR6) projections.
 2. Fuss et al, 2014. Betting on negative emissions. Nature Climate Change, Vol 4.
 3. Intergovernmental Panel on Climate Change, 2022. Climate Change 2022. Mitigation of Climate Change. Working Group III contribution to the Sixth Assessment Report.
 4. Pearce, P et al, Auckland region climate change projections and impacts. Revised September 2020.



Te whakahaere tūraru
Risk
management

How the Auckland Council Group identifies, assesses, and manages climate-related risks.



Risk management

All group entities have risk policies and frameworks that align with the ISO 31000 Risk Management standards. The objective of each framework is to ensure appropriate oversight, management and escalation of risks. Risk frameworks are based on the three lines of defence approach below.



Climate risk management review

During the current year we began a review that will result in:

- a framework to clarify how risk identification, assessment and management of climate risks will integrate into our current risk management framework
- a risk assessment approach suitable for climate-related risks given their unique and complex characteristics
- a list of climate risks by entity for incorporation into existing risk inventories
- recommendations for improving the group and entity risk management processes in relation to climate risk.

Once the framework and assessment approach have been developed, they will be implemented across the group over the next financial year.



Ngā aronga me ngā
tatauranga

Metrics and Targets

The Auckland Council Group (excluding Ports of Auckland) has committed to a 50 per cent reduction in operational GHG emissions by 2030 against a 2019 baseline, and net-zero emissions by 2050. Ports of Auckland has committed to net-zero emissions by 2050.

Metrics and Targets

Each entity within the group measures the emissions associated with their operations and has set organisational emission reduction targets that contribute towards the group target of a 50 per cent reduction in group GHG emissions by 2030 (excluding Ports of Auckland). These targets are detailed in the entity sections.

Group performance measures

In 2021, the group adopted the 10-year Recovery Budget 2021-2031. The budget identified several climate-related performance measures to be reported on within our statement of service performance. They include:

- GHG emissions Scope 1 and 2 (tonnes, per cent change vs baseline) for Auckland Council and Auckland Transport
- the number of native plants planted
- the number of Aucklanders engaged in living low carbon lifestyles
- the percentage of schools engaging in sustainability education programmes.

Refer Volume 1: Service Performance for the current year’s results of these measures.

Embedding climate change in our financing

During the year the council converted \$800 million of existing bank standby facilities into sustainability linked facilities. The council also executed a sustainability linked derivative with a notional value of \$120 million, making it the first local authority in New Zealand to do so. The sustainability linked facilities and derivative financially incentivise the council to meet key environmental, social and/or governance targets through the offer of lower fees or interest rates if the council achieves prescribed targets. The council’s three sustainability performance targets are:

- increase annual proportion of procurement influenceable spend with Māori and/or Pasifika owned business or social enterprises by 5 per cent
- increase the number of operational low emission buses within the Auckland Transport bus fleet
- reduce the group’s GHG emissions by 50 per cent by 2030 and reach net-zero emissions by 2050.

Aligning these targets to our funding increases accountability across the group and drives the delivery of ambitious targets.

Measuring our GHG emissions

The group’s GHG emission sources have been classified into the following categories

Scope 1

These are direct GHG emissions and include emissions from sources owned or controlled by each entity.

Scope 2

These are indirect GHG emissions and include emissions from the generation of purchased electricity, heat or steam consumed by each entity.

Scope 3

These are indirect GHG emissions that include emissions that occur because of the group’s activities but occur from sources not owned or controlled by each entity.

Emissions are stated in tCO2e (metric tonnes of carbon dioxide equivalent).

Toitū Envirocare (Toitū) provides assurance over the group’s GHG emissions inventories. These audits 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. The inventory is aligned with industry or sector best practice for emissions measurement and reporting. There are 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 sources are still evolving, as are GHG reporting standards. Where there are significant uncertainties or exclusions, they have been detailed in the Entity Climate Risk Responses.

All entities use the operational control basis of consolidation as set out in the Greenhouse Gas Protocol. Specific boundaries for each entity have been outlined in the Entity Climate Risk Responses.





Ngā Urupare a te
Hinonga i ngā
Tūraru mō te Āhuarangi

Entity Climate Risk Responses

Further detail of each significant group entity's response to climate change risks and opportunities.

Auckland Council

Governance

Auckland Council's governance structure has been largely detailed in the group governance section.

The Environment and Climate Change Committee is responsible for overseeing progress against Te Tāruke-ā-Tāwhiri: Auckland's Climate Plan and policy decision-making around climate change activities. These activities include protecting our coastal areas, greenhouse gas reduction and implementing climate policies and plans.

The Chief Sustainability Office (CSO) is responsible for strategic thinking, analysis and advice on climate change, including the development and delivery of Te Tāruke-ā-Tāwhiri: Auckland's Climate Plan. The CSO provides advice and influence across the organisation to ensure that processes, programmes and decision-making support and enable a just transition to a low carbon, resilient future.

The CSO provides strategic briefings to the council's Executive Leadership Team on climate issues as required. We are currently determining the role of the Executive Leadership Team in climate action, as more teams across the council are working on climate-related issues.

In addition to the CSO, other departments and teams across the council have a sustainability and climate change focus specific to their area of focus.

Strategy

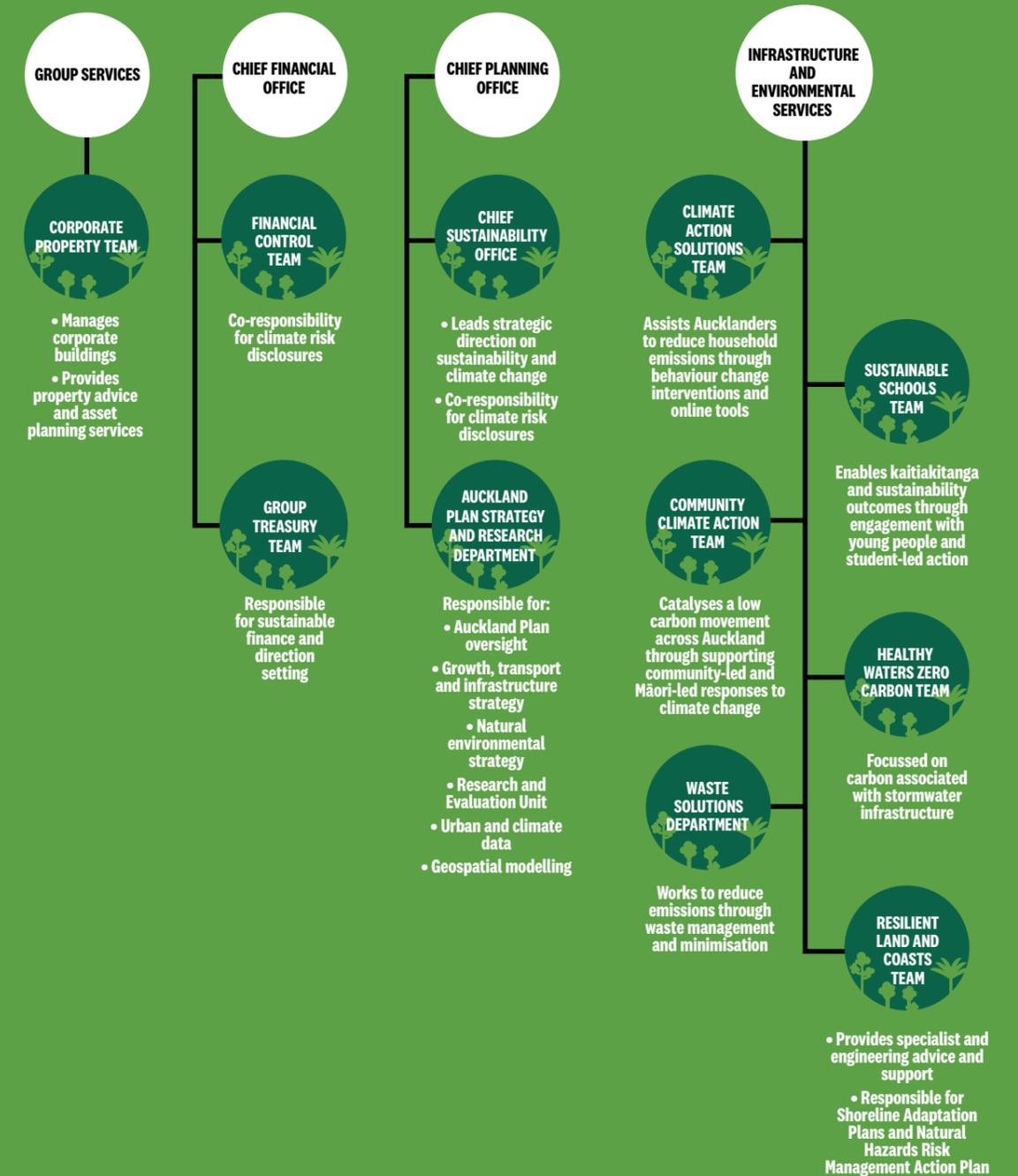
Although Te Tāruke-ā-Tāwhiri: Auckland's Climate Plan sets the group's direction on climate action, Auckland Council is currently working on an organisational climate action plan which will include its mitigation, adaptation and transition plans. This plan will detail how Auckland Council will:

- meet its target of 50 per cent reduction in GHG emissions by 2030 and net-zero by 2050
- transition to a net-zero carbon economy
- adapt to the climate change risks that it will face.

Auckland Council plays a key role in ensuring climate change is embedded in the group's key strategies, including the Auckland Plan 2050 and the 10-year Budget 2021-2031 (the Recovery Budget). The Recovery Budget was the first group long term plan that identified climate action as a priority area, with \$152 million set aside for investment in climate action over the next 10 years. Auckland Council will work with its CCOs and POAL to deliver this activity.

To support the integration of climate change into decision-making on projects, plan and policies, Auckland Council has developed a climate impact assessment tool to support the Governing Body in its role of overseeing climate change risks. The tool will consider the high-level impact of committee decisions on both GHG emissions and climate resilience. The tool will integrate with existing processes to ensure that climate change considerations are embedded from the inception of projects and will enable decision-makers to make more informed decisions.

Auckland Council departments and teams with a sustainability and climate change aspect or focus



Risk Management

The Auckland Council’s enterprise risk framework is designed to provide a common platform for all risk management activities, including evolving and emerging enterprise top risks associated with our strategic objectives, such as climate change.

The Enterprise Risk team reviews and updates enterprise risks quarterly. The review includes updating mitigating actions, analysing control gaps, and analysing enterprise top risks. Enterprise top risks are owned and endorsed by the executive leadership team on a quarterly basis.

The council has classified climate change risk as a top risk since 2019 and is being reassessed with the chief of strategy and chief sustainability officer, alongside other key stakeholders within the council. While significant effort has been made in mitigating this risk, a co-ordinated strategic approach across the council group is under development.

Metrics and Targets

tCO2e	2016/2017 (Base year)	2019/2020	2020/2021	2021/2022
Scope 1				
Agriculture	4,970	5,931	6,069	5,804
Energy	7,781	5,474	6,820	6,374
Fugitive emissions and other gases	106	313	930	72
Transport	3,844	4,249	4,060	2,570
Waste	631	549	714	304
Total Scope 1	17,332	16,516	18,593	15,124
Scope 2				
Electricity	6,957	4,499	4,768	4,211
Total Scope 2	6,957	4,499	4,768	4,211
Scope 3				
Transport	905	6,313	7,066	8,623
Waste	257	2,069	1,531	2,370
Other	1,637	1,083	944	956
Accommodation	-	-	-	5
Contractor other	-	-	8278	8,278
Total Scope 3	2,799	9,465	9,541	20,232
Total gross emissions	27,088	30,480	32,902	39,567
Certified green electricity	-	-	-	-
Net GHG emissions (all scopes)	27,088	30,480	32,902	39,567

Auckland Council’s carbon footprint has been prepared in accordance with the requirements set out under ISO 14064-1:2018. We measured most of our emissions using the emission factors used in *Measuring Emissions: A guide for organisations* published by the Ministry for the Environment (MfE).

There is a level of uncertainty in reporting GHG emissions and where there are significant uncertainties or exclusions, they have been detailed below.

Auckland Council has taken an operational approach in determining the operational boundary of its GHG emissions. Joint ventures and external partnerships have been excluded and each CCO and POAL report their GHG emissions separately.

Emissions associated with the council’s buildings (combustion of natural gas and electricity) and farms and make up the largest portion of the council’s GHG footprint. Community Facilities is the business unit responsible for the largest share of council’s emissions. This is because the unit is responsible for the majority of the council’s buildings, as well as farms and parks.

Overall, Auckland Council’s Scope 1 and 2 emissions for 2021/2022 have decreased from 2020/2021. This reflects both actions taken to reduce GHG emission and the ongoing effects of COVID-19, which include a greater use of remote working and reduced levels of service in Community Facilities. Reported scope 3 emission have increased as more sources of indirect emission, mainly from council contractors, have been reported in this year’s inventory.

Energy and electricity use has decreased by 9 per cent from 2020/2021 as a result of downsizing our corporate property portfolio from 12 to 4 properties, ongoing investments in energy efficiency measures and the impact of COVID-19 restriction on the use of Council Facilities. Emissions associated with Council fleet have decreased by 37 per cent due to investment in hybrid vehicles, reduction in work travel and the removal of over 100 cars from Council’s fleet. Scope 1 and 2 Waste emissions relate to Claris Landfill, which is the only landfill wholly owned and operated by Auckland Council. Emissions from the Claris Landfill have decreased by 21 per cent due to receiving reduced volumes of waste. Fugitive emissions have seen a significant reduction from 2020/2021 due to less refrigerant top-ups required than in previous years.

There is a level of uncertainty in reporting greenhouse gas emissions. This is due to a level of scientific uncertainty as well as estimation uncertainty involved in the measurement processes. The emission factors included in the *Measuring Emissions: A guide for organisations* published by the MfE have been used for the majority of our emissions, except for certain fugitive emissions. Emissions factors are periodically revised by MfE with changes to those factors occasionally being significant.

Auckland Council generally uses the most up to date emissions factors published by MfE for calculating our GHG emissions inventory. MfE released updated figures in August 2022, however due to the timing of the external audit of our inventory, we were unable to incorporate these figures. For consistency with the Carbon Neutral Public Sector Programme, we have used the MfE’s 2021/2022 emissions factors for reporting our GHG emissions. MfE’s updated emission factors include updates to historical electricity emission factors. As electricity is a significant component of our Scope 1 and 2 emissions, the updated emissions factors will impact our baseline GHG emissions and have a minor impact on our 2021/2022 inventory. For our 2022/2023 reporting our baseline, targets and 2021/2022 inventory reporting will be updated using the updated emission factors.

In addition to GHG emissions, Auckland Council also has the following targets:

- convert 200 hectares of farmland to native forest over the next five years
- plant 11,000 street trees by 2031
- reduce emissions from fleet activity by 50 per cent by 2025
- improve electrical efficiency in Auckland Council buildings by 20 per cent by 2030
- reduce in-house office waste by 60 per cent per capita by 2024.

Auckland Transport

Governance

Auckland Transport’s (AT) Board provides overall governance and strategic direction for the organisation, in relation to climate change and sustainability, including leadership and oversight of management.

The Board is responsible for:

- Oversight and setting sustainability as a strategic priority
- Approving the sustainability vision and strategy including performance targets and delivery plans
- Providing management with parameters around risk and resource to effectively execute the sustainability strategy and related targets
- Influence central Government and Council to support the sustainability vision and strategy.
- Holding management to account for achieving the sustainability vision
- Assuring effective compliance with legislation and alignment with other commitments to stakeholders.

The board meets approximately 8 times each year and the board’s Finance and Assurance Committee meets approximately 5 times. Climate-related risk information is presented to the Finance and Assurance Committee as part of broader risk reporting. Climate change and sustainability issues are also presented to the board or relevant board committees as required.

The board sets the risk and resource parameters for AT’s sustainability strategy and it holds management accountable for achieving ATs sustainability vision. Management and board have a joint responsibility for providing a clear vision for transport sustainability in Auckland.

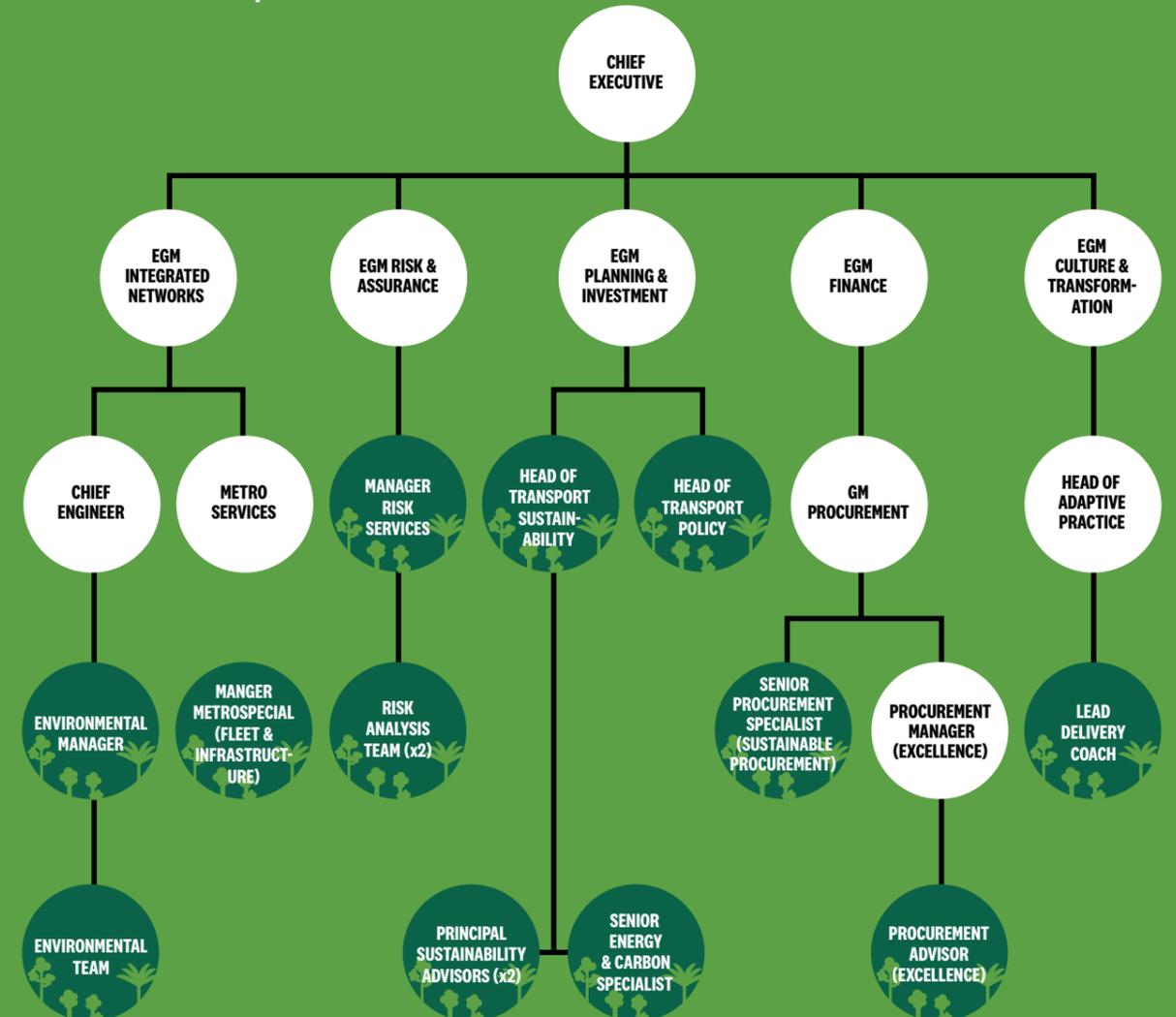
The board and executive leadership team recognise their responsibility for assessing and managing climate change and sustainability related risks and opportunities. The board are also advised by internal sustainability teams including Transport Sustainability, Environmental and Sustainable Procurement teams. Training to ensure all AT’s board members have been provided with systemic climate change and sustainability training is in development.

An Enterprise Portfolio Steering Group has been established at the executive leadership level to focus on climate change and sustainability issues. It meets every six weeks where they are informed, make decisions on and monitor climate related issues.

Key teams that manage climate risk at AT include:

- **Transport Sustainability team** – leads the organisation-wide climate change risk response and works closely with the risk team, chief engineer and asset and finance teams to assess and price climate risk exposure and develop the organisation’s adaptation strategy.
- **Environmental Programme** - Auckland Transport’s Environmental Specialists in the Chief Engineer’s team lead Auckland Transport’s climate change adaptation planning.
- **Auckland Transport Assets team** – ensures risk management and resilience is embedded within the organisation and corresponds directly to the three key risk areas identified by the organisation’s Climate Change Risk Assessment.
- **Sustainable Procurement team** – deliver against the Sustainability Framework and Sustainable Procurement Action Plan, incorporating sustainability and carbon reduction planning into strategic infrastructure, operations, corporate and BT contracts, as well as facilitating contractor reporting on materials, energy, carbon and other sustainability data.

Roles with a climate change, sustainability or environmental aspect or focus for Auckland Transport



Strategy

AT's Sustainability Framework is built around four inter-related goals:

- conserve and enhance the environment
- meet the health and social needs of Aucklanders
- foster jobs, growth and economic productivity
- celebrate Auckland's unique cultural identity.

A series of plans and strategies realise the outcomes of the Sustainability Framework. These plans are in specific domains and include goals and their accompanying work programmes.

Plans and strategies completed or currently under development include the Emissions Reduction Action Plan; Climate Adaptation Action Plan; Hikina te Wero : Environment Action Plan and the Sustainable Procurement Action Plan.

The sustainability framework is being updated and will include transition and adaptation components.

Risk management

AT delivered a physical climate change risk assessment in 2020, and a transition risk assessment in 2022. These risks will be included in the organisational risk register.

The rated risks were then prioritised by consideration of the risk's materiality to AT, the agency responsible for the risk receptor, its interdependency with other risks, and the risk rating applied.

An initial assessment was made of the financial and other impacts of the key physical risks, leading to organisational climate related physical risk appetites being adopted:

The overall climate related risk (the "failure to appropriately respond to or prepare for the impacts of climate change including lack of planning for network resilience") is a 'cautious' risk appetite.

AT has three subcategories of climate related risk.

Subcategory 1: Adaptation

Adapting AT's assets to the physical impacts of climate change, as discussed earlier in this section.

Risk appetite: Cautious

Activities undertaken in the achievement of key deliverables or initiatives will only be taken where they have a low degree of residual risk. The associated potential for reward / pursuit of opportunity is not a key driver in selecting activities.

Subcategory 2: Mitigation:

Reducing greenhouse gases from users of the transport system and from AT's operations.

Risk appetite: Averse

Avoidance of risk and uncertainty in achievement of key deliverables or initiatives is paramount. Activities undertaken will only be those considered to carry virtually no residual risk.

Subcategory 3: Transition:

Responding to the non-physical impacts of climate change during the transition to a low-carbon and climate-resilient future.

Risk appetite: Transition:

A risk appetite for the transition risks is in development.

The overall climate related risk appetite and subcategory risk appetites must be considered during planning, design and construction of new assets and renewals; procurement and any other AT activities.

Metrics and targets

tCO2e	2017/2018	2018/2019	2019/2020	2020/2021	2021/2022
Scope 1					
Mobile combustion	1,748	2,414	1,989	1,648	1,604
Refrigerants	-	-	-	11	6
Stationery energy	321	268	297	302	194
Others	-	1	-	-	-
Total Scope 1	2,069	2,682	2,286	1,962	1,805
Scope 2					
Purchased electricity	12,701	10,240	9,886	9,077	7,751
Total Scope 2	12,701	10,240	9,886	9,077	7,751
Scope 3					
Purchased electricity-related activities (electric bus services)	-	-	-	80	222
Purchased fuel-related activities (diesel bus and ferry services)	93,281	128,123	122,551	104,792	91,192
Transmissions of energy (T&D losses)	1,073	807	784	803	659
Business Travel	143	306	186	59	66
Waste	14	146	138	315	144
Lubricant	-	22	22	22	42
Total Scope 3	94,511	129,403	123,680	106,071	92,324
Total gross emissions	109,281	142,326	135,853	117,110	101,881
Certified green electricity	-	-	-	-	-
Net GHG emissions (all scopes)	109,281	142,326	135,853	117,110	101,881

GHG emissions associated with public transport ferry services were excluded in 2017/18 inventory due to data unavailability but included in 2021/22 inventory.

GHG emissions associated with infrastructure, construction and maintenance have been excluded.

2021/2022 reports measured emissions with the requirement of ISO 14064-1:2018 standard and the previous year's report measured emissions with the requirement of ISO 14064-1:2006.

This information is retrieved from the AT emissions inventories reports that have been verified by Toitū. The inventories used the latest emissions factors available from MfE at the respective audit date.

An absolute reduction in Scope 1 and 2 emissions of 3,366 tCO2e has been achieved in 2021/2022 against respective scope emissions of 2018/2019.

AT provides its board with a monthly indicators report that details performance against its statement of intent measures.

Measure	2021/2022 Target	Baseline
Number of buses in the Auckland bus fleet classified as low emission	28	2019/2020
Percentage reduction of greenhouse gas emissions from AT's corporate activities and assets	6%	2018/2019
Percentage of Auckland Transport streetlights that are energy efficient LED	80%	2020/2021

Eke Panuku Development Auckland Limited

Governance

Eke Panuku Development Auckland Limited's (Eke Panuku) board has oversight of its climate-related risks and mitigations and climate initiatives with quarterly progress reports. The Audit and Risk Committee, made up of five of the seven board directors reviews the organisation's strategic and operational risks quarterly. The board accesses climate expertise through its corporate responsibility team which is responsible for developing and delivering Eke Panuku's climate change strategy and supporting the wider organisation to deliver the strategy through corporate business plans.

Eke Panuku's Executive Leadership Team receives climate-related risk updates quarterly through a risk-focused workshop. The executive leadership team review the risk register before it is presented to the board.

Several climate-related actions are included within the KPIs of Eke Panuku's senior management. The board receives reporting on progress against these objectives annually at a minimum.

Some key KPIs for delivering the climate change strategy are:

- development of sustainability standards/guidelines for public realm projects
- adoption and the use of green leasing clauses in all future leases of managed commercial assets
- develop and deliver training for staff in relation to climate-related decision making and sustainable procurement.

Roles with climate change, sustainability or environmental aspect or focus

Eke Panuku's Corporate Responsibility team set the strategy and policy relating to climate change and promote corporate emissions reduction. Implementation of the strategy and policy is also delivered via the Design and Place, Development and Assets and Delivery teams with some support from the Community Services directorate.

The risk team works with the capital works and asset renewal teams to identify risks, including climate change risks.

Strategy

Eke Panuku's climate change strategy has two overarching objectives:

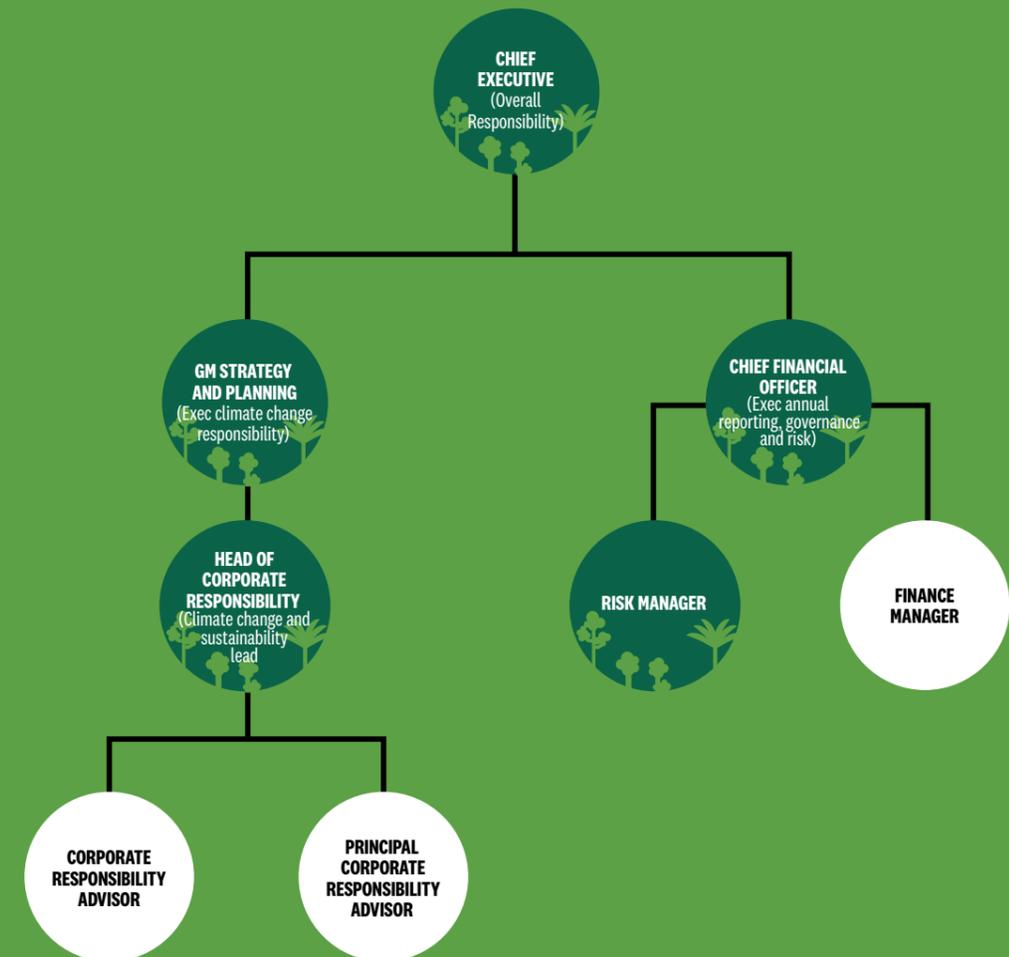
- new communities in priority locations are designed and developed to be low-carbon and climate resilient
- leading by example through reducing climate impacts across operations and asset management.

A key activity of Eke Panuku's climate change strategy is ensuring climate impacts, risks and vulnerabilities are considered in the regeneration of Eke Panuku neighbourhoods at the master planning stage so that communities developed are resilient to future impacts. Transition risks have not been a key focus to date and will need further consideration.

More information is needed to enable better decision-making at the front end of planning and for decision making purposes. Work is already underway to incorporate climate change mitigation and adaptation considerations into project planning, procurement, reducing or minimising emissions, and ensuring developments are resilient to climate impacts.



Roles with a climate change, sustainability or environmental aspect or focus for Eke Panuku



This includes:

- improving project management processes by providing guidance that direct project managers to consider climate change and sustainability in planning, procurement, and delivery
- supplying suitable tools and resources (in collaboration with Auckland Council) to support staff such as checklists, emissions calculators and risk guides
- supporting project managers and building staff capability to assess climate impacts.

Risk management

Eke Panuku’s Risk Management Framework has been developed in accordance with the ISO 31000:2018- Risk Management Guidelines. Risks are identified and assessed according to the likelihood and level of consequence, with mitigations specified.

Eke Panuku is part of the council-wide climate disclosure work programme to address governance, strategy, risk management, and metrics and targets disclosures. Once the outputs of this programme relevant to Eke Panuku have been approved, they will be incorporated into Eke Panuku’s governance, risk management and reporting structures and frameworks.

Metrics and targets

tCO2e	2018/2019 (Base year)	2019/2020	2020/2021	2021/2022
Scope 1				
Transport fuels	47	49	32	30
Total Scope 1	47	49	32	30
Scope 2				
Electricity	79	105	72	114
Total Scope 2	79	105	72	114
Scope 3				
Scope 3 mandatory	342	268	397	370
Scope 3 additional	428	391	559	363
Scope 3 one time	-	-	3	-
Total Scope 3	770	659	959	733
Total gross emissions	896	813	1,064	877
Certified green electricity	-	-	-	-
Net GHG emissions (all scopes)	896	813	1,064	877

This year there have been changes across our emissions profile, with some emissions sources seeing an increase and others a decrease. Additional sources were added; employee commuting and working from home. Overall, against our base year there has been an increase in absolute emissions from Scope 1 and 2 of 14 per cent and a decrease in absolute emissions from all sources of 2 per cent. Scope 1 emissions from transport this year were the lowest since our base year. This is in part due to the lengthy lockdown seen in Auckland over the reporting period as well as changed behaviour and practices around remote working and meetings which have arisen as a result of the COVID-19 pandemic. Scope 3 emissions from transport increased due to the addition of employee commuting. Emissions associated with marina energy use increased. The reason for this is not clear and further work will need to be done to ascertain how this can be reduced.

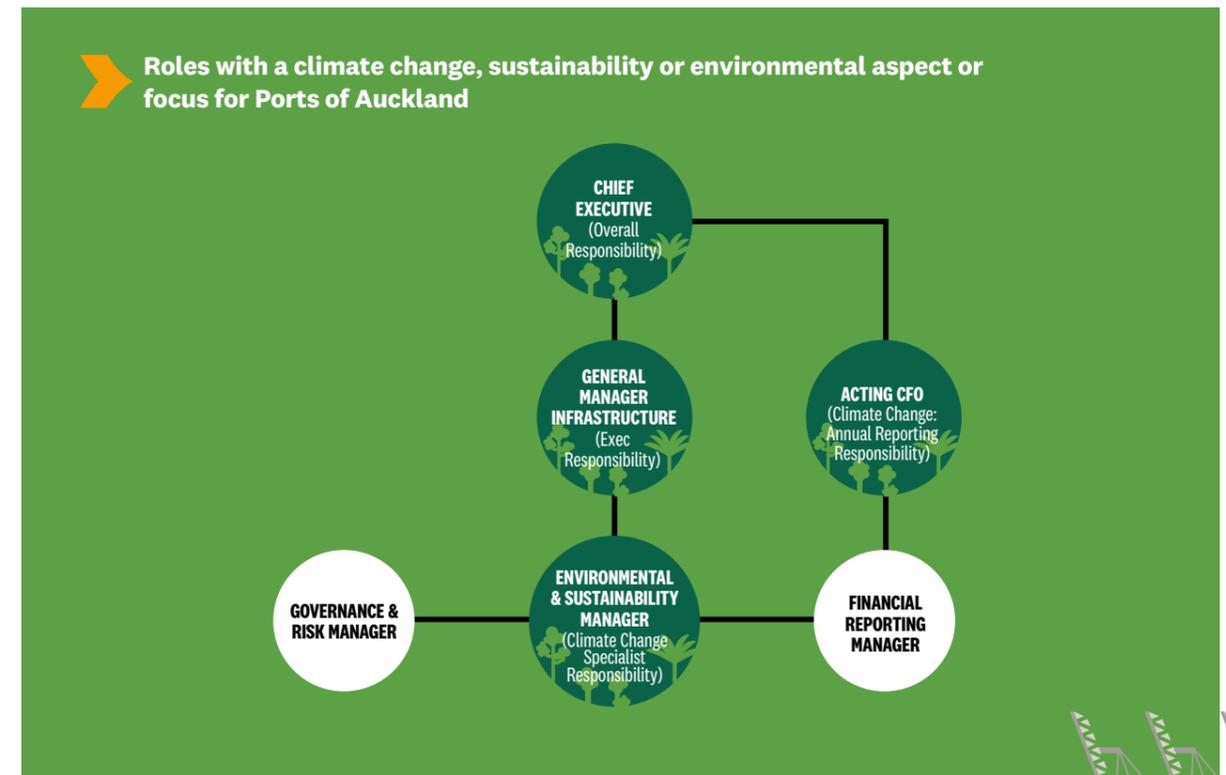
Ports of Auckland Limited

Governance

Ports of Auckland’s (POAL) board is responsible for ensuring the implementation of the environmental policy, understanding the nature of current environmental hazards and risks associated with the port’s operations and ensuring appropriate resources and processes are in place to respond to them. The board is also responsible for ensuring compliance with all regulatory requirements and overseeing performance against adopted sustainability targets. The board is updated on climate-related matters through monthly reports that are prepared by management and receives updates as required. The board accesses climate expertise through its sustainability and environment team which is responsible for the day to day management of POAL’s climate change and sustainability risks.

POAL has established a working group that includes its Governance and Risk Manager, Finance and Reporting Manager and Head of Sustainability and Environment. This group is responsible for delivering on activities related to the implementation of the climate-related disclosure recommendations. A suitable board structure to oversee compliance with these forthcoming disclosure requirements is being developed.

POAL's sustainability team has developed a climate risk framework in collaboration with the finance team and the governance and risk team. The diagram below illustrates sustainability within POAL's organisational structure.



Strategy

In line with POAL’s goal, set in 2017, of being a leading global sustainable port, POAL Environment Policy adopted in 2018 set long-term sustainability targets of:

- net-zero emissions by 2025
- zero emissions by 2040
- zero waste to landfill by 2040.

POAL routinely reviews the progress against these targets to ensure they remain relevant. Based on the past 4 years’ experience of working towards achieving them, a revised strategy has been developed in July and August for consideration by the POAL Board in September 2022. This revised strategy confirms POAL’s commitment to becoming an environmentally positive and climate resilient port, but recognises the current realities of limited alternative equipment options available for heavy cargo handling equipment and the challenges over the supply of interim emissions reduction options such as renewable diesel.

The revised Sustainability Strategy confirms POAL’s long term zero waste and zero emissions targets but has revised the achievement date for its zero emissions target from 2040 to 2050 to align with Auckland Council’s long term emissions reduction target and to align the capex spend for heavy cargo handling equipment to the end of its effective life. Further, the revised strategy recommends the removal of the initial net-zero by 2025 target, preferring instead to concentrate on emission reduction initiatives within the business.

The revised strategy recommends POAL maintain the current medium-term emission reduction targets of 37.5 per cent reduction from our 2017 baseline by 2032. This interim target is based on POAL’s approved SBTi target.

Risk management

POAL recognises the importance of managing material risks across the business, and has robust systems for managing this. POAL’s Key Risk Register classifies climate change as a “critical risk”. A high-level risks and opportunities assessment was completed using projections of RCP 4.5 and RPC 8.5. This identified risks relating to atmospheric, hydrological, oceanographic, regulatory, technical and legal changes, as well as capital risks from changes in revenue and access to capital. The assessment identified that these could have a direct impact on assets and operations, supply chains and stakeholders.

As a next step, POAL has developed an Organisational Readiness Assessment Roadmap which outlines a programme that will develop coordinated processes to reliably identify and analyse climate change and sustainability-related risks. This will ensure that over time, the collective risk management system is viewed through a climate lens. Following this, a consideration of velocity and interconnectivity between risks, as well as a conventional analysis of severity and likelihood, will take place.

Metrics and targets

Category	2016/2017 (Base year)	2019/2020	2020/2021	2021/2022
Scope 1				
Transport fuels and other	12,251	12,049	12,479	11,458
Other gases	3	6	23	7
Total Scope 1	12,254	12,055	12,502	11,465
Scope 2				
Electricity	1,867	1,368	1,446	1,534
Total Scope 2	1,867	1,368	1,446	1,534
Scope 3				
Transport	420	264	13	27
Waste	200	29	7	29
Scope 3 additional	1,467	2,166	2,425	2,549
Total Scope 3	2,087	2,459	2,445	2,605
Total gross emissions	16,208	15,882	16,393	15,604
Certified green electricity	-	327	-1,446	1,534
Net GHG emissions (all scopes)	16,208	15,555	14,947	14,070

Our net emissions (Scope 1 and 2, net of certified green electricity) fell 8.3 per cent to 11,464.8 tCO₂-e this year (unaudited) from 12,502 tCO₂-e the previous year. Furthermore Ports of Auckland has achieved an absolute reduction of 2,580 tCO₂-e against the baseline year (2017) for all categories.

This is Ports of Auckland’s net GHG emissions (Net-GHG) for all categories and allows for market-based emissions factors through their purchase of renewable electricity certificates. Ports of Auckland’s emission reduction pathway includes a combination of purchasing renewable electricity, improving fuel efficiency, adopting low, and zero, carbon alternatives for diesel in the short term, as well as procurement of zero carbon emission heavy cargo handling equipment when these assets are scheduled for replacement.

During 2020/2021 POAL implemented a trial of renewable diesel in a range of plant, vessels and vehicles. The trial was successful, but Covid restrictions and supply chain challenges prevented further trialling and use of this fuel in day-to-day operations during 2022. POAL will attempt to secure supplies of this and/or other low carbon fuel options now that the supply chain challenges are lessening, as it is recognised that these fuels will play a significant part of the Ports of Auckland interim emissions reduction programme in the coming years.

During 2021/2022, POAL studied the electrical network across the port. Several initiatives were identified to improve the long-term resilience of the network and its ability to meet expected future demand. This study also identified potential renewable electricity generation options across the port to help meet our electricity needs. These will be implemented in accordance with the plan developed.

Tātaki Auckland Unlimited

Governance

Tātaki Auckland Unlimited’s (TAU) board oversees decision-making associated with its risk management policy framework and performance against its climate change targets. The board has delegated part of its authority to the executive management team to manage some strategic and operational matters, including climate change. The Risk Committee is a committee of the board with a membership of three board members whose core role is to support the board in its risk-related oversight and responsibilities.

During 2021/2022, TAU’s Climate Innovation and Sustainability team completed a gap analysis against the TCFD framework and identified areas for improvement. A set of recommendations was presented to the board in November 2021 and approved for implementation. The recommendations included:

- ensuring capability building at a senior management and board level in relation to climate-related risk
- allocating more organisational resources to managing and disclosing climate-related risks
- disclosing the climate-related responsibilities assigned to management positions or committees and whether these responsibilities include assessing and/or managing climate-related issues
- developing the organisational structure associated with delivering on climate-related responsibilities
- nominating a board member to be is responsible for establishing governance arrangements, assessing climate-related risks, and implementing adaptation actions.

The board nominated Director Dan Te Whenua Walker to be lead board member for climate risk management. Dan is also a member of TAU’s Risk Committee. The board will continue to access climate expertise through the Climate Innovation and Sustainability team, and climate change training has been confirmed for both the board and the Executive Leadership Team.

The Climate Innovation and Sustainability team manages TAU’s existing climate change programmes and activities and supports the development and implementation of the organisation’s sustainability strategy to align with Auckland Council’s key climate targets. The team formally presents to the organisation’s Risk Committee a minimum of twice per year, outlining key climate change risks and actions and reports to the board on an ad-hoc basis. It intends to develop governance processes with the support of the nominated climate risk management lead board member, to ensure accountability of climate action across the organisation.

Roles with climate change, sustainability or environmental aspect or focus

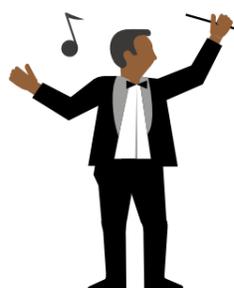
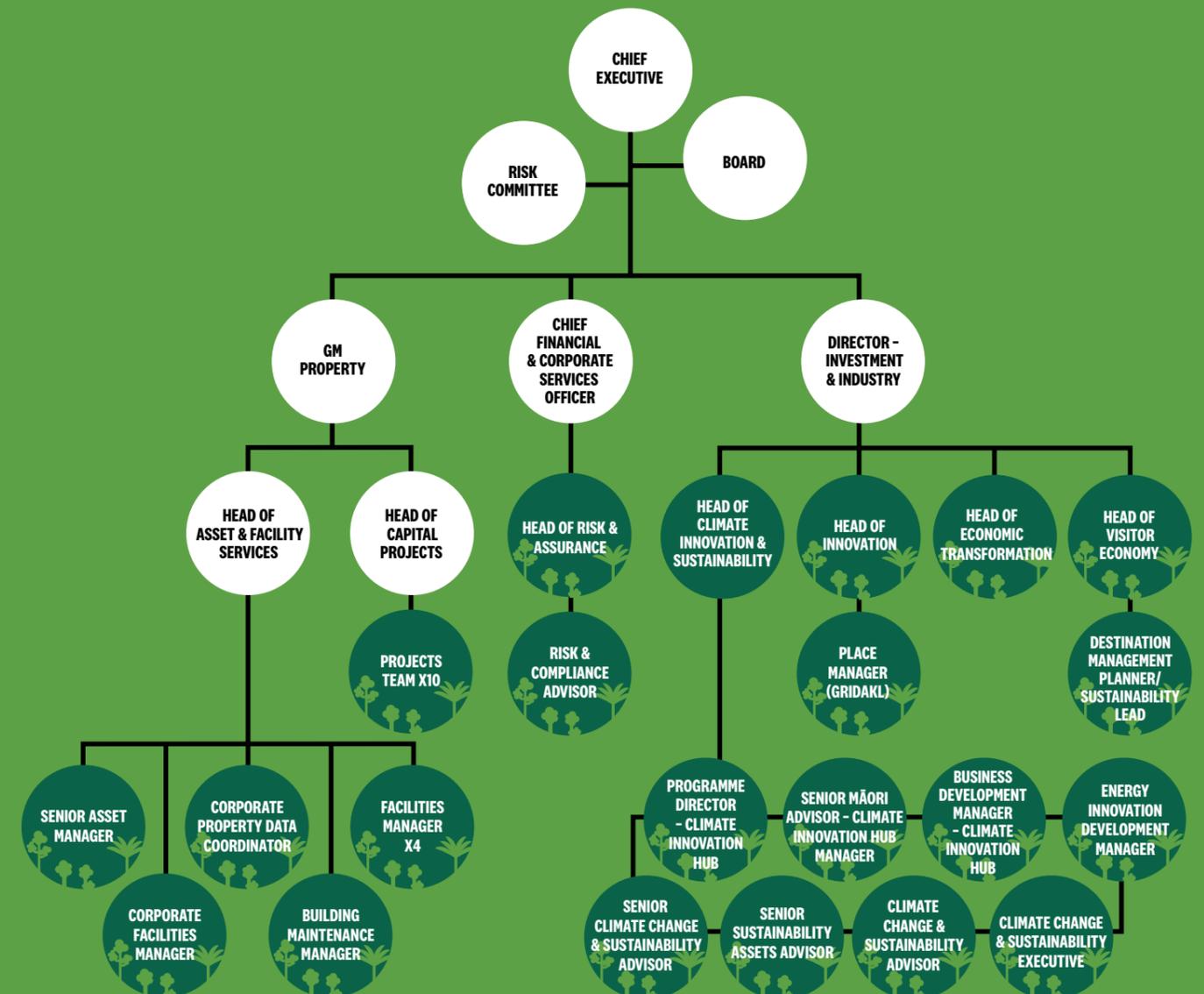
- The climate innovation and sustainability team
- The risk team
- A project team dedicated to the development and implementation of a Climate Innovation Hub. The size of this team is expected to grow in 2022/2023.
- The Capital Projects team who works closely with Climate Innovation and Sustainability team to deliver on emissions reduction actions (limited to availability of funding).
- The Asset and Facility Services team works with the Climate Innovation and Sustainability team to develop climate change capability for adaptation and mitigation across TAU’s assets and services.

Strategy

TAU is currently developing a sustainability strategy which will sit between its Statement of Intent and wider organisational strategies. The strategy will be delivered in three phases in 2022 and 2023:

- Phase 1 - A stocktake and scoping exercise for a climate change and sustainability strategy. This will produce a proposed approach with a set of requirements for the development of an organisational sustainability strategic plan that is inclusive of climate risks and opportunities.
- Phases 2 and 3 - Developing and implementing an 18–24-month strategy with metrics and targets.

Roles with a climate change, sustainability or environmental aspect or focus for Tātaki Auckland Unlimited



TAU's operating model and five strategic outcomes are detailed in its Statement of Intent (SOI). The SOI outlines TAU's alignment to Te Tāruke-ā-Tāwhiri: Auckland's Climate Plan, and its commitment to implementing the economy priority and addressing climate change.

Risk management

TAU's processes for identifying and assessing risk include:

- business units doing quarterly strategic and monthly operational reviews of current and emerging risks
- risk committee approving risk evaluation outcomes and treatment actions
- a risk and assurance function compiling a top operational risk register which is reported to ELT and the Board monthly
- a quarterly risk register being reported to the Risk Committee and Council Audit and Risk Committee

TAU is following Auckland Council's adoption of the ISO 31000:2018- Risk Management Guidelines. The process for managing climate-related risk is as follows:

- operational managers identify, assess, control, and mitigate the risk, in consultation with the Head of Risk and Assurance if required
- the Head of Risk and Assurance works with Auckland Council (Group) Risk Working Group to facilitate and monitor effective risk management practices across business units. These are subject to internal and then external audit processes.

Metrics and targets

tCO ₂ e	2018/2019 (Base year)	2019/2020	2020/2021	2021/2022
Scope 1				
Other	9	13	14	12
Other fuels	787	697	467	213
Other gases	1	-	-	-
Refrigerants	40	204	6	54
Stationary energy	2	9	4	1
Transport fuels	91	93	102	97
Total Scope 1	930	1,015	593	377
Scope 2				
Electricity	1,476	1,553	1,522	1,468
Total Scope 2	1,476	1,553	1,522	1,468
Scope 3				
Electricity	-	16	151	139
Freight	86	75	411	84
Other fuels	-	-	28	13
Passenger vehicles – default age	-	-	1	1
Scope 3 additional	141	291	297	820
Transport – other	650	567	78	81
Waste	114	163	71	50
Total Scope 3	991	1,112	1,037	1,188
Total gross emissions	3,397	3,680	3,152	3,033
Certified green electricity	-	-	-	-
Net GHG emissions (all scopes)	3,397	3,680	3,152	3,033

The top emissions sources across all sites consist of electricity, gas, working from home, car average (petrol) and diesel. Electricity (1,467.72 tCO₂e) is the highest source and is widely used across all our sites for air-conditioning (heating / cooling), lighting, power for appliances.

Gas (212.01 tCO₂e) generates significant emissions within Tātaki Auckland Unlimited, being the second highest emitter. Many business units across the organisation rely on gas.

This year data was recorded for staff working from home and it was one of the highest emissions. For the majority of 2021/2022, Auckland was in a COVID-19 lockdown, therefore there was a high percentage of staff working from home. Secondly, we applied an average assumption that all staff generate similar emissions whilst working from home.

Car Average (petrol) generated significant emissions (92.56 tCO₂e). Diesel is a high contributor to the organisational emissions (61.82 tCO₂e). Tātaki Auckland Unlimited have several diesel vehicles within the fleet. Eight out of eleven of the Zoo's vehicles use diesel. Electricity in Scope 3 is from electric vehicle commuting.

Base year figures have been updated to 2018/2019 for consistency across other reporting where that is used as Tātaki Auckland Unlimited's base year e.g. in our Statement of Intent.

TAU uses the following targets to manage and assess its climate-related risks and opportunities.

Target	Metrics
Contribute to Auckland Council groups emissions reduction target of 50% by 2030 from an 2018/2019 baseline. This includes a year-on-year reduction target for carbon emissions as a KPI its SOI.	0% for 2022 10% for 2023 an additional 10% in 2024
Waste diversion from landfill targets	70 to 80% target depending on site or event
Deliver Lantern, Pasifika, Diwali and Tāmaki Herenga Waka Festivals under a consolidated cultural festivals strategy including the approach to landfill waste diversion and carbon footprint monitoring.	Reach 70% of waste diversion from landfill across all cultural festivals until 2023 100% recyclable or compostable food servicing products are across all cultural festivals until 2023 Meet customer survey target for sustainability initiatives of 70% each year until 2023.

Watercare Services Limited

Governance

The Watercare board oversees its climate change strategy through the Enterprise Risk Register, a strategic in depth review of on sustainability and climate, and other climate-related updates. The board meets at least eight times a year to discuss these matters. The board also has an Audit and Risk Committee which oversees climate-related disclosures and provides advice and recommendations to the board for final decision-making.

Watercare’s board and executive leadership team recently finalised Watercare’s Organisational Plan which includes climate action under the strategic pillar ‘we are fully sustainable’. One of the key aims under this pillar is to ensure Watercare understands the impacts of climate change and takes bold actions to reduce its emissions and prepare the business for future climate challenges. Several targets have been identified to help the board ensure management are tracking against these targets.

In the past, Watercare had a Committee for Climate Action, a sub-committee of the board that focused on climate change governance and provided input into mitigation and adaptation activities. In February 2022, Watercare’s board agreed to disestablish this sub-committee and move the functions up to the whole board.

In addition to accessing climate expertise via the board members who have relevant climate-related expertise, the board also access expertise through Watercare’s sustainability team and external parties. External parties include experts who come and present to the board. In recent years this has included Mark Baker Jones (Te Whakahaere), Mark Lusic (Arup), James Hughes (Tonkin & Taylor), India Logan-Riley (Te Ara Whatu) and David Robertson (Generation Zero).

Watercare’s executive leadership team regularly meet to review and provide input into organisational policies, frameworks and strategies that support Watercare’s climate change programme. This includes reviewing progress against both the Organisational Plan and the Watercare’s Statement of Intent. The executive leadership team appoints an executive sponsor for climate change which is currently Watercare’s Chief Infrastructure Officer. The role is to provide executive support to teams and relevant climate change projects, and to provide sponsorship at board level.

Management is responsible for monitoring and reviewing their own climate related risks including any reduction activities associated with these risks. Watercare will leverage the existing work with the council on the climate disclosures programme to enhance this activity.

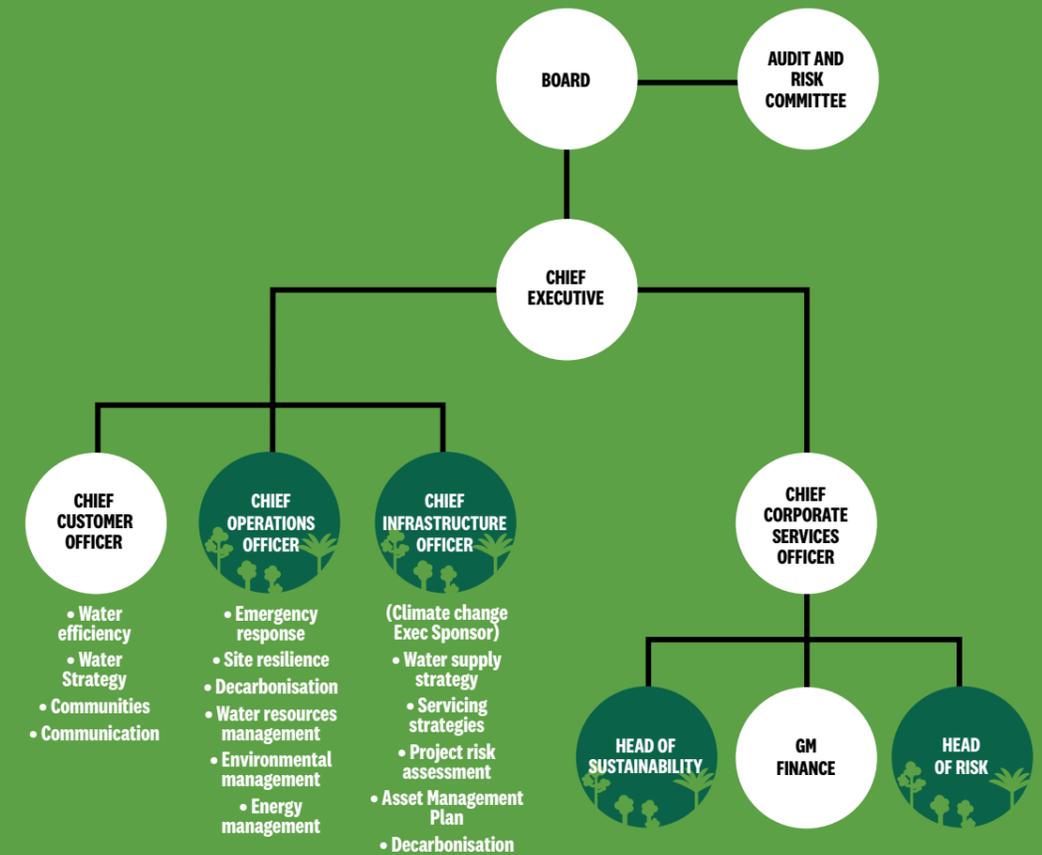
Strategy

Dramatic changes in the climate have the potential to significantly impact water supply and wastewater services, disrupting service continuity and incurring substantial costs. Watercare’s key risks and vulnerabilities across both water and wastewater services, include:

- Water – Catchment land instability, water scarcity, diminishing raw water quality, on-site flooding, power and access road failures to plants, increasing pipe breakages, impacts on assets due to sea-level rise, dramatic changes in demand for water services with increasing peak demands, potential ‘stranded assets’ following land-use changes and sea-level rise.
- Wastewater – Decreased effectiveness of oxidation ponds, increasing probability of wastewater bypasses, on-site flooding, impacts on critical third-party services, changes to assimilative capacities, increased instances of consent non-compliances, submerged outfalls, migratory bird impacts, greater corrosion/odour issues, a greater number of overflows, increased pumping costs, increased saltwater intrusion and flotation of assets such as pipes and manholes.

The Watercare and Healthy Waters Climate Action Plan was established in 2022 to co-ordinate the key components of delivery for a resilient and low carbon water system in Tāmaki Makaurau Auckland. This document covers the implementation of actions from Te Tāruke-ā-Tāwhiri: Auckland’s Climate Plan and the Auckland Water Strategy as well internally developed sub-actions to achieve our climate goals. The primary focus areas are Māori partnerships, overarching, adaptation, mitigation and engagement.

Roles with a climate change, sustainability or environmental aspect or focus for Watercare



Risk management

Climate change is integrated into Watercare’s risk management policy and framework and follows the ISO 31000:2018- Risk Management Guidelines.

The identification process for climate change risks is similar to other risks across Watercare. As part of the risk management process, each business unit within Watercare is responsible for identifying and managing climate related risks and opportunities relevant to their area.

Enhanced criteria and parameters are being developed relating to climate change risk management within the Watercare Risk Management framework. Watercare will leverage the existing work with Auckland Council on the Climate Disclosures Programme to support this activity.

The Sustainability team facilitates collaboration across the business to increase awareness and understanding of climate change impacts and considerations for making decisions.

Climate change has been identified as a strategic risk and is part of the Watercare’s enterprise risk register and reporting. Watercare’s executive leadership team monitors emerging risks, risk-mitigating actions, and strategies.

A dynamic adaptive pathway planning approach is being implemented to help understand the options and trigger points for infrastructure planning and delivery of services in an uncertain future. Climate risks are also addressed individually on a project-by-project basis in new infrastructure planning. An appropriate course of action will be dependent on the nature of the risks, the asset itself, or other factors such as impact on service delivery for the local community.

At a servicing strategy level (sub-region) we look at high level climate change impacts (flooding zones, sea level rise, rainfall) for long term planning of water and wastewater services for an area of Auckland. This supports a reduction in climate impacts before getting to project level.

Individual infrastructure projects have more in-depth risk assessments completed during the planning phase when climate change impacts are relevant. Technical engineering, flood mapping, sea level rise and water supply considerations are part of this.

Metrics and targets

tCO2e	2017/2018 (Base year)	2019/2020	2020/2021	2021/2022
Scope 1				
Stationary combustion	2,908	1,729	3,459	2,039
Mobile combustion	1,761	1,883	1,930	1,958
Process emissions (wastewater)	50,239	55,171	52,832	56,114
Fugitive emissions	5,061	7,576	8,202	10,483
Total Scope 1	59,969	66,359	66,423	70,594
Scope 2				
Electricity	13,898	15,210	14,668	16,698
Total Scope 2	13,898	15,210	14,668	16,698
Scope 3				
Product use (lime)	5,906	6,320	6,557	6,517
Maintenance contracts	-	1,687	1,660	1,501
Transmission and distribution loss gas and electricity	1,465	1,408	1,528	1,674
Waste	167	1611	3,733	7,733
Business travel	129	114	72	67
Use of sold products (contract for services for Waikato District Council)	-	2,604	2,659	3,114
Total Scope 3	7,668	13,744	16,209	20,607

Total gross emissions	81,535	95,313	97,300	107,899
Certified green electricity	-	-	-	-
Net GHG emissions (all scopes)	81,535	95,313	97,300	107,899

Watercare has recently adopted new methodology for measuring wastewater emissions (which is now the most significant source of emissions). This methodology is globally recognised by the Intergovernmental Panel on Climate Change and has been refined for adoption in New Zealand through the WaterNZ Climate Change Special Interest Group. The new methodology has resulted in a significant increase on the total reported volume of emissions. Watercare’s reported GHG footprint has gone from 46,315 to 97,300 tCO2e for the previously reported 2020/2021 year and these figures have also been backdated to 2018 as per the table above.

Natural gas consumption and fuel use in Watercare’s corporate fleet reduced this year as operating procedure and electric vehicle fleet investment changes took effect.

There have been increases in Watercare’s total emissions from last year as flow to these plants increased by 8 per cent from 2021. This is mostly due to increased rainfall versus 2021 when drought conditions were experienced. Due to sewer networks also being combined with stormwater systems in some areas of Auckland as well as leaks and other intrusions into pipes, there are higher volumes of water and other materials enter treatment plants in wet years. As this is treated these to ensure they are less harmful to our rivers and oceans into which they are discharged, greenhouse gasses are released which we is included in the reporting. Electricity emissions, have also increased this year in comparison to last year due to the higher volumes of wastewater being treated, and also because of a greater reliance on drinking water from the Waikato water treatment plants, which require more energy to get the water to Aucklanders. This was done to allow the dams to recover after the drought and it highlights the balance between water security and reducing emissions.

Watercare has established a Decarbonisation Roadmap which aims to level out these increasing emissions in the coming years before larger decreases occur before 2030. Increasing population, climatic conditions and new technology are increasing emissions whilst planned investments and new ways of delivering services are being implemented over this time period to reduce emissions.

Watercare’s operational targets that relate to its climate change strategy include:

Target	By When	Baseline
Energy neutral at major wastewater treatment sites	2030	Absolute target
40% reduction in built carbon	2025	2021 Asset Management Plan baseline
50% reduction in operational emissions	2030	2018
Net-zero emissions	2050	2018

Te Papakupu whāiti

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).

Assimilative capacity

Assimilative capacity refers to the ability of the environment or a portion of the environment (such as a stream, lake, air mass, or soil layer) to carry waste material without adverse effects on the environment or on users of its resources.

C40 cities

C40 cities is a network of over 90 cities around the world committed to addressing climate change.

C40 supports cities to collaborate effectively, share knowledge and drive meaningful, measurable and sustainable action on climate change.

Carbon footprint

The total greenhouse gas emissions caused by an individual, event, organisation, service or product, expressed as carbon dioxide equivalent.

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.

Climate risks

The exposure to climate related danger, harm or loss.

Committee of the whole

An Auckland Council committee made up of all governing body members.

Executive leadership team

The chief executive officer and those employees reporting directly to them.

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.

Photovoltaic array

Energy generating equipment that is composed of a different number of solar panels.

Greenhouse gas emissions (GHG)

Gases emitted to the atmosphere which contribute to the greenhouse gas 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.

Kia ora Tāmaki Makaurau

Auckland Council's Māori outcomes performance measurement framework developed in conjunction with mana whenua and mataawaka.

Low carbon economy

An economy based on low-carbon power sources that therefore has a minimal output of greenhouse gas 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 carbon economy

This is an economy in which the amount of carbon dioxide emitted into the atmosphere is equal to the amount sequestered or offset (e.g. by forestry).

Risk register

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

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 greenhouse gas (GHG) emissions regardless of whether they are from carbon dioxide or another gas, such as methane.

Te Papakupu Māori

Translation of Māori terms**Te Tiriti o Waitangi**

Treaty of Waitangi.

Kaitiakitanga

Guardianship, stewardship, trusteeship.

Kaitiaki

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

Kahurangi

Blue.

Kakariki

Green.

Hapū

Kinship group, clan, tribe, subtribe, section of a large kinship group.

Iwi

Extended kinship group related through a common ancestor.

Māra kai

Gardening for food.

Nga ara hei whai

Objectives.

Ngahere

Bush, forest.

Rongoā

Traditional Māori medicine including herbal remedies, spiritual healing and physical therapies.

Tāmaki Makaurau

Auckland.

Te Taiao

The environment that contains and surrounds us.



Te huarahi whakapā mai ki te kaunihera

How to contact us

Online

aucklandcouncil.govt.nz/contactus

Phone

09 301 0101

Post

Auckland Council, Private Bag 92300, Auckland 1142



Locations that offer council services

Bledisloe Lane (CBD)

Bledisloe House, Ground Floor, 24 Wellesley Street, Auckland CBD

Aotea / Great Barrier Island

81 Hector Sanderson Road, Claris, Great Barrier Island

Helensville

49 Commercial Road, Helensville

Henderson

6 Henderson Valley Road, Henderson

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

Waiheke Island

10 Belgium Street, Ostend, Waiheke Island

Warkworth

1 Baxter Street, Warkworth

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