

Te Rīpoata ā-Tau 2019/2020  
Tirohanga whānui me ngā  
whakahaere ratonga

# Auckland Council

Annual Report 2019/2020



Volume  
**4**

Pokanga 4: Tūponotanga mō te rerekētanga  
o te āhuarangi

**Volume 4: Climate change risk**

**Auckland Council**  
Te Kaunihera o Tāmaki Makaurau



## 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 ō 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.  
 Tūwherahia ō ringa, kūmea mai ki tō uma.  
 Tāmaki Makaurau  
 he tāone ūmanga kurupounamu koe;  
 tukua tō rongō 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.

# Rārangi kōrero

## Contents

Mihi.....	3
Rārangi korero <b>Contents</b> .....	4
Nau mai ki ngā kōrero mō mātou <b>Welcome to our story</b> .....	5
Tūponotanga mō te rerekētanga o te āhuarangi <b>Climate change risk</b> .....	7
Kāwanatanga <b>Governance</b> .....	8
Rautaki <b>Strategy</b> .....	11
Te whakahaere o ngā raru tūpono <b>Risk management</b> .....	19
Ngā aronga me ngā tauranga <b>Targets and metrics</b> .....	23
Papakupu kupu <b>Glossary of terms</b> .....	27



Viaduct Harbour.

# Nau mai ki ngā kōrero mō mātou

## Welcome to our story

Auckland is a fantastic city – diverse, vibrant, and naturally beautiful. Serving this city is a group of dedicated staff across the Auckland Council Group, meeting your needs by delivering essential and equitable services and investing in the future of our city.

This report tells the story of how the council and its subsidiaries are tackling climate change for the benefit of the entire Auckland region.

This report covers the group, which includes the council, its subsidiaries (including council controlled organisations and Ports of Auckland Limited) associates, and joint ventures. It covers the period from 1 July 2019 to 30 June 2020.

### Finding your way around the volumes:

<b>Volume 1</b>	<b>Volume 1: Overview and service performance</b>	 <p>An overview of the group covering financial and non-financial performance of the group.</p>
<b>Volume 2</b>	<b>Volume 2: Local board reports</b>	 <p>A collection of individual annual reports for each of the 21 local boards, reporting financial and non-financial performance.</p>
<b>Volume 3</b>	<b>Volume 3: Financial statements</b>	 <p>The financial statements of the Auckland Council Group and Auckland Council for the year ended 30 June 2020.</p>
<b>Volume 4</b>	<b>Volume 4: Climate change risk</b>	 <p>A summary of the group's climate-related financial risks and opportunities.</p>

21 volumes

“Toitū te Marae o Tane, Toitū  
te Marae o Tangaroa, Toitū te Iwi”

Protect and strengthen the realms of the Land and Sea,  
and they will protect and strengthen the People.

Aerial view of Point England Reserve.

## Tūponotanga mō te rerekētanga o te āhuarangi

### Climate change risk

Climate change is one of the most significant issues we face today. Over the last decade, Auckland has felt the impacts of heavy rain events, storm surges and coastal inundation and droughts. These impacts are expected to increase in frequency and severity.

In June 2019, the Auckland Council Group 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.

By declaring a climate emergency, the group has committed to continue to:

- robustly and visibly incorporate climate change considerations into work programmes and decisions
- provide strong local government leadership in the face of climate change, including working with local and central government partners to ensure a collaborative response
- advocate strongly for greater central government leadership and action on climate change
- increase the visibility of our climate change work
- lead by example in monitoring and reducing the council's greenhouse gas (GHG) emissions
- include climate change impact statements on all council committee reports.

The Auckland Council Group is committed to reducing our regional GHG emissions by 50 per cent by 2030 and achieve net zero emissions by 2050 while preparing for the impacts of climate change. The group has a number of commitments that guide our response to climate change:

- committed to climate action as a member of C40 cities

- delivering clean and healthy air through the C40 green and healthy streets declaration
- zero waste by 2040 as part of the C40 zero waste declaration
- endorsed the C40 Global Green New Deal
- a member of the climate leaders coalition, committed to voluntarily measure and report our GHG emissions, and work with suppliers to reduce their emissions
- committed to disclosing our climate-related financial risks under the Task Force on Climate-related Financial Disclosures (TCFD) framework.

In its 2019 Interim Report the Auckland Council Group made its inaugural climate risk disclosure using the TCFD framework. We recognise that climate change is one of the most important issues we face as a group and that inaction could severely impact the crucial services we provide to Aucklanders.

The boards of each subsidiary of the group, including Watercare Services Limited, Ports of Auckland Limited, Auckland Transport, Panuku Development Auckland Limited, Auckland Tourism, Events and Economic Development Limited and Regional Facilities Auckland, have individually responded to climate change risk, and each entity is at different stages of risk assessment and strategy development. We outline examples of their responses separately.

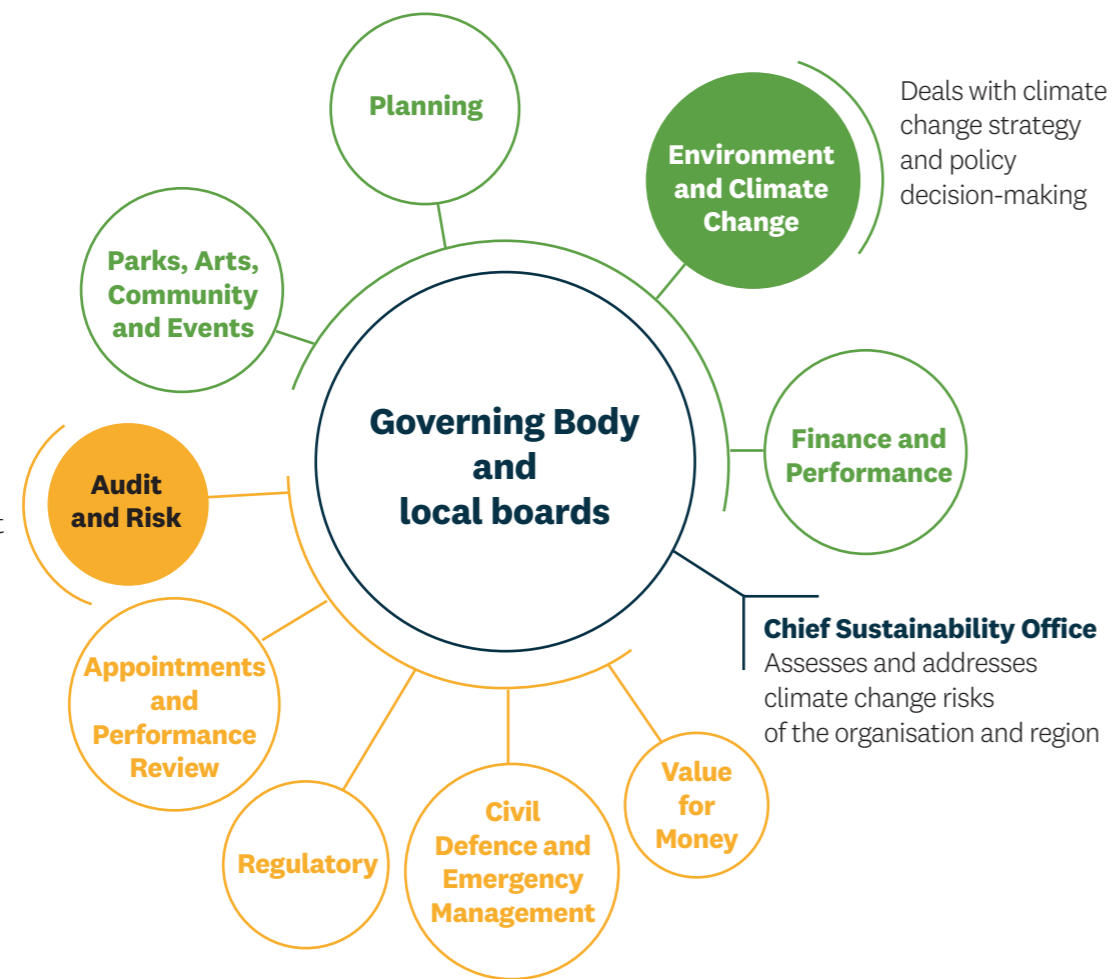
The group's response to climate change is detailed in the following pages.

# Kāwanatanga Governance

The Auckland Council Group is governed by the elected Governing Body, elected local boards and respective boards of each subsidiary.

The primary responsibility for governance of city-wide climate change related matters has been delegated by the Governing Body of Auckland Council to two committees:

1. the Environment and Climate Change Committee; and
2. the Audit and Risk Committee.



## Roles and responsibilities of committees governing climate change:

### The Environment and Climate Change Committee

This is a committee of the whole comprising the mayor and all councillors, and a representative of the Independent Māori Statutory Board. It meets every two months to deal with strategy and policy decision-making around environmental and climate change activities. This includes mitigating climate change, implementing climate policies and plans, and oversight of Te Tāruke-ā-Tāwhiri: Auckland's Climate Plan.

### The Audit and Risk Committee

This committee comprises three independent members alongside the mayor and three councillors. It meets six times annually to assist and advise the Governing Body on governance, risk management and internal control matters. It reviews the council's risk register quarterly.

### The Chief Sustainability Office

The Chief Sustainability Office (CSO) has a leading role in assessing and addressing climate change risks related to both the organisation as well as the Auckland region. The CSO has oversight across the implementation of Te Tāruke-ā-Tāwhiri: Auckland's Climate Plan and works with departments across the Auckland Council Group to implement a council-wide framework for action in climate resilience and mitigation.

### Local boards

Local boards set the strategic direction for each local board area and are responsible for local initiatives that address climate change.



## Governance across the group's subsidiaries

Governance of climate change risk and mitigation within each of the Group's subsidiaries is overseen by the Auckland Council Group governance structure, as well as the individual boards and management teams.



Climate change risks are captured within Auckland Transport's Organisation Risk Management Framework which is overseen by the Finance Capital and Risk Committee (FCRC), a board sub-committee. The FCRC meets at least five times per year. Progress in meeting GHG emission reduction targets is monitored annually by the board.

Climate change risk is the responsibility of the Executive General Manager - Planning & Infrastructure, a member of the Executive Leadership Team (ELT). The Organisation Risk Management Framework is the responsibility of Executive General Manager - Risk, also an ELT member. An ELT Monthly Risk Management Forum reviews key risks monthly, and new and emerging risks annually.



Climate change and sustainability related risks are the responsibility of the Watercare board.

The board has oversight of climate risk through the organisation's Enterprise Risk Register. It had oversight and approval of the Watercare Climate Change Strategy 2019. The Committee for Climate Action sub-committee has been established for close management of climate change risk.



Climate change and sustainability related risks are the responsibility of the Ports of Auckland Limited's (POAL) board. POAL joined the Climate Leaders Coalition in July 2018 and has publicly committed to playing its part in New Zealand's urgent transition to a low-emissions economy.

Climate change leadership and coordination functions have been assigned to the General Manager (GM) of Sustainability. The GM is responsible for the management and delivery of the POAL Sustainability Strategy (which encompasses climate change) and the overall management of climate risk.

Over the coming year, POAL will focus on creating more clarity on roles and responsibilities related to climate change within the organisation and ensuring adequate training is provided.



The Panuku board oversees climate change risk and is due to approve the Panuku Climate Change Strategy 2020 and associated priority actions.

Climate change is captured in the extended risk register. The Audit and Risk Committee is made up of board members and meet quarterly to review the register.

The board has requested regular updates on the Panuku climate change work programme and this will be provided through the Chief Executive's report.

Panuku has GHG reduction targets for organisational emissions. Annual monitoring and progress against these targets will be reported to the board.

Climate Impact Statements are a mandatory component for all Panuku board reports, and a process is planned to incorporate consideration of climate impacts into project business cases.



The governance of climate risk is stated in Auckland Tourism, Events and Economic Development's (ATEED) 2019/2020 Statement of Intent. Over the next three years, ATEED will work within a framework of Auckland Council priorities, outcomes in the Auckland Plan 2050, and challenges key actions in Te Tāruke-ā-Tāwhiri; Auckland Climate Plan. The board delegates power to the ATEED Leadership Team to ensure efficient decision-making. A Climate Innovation and Sustainability team has been established to develop a climate change and sustainability framework for ATEED, with oversight of all ATEED programmes and activities to ensure alignment with the city's key climate targets.



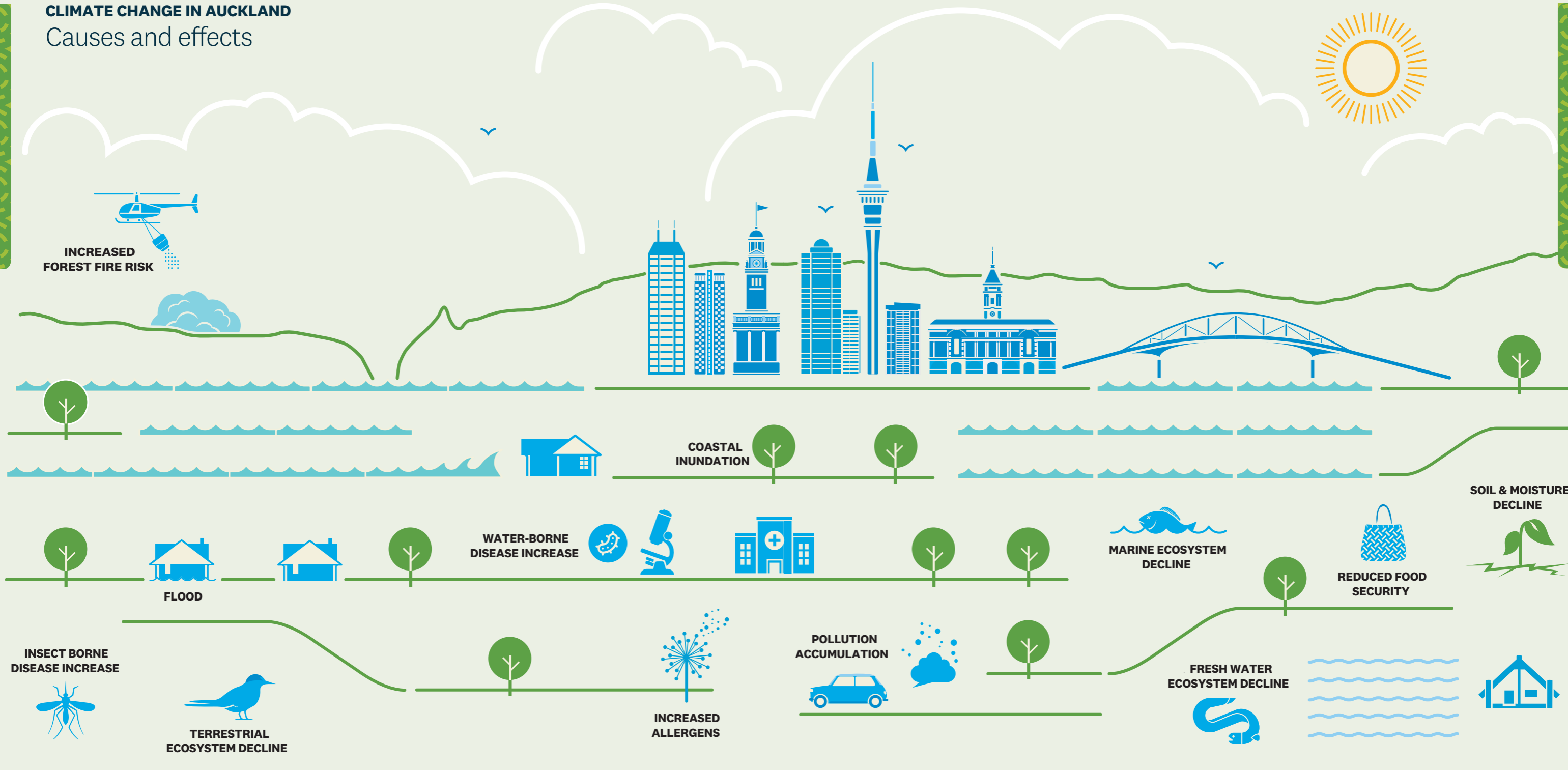
In June 2019, the Regional Facilities Auckland (RFA) board endorsed an organisation-wide Environmental Sustainability Policy. The remit for sustainability strategy development and implementation sits within RFA's strategy division, with decision-making at the executive level, and where appropriate, with the RFA board.

## Rautaki Strategy

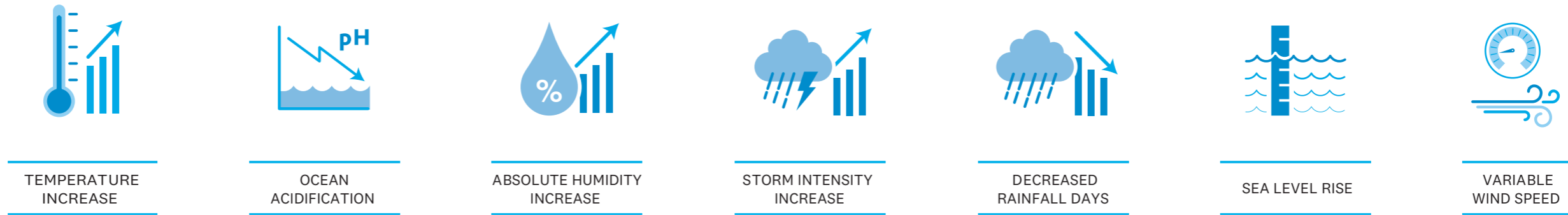
The Auckland region is exposed to a range of climate-related risks. As the local authority charged with promoting the social, economic, environmental, and cultural wellbeing of communities in the region, these risks form the core of Auckland Council Group's climate-related risk exposure.

# CLIMATE CHANGE IN AUCKLAND

## Causes and effects



### CLIMATE CHANGE IN AUCKLAND Causes



Auckland Council Group’s activities are guided by several key documents which together encompass the group’s strategy for addressing climate change risk. They are the Auckland Plan 2050 (including its three-yearly progress reports) Te Tāruke-ā-Tāwhiri: Auckland’s Climate Plan and the 10-year budget.

**Auckland Plan 2050**

Key challenge 1: Population growth and its implications

Key challenge 2: Sharing prosperity with all Aucklanders

Key challenge 3: Reducing environmental degradation issues effecting our environment:

- urban development
- the effects of climate change



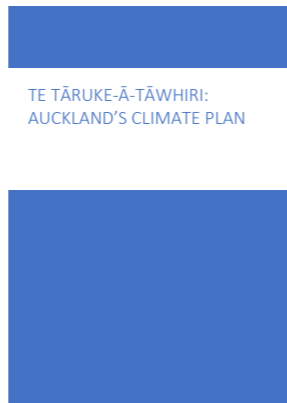
**Auckland Plan 2050 Three Yearly Progress Report**

- Air quality is monitored for particulate matter and gaseous pollutants
- GHG emissions have decreased from 7 tonnes per person in 2012 to 6.5 tonnes per person in 2015
- Long-term downward trend in NO2



**Te Taruke-a-Tawhiri: Auckland’s Climate Plan**

- Transport assets are exposed to impact of climate change
- Poor urban development can worsen climate change
- Effects of climate change on businesses require innovative transitions
- Broader social impacts could affect productivity



**10-year Budget**

Climate Change Investment Package

- Reduce Auckland’s GHG emissions
- Prepare for climate change impacts



Areas of focus

- Embedding climate thinking into planning and decision-making
- Raising awareness and driving behaviour change
- Ensuring a compact urban form
- Ensuring infrastructure is climate resilient
- Moving towards a regenerative economy
- Addressing low carbon transport needs
- Reducing corporate emissions

**The Auckland Plan 2050**

The Auckland Plan 2050 acts as our development strategy. It sets the direction for how Auckland will grow and change over the next 30 years by helping to guide critical investment in planning and infrastructure.

It identifies climate change as one of two key issues that could have the biggest effect on Auckland’s environment. However, climate change also presents opportunities for Auckland.

The Auckland Plan 2050 provides a central point of alignment to the council’s implementation and regulatory plans, funding programmes, policy development and internal operations and investments, including that of its council-controlled organisations.

**The Auckland Plan three yearly progress report 2020**

This progress report identified opportunities for greater progress in responding to climate change through transport, and in building the resilience of our environment, species, cultural heritage and infrastructure.

Common themes emerged across all the Auckland Plan 2050 outcome areas - one of these was transitioning to a zero-carbon economy, reflected in sustainable housing, transport emissions, future skills and consideration of urban development impacts on the environment. The report also noted that:

- major transport assets are exposed to the effects of climate change, so resilience planning and investment are also required
- poor urban development can further worsen climate change impacts (i.e. through increasing flooding risk, creating urban heat islands, embedding energy inefficiencies)
- the effects of climate change on businesses will require innovative transitions. Many of Auckland’s core industries like manufacturing and retail will be affected by changes in consumer behaviour, and disruption to supply of products and services
- broader social impacts, like the effect of rising temperatures on health could affect workforce productivity.

**Te Tāruke-ā-Tāwhiri: Auckland’s Climate Plan**

Auckland Council has plans and strategies to support the delivery of the Auckland Plan 2050, including Te Tāruke-ā-Tāwhiri: Auckland’s Climate Plan, our regional response to climate change.

The plan sets the path to rapidly reduce GHG emissions, keeping us within 1.5°C of warming while ensuring Auckland is prepared for the effects of climate change. It identifies eight priority areas for action on climate change that deliver broad environmental, economic, social and health benefits for all Aucklanders. The plan details how the Auckland region can mitigate climate risks while leveraging from the opportunities presented by climate change.

As facilitator of the plan, the group will play multiple roles in its delivery. However, implementation will need the efforts of multiple parties, including central government, mana whenua, communities, business, individuals and rangatahi.

The priorities focus on the areas where we can have the greatest impact:

- natural environment
- built environment
- transport
- economy
- communities and coast
- food
- Te puāwaitanga o te Tātai (Intergenerational whakapapa relationships of taiao (nature), whenua (land) and tangata (people) are flourishing)
- energy.

The group uses a number of tools to fund and finance its contribution towards delivering the Auckland Plan 2050 outcomes and Te Tāruke-ā-Tāwhiri: Auckland’s Climate Plan. One such tool is our 10-year Budget (our long-term plan).

The group’s 10-year Budget 2018-2028 delivers investment into the key challenges Auckland faces. It considers population growth and its implications, sharing prosperity with all Aucklanders, and reducing environmental degradation.



## 10-year Budget

In June 2019, the Environment and Climate Change committee agreed to the development of detailed and costed actions for the council as its contribution to climate action, for consideration by the appropriate Committee as input to the 10-year Budget.

Accordingly, the 10-year Budget 2021-2031 will consider an investment package that details the council's contribution to climate action.

The scope of this work includes actions that either directly or indirectly reduce Auckland's GHG emissions and prepare us for the impacts of climate change. Over the last 12 months, staff from across the group have identified a set of initiatives that the council already does, or could do, in order to deliver on the priorities set out in Te Tāruke-ā-Tāwhiri: Auckland's Climate Plan. Many of these new initiatives will be progressed within existing budgets over the next two years, and those that require

additional funding will be considered as part of the 10-year Budget 2021-2031. Key areas of focus for council's response include:

- embedding climate thinking into council planning and decision-making
- raising awareness and driving behaviour change
- ensuring a compact urban form
- ensuring infrastructure is climate resilient
- moving towards a more resilient and regenerative economy
- addressing low carbon transport needs
- reducing group corporate emissions.






Each programme of work will go through an impact assessment to ensure future and wider impacts such as social, economic, environmental, and Te Ao Māori are considered as part of the investment decision.

These strategy documents address the climate related risks and opportunities for Auckland and the Group which are summarised in the table below.

Key climate-related risks	Key climate-related opportunities
<ul style="list-style-type: none"> <li>• Our natural and human made systems won't work as well as a result of changing climate conditions or extreme weather events.</li> <li>• Impacts of climate change could significantly undermine Auckland's exposed infrastructure, habitats and sites of cultural heritage and affect ecosystems.</li> <li>• Direct impacts on economic productivity, and reduced or changed market demand for some goods and services could result in significant risks to our competitiveness if we are left behind.</li> <li>• Unequal distribution of impacts, with those such as the elderly, the very young, those living in poverty or with chronic health issues more likely to be negatively affected.</li> <li>• Water quality and quantity issues will escalate as climate change impacts increase.</li> </ul>	<ul style="list-style-type: none"> <li>• Innovation and savings through the transition to a low carbon economy.</li> <li>• Increasing green infrastructure across Auckland will support the reduction of GHG emissions, improve water management, reduce flood risk and deliver spaces that people want to visit and connect to.</li> <li>• Significant cost savings from embedding long-term climate change considerations into planning decisions.</li> <li>• Significant cost-savings by reducing the need for major retrofitting or land-use changes as impacts become more frequent and severe.</li> <li>• Transforming forestry, agriculture and natural carbon assets present key opportunities to enhance Auckland's resilience to climate change and reduce our GHG emissions.</li> </ul>

## Subsidiaries' climate change strategies

The table below outlines each key CCO's strategy for identifying climate-related risks and their effects, and opportunities for their businesses, strategy and financial planning.

	<p>Auckland Transport has determined, but not yet implemented, a process to identify and assess climate change risks and opportunities to its assets and operations. This process includes understanding costs to improve the resilience of existing assets, and evaluating the financial impact on future capital expenditure. Some specific risks have already been identified for critical road assets including, sea level rise, coastal erosion, landslips, flooding and rainfall, and storm surges.</p>
	<p>Watercare's climate related vulnerabilities have been described in the Watercare Climate Change Strategy which was launched in 2019. The strategy sets out the future direction to operate a low-carbon company that is resilient to climate change impacts and has assessed climate vulnerabilities under different climate scenarios with a focus on moderate and extreme emissions scenarios. The strategy covers specific actions that Watercare will take immediately and establishes a pathway of monitoring and understanding between now and 2025 so that we can adapt to the changing climate based on evolving data and projections. Additionally, utilisation of the 'Dynamic Adaptive Planning Pathways' approach is being used in the early planning stages to understand multiple different options that can be taken without being locked into any one. The strategy also enacts Watercare's Climate Change Policy which communicates to staff and suppliers what is expected of them to contribute to our climate objectives each year. All board papers are considered using the six capitals of integrated reporting &lt;IR&gt; to make decisions. This includes natural capital and the impacts of climate change.</p>
	<p>POAL is completing its Organisation Readiness Assessment against the Taskforce on Climate-related Financial disclosures (TCFD) framework. This assessment has identified opportunities to strengthen POAL's climate response and informed development of a map with specific actions for governance, strategy, risk management, targets and metrics, and disclosure over the next three years.</p> <p>POAL has already done a high-level analysis of its climate-related risks and opportunities and will now conduct a more detailed scenario-based risk and opportunities analysis to inform business decisions. This will include analysis and delineation of material risks and opportunities into short, medium or long-term relevance, and analysis specific to POAL's integrated supply chain and geographies.</p>
	<p>In June 2020, Panuku Development Auckland (Panuku) approved a draft Climate Change Strategy and work programme to address climate mitigation and adaptation across its activities. This includes a risk register assessing the effects of climate change on finances, physical assets and reputation.</p> <p>Panuku will work to develop greater understanding of costs to improve the resilience of existing assets and to evaluate the financial impact on future new capital expenditure.</p>
	<p>ATEED is working on gaining a better understanding of climate change risks with a Climate Change Risk Assessment on its priority sectors of construction, food and beverage, visitor economy, and screen and creative. The assessment will identify risks from transitioning to a low carbon economy and the physical effects of climate change.</p> <p>ATEED's goal is a work programme covering the next three years that will align with Auckland Council priorities and the outcomes outlined in the Auckland Plan 2050, and the development and delivery of Te Tāruke-ā-Tāwhiri: Auckland's Climate Plan. This plan proposes a more inclusive economy for Auckland, focusing on building a regenerative and resilient economy. COVID-19 has exposed some of the same vulnerabilities and the fragility of our economy, making this even more urgent.</p>

Regional Facilities Auckland (RFA) helps attract over 3.5 million visitors a year to a range of events, performances and exhibitions. It has both a duty to reflect the expectations of the community and an opportunity to influence its audiences and commercial partners. RFA's climate change responses are designed to:

- deliver on community expectations of corporate responsibility
- demonstrate leadership to the wider community
- influence the supply chain through sustainable procurement processes
- ensure its venues and operations are working towards a zero-emissions future.



RFA's sustainability strategy has an operational focus on:

- measuring, reducing and mitigating carbon emissions
- reducing energy use through improvements to energy management
- reducing waste to landfill
- reducing reliance on high-emitting means of transport
- procuring goods and services from more sustainable sources.

Its infrastructure programme aims to improve the emissions footprint of existing buildings through building services upgrades and energy source switching, and ensure all new buildings meet 5-star green building ratings as a minimum.

RFA's education and conservation programming aims to educate and inspire behavioural change, and help conserve species in the wild.

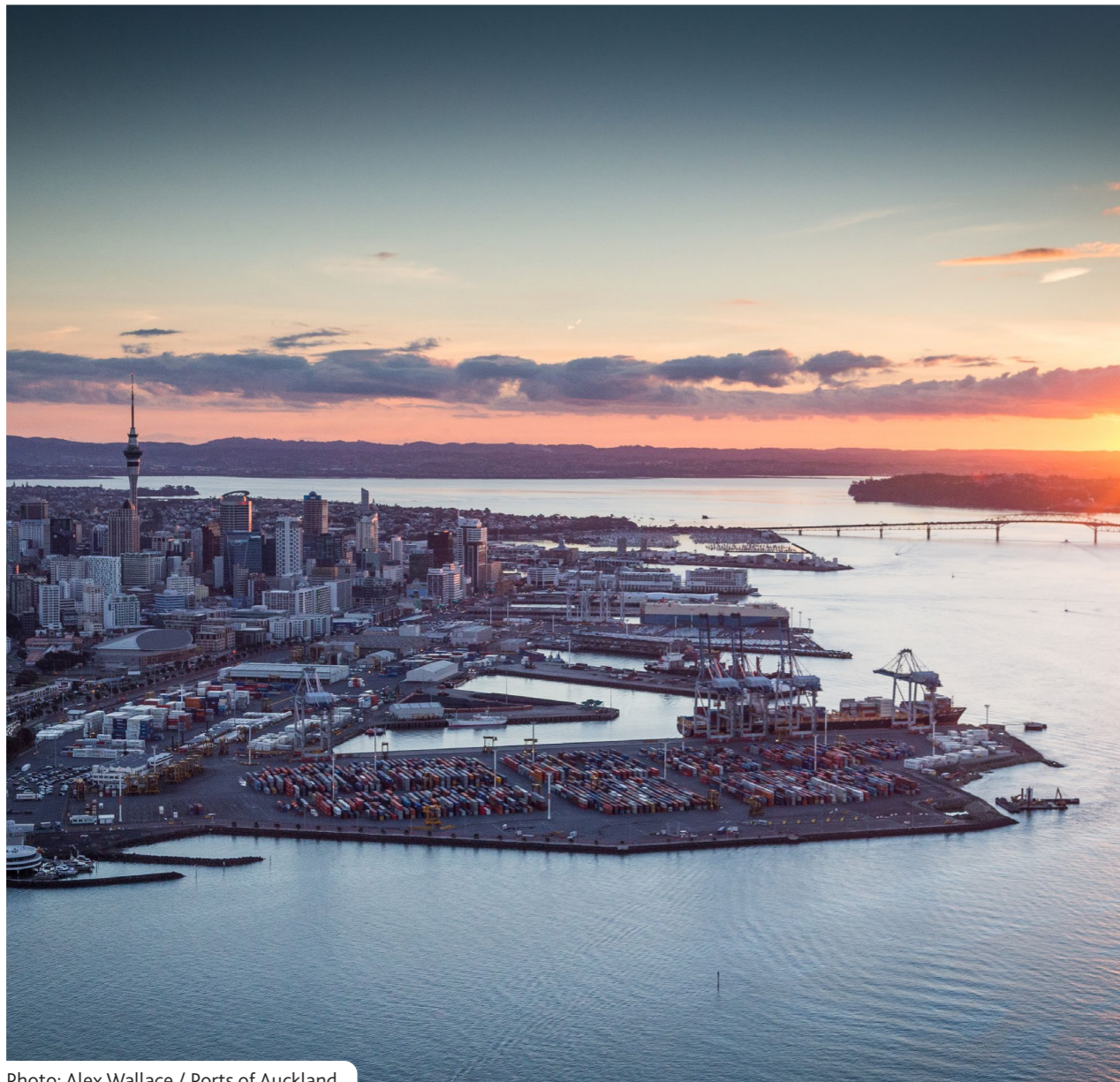


Photo: Alex Wallace / Ports of Auckland.

## Te whakahaere o ngā raru tūpono Risk management

The Auckland Plan 2050, the 10-year Budget and strategic asset management plans direct the group to embed climate change risk management within its operations. Procurement processes also include sustainability considerations, as do all committee reports.



The Enterprise Lead Team (the team) maintains a risk register that is formally reviewed quarterly in conjunction with the Risk Team. The review identifies new risks, prioritises and clarifies existing risks and mitigations, and considers the effect of one risk on another e.g. climate change risk on business continuity risk. The register is then validated with the Audit and Risk Committee.

The team members and the CSO work across departments to ensure risks are appropriately addressed, and provide information on controls that mitigate climate risk and help identify any gaps.

A risk register review in the 2018/2019 financial year assessed climate change risk for Auckland Council as

inherently high. It examined how Auckland Council is mitigating and adapting to climate change risks to meet the Auckland Plan 2050's environment and cultural heritage outcomes, and to assure the Audit and Risk Committee that climate risk is being effectively managed, controls have been identified and the risk rating assigned is appropriate.

This review included council strategies, plans, policies, and national level climate interventions such as the Zero Carbon Act and the Emissions Trading Scheme. The mitigation and adaptation plans and strategies identified as key controls in addressing climate change follow on the next page.

Department/ business unit	Mitigation or adaptation?	Key actions and controls	Status
Chief Sustainability Office (part of the Chief Planning Office)	Mitigation & adaptation	Te Tāruke-ā-Tāwhiri: Auckland's Climate Plan (ACP)	✓ <b>Adopted</b>
Chief Planning Office	Mitigation & adaptation	Auckland Plan 2050 Auckland Unitary Plan Regional policy statements	✓ <b>Implemented</b>
		Infrastructure strategy	🔄 <b>In development</b>
Community Services	Adaptation	Strategic Asset Management Plans (SAMP) Measuring Asset Performance (MAP)	🔄 <b>In development</b>
Community Facilities	Adaptation	Landslide remediation fund	🔄 <b>In development</b>
		Spatial dimension community asset risk profiling (flooding)	🔄 <b>In development</b>
	Mitigation & adaptation	Waste minimisation and recycling Energy and water efficiency plans	✓ <b>Implemented</b>
Auckland Emergency Management	Adaptation	Natural Hazards Risk Management Action Plan	🔄 <b>In development</b>
		Civil Defence and Emergency Management Plan	✓ <b>Implemented</b>
Regulatory Services	Mitigation & adaptation	Hazard information in Land Information Memorandum (LIM)	✓ <b>Implemented</b>
Infrastructure & Environmental Services	Adaptation	Natural Hazards Research Plan	🔄 <b>In development</b>
		Coastal Management Framework 2017 New Zealand Coastal Policy Statement 2010	✓ <b>Implemented</b>
		Coastal Compartment Management Plans	🔄 <b>In development</b>
		Water Strategy (50-100-year outlook)	🔄 <b>In development</b>
		Resilient Communities, Catchments and Coastlines, RC3 project	🔄 <b>In development</b>
		Healthy Waters Floodplain Assessments	✓ <b>Implemented</b>
		Regional Pest Management Plan	✓ <b>Implemented</b>
	Mitigation	Live Lightly and community climate action programmes	✓ <b>Implemented</b>
		Waste Management & Minimisation Plan	✓ <b>Implemented</b>

Climate considerations are also being integrated into Auckland Council's business case and procurement processes to ensure climate-related impacts and implications are identified in the early stages of project scoping and project delivery. This work is due for completion at the end of 2020.

## Subsidiaries' climate-related risk assessment processes

The following table outlines each significant subsidiary's process for identifying and assessing climate related risks and their processes for managing those risks. It also outlines how their processes for identifying, assessing and managing climate-related risks are integrated into their organisations' overall risk management.



Auckland Transport's process for identifying and assessing risks is based on the 2014 Intergovernmental Panel on Climate Change methodology which identifies risks from region-wide effects and then assesses the exposure, vulnerability, and consequences of the risks. Risks will be assigned ratings, from extreme to insignificant. Integration of climate change risks into organisational processes will be developed once risks are understood. Climate change risks will influence the capital programme for both improving existing asset resilience and mitigating risks in new infrastructure. Climate change risks will be integrated into organisational risk management processes through Auckland Transport's Organisational Risk Management Framework.



A company-wide assessment of climate vulnerabilities was done as part of the climate change strategy. Watercare's Enterprise Risk Register identifies risks to service delivery from climate change. Risks are managed in conjunction with the risk management framework and the climate change strategy. Individual climate risk assessments are considered during infrastructure planning.



POAL recognises the importance of, and has robust systems for, managing material financial risks. While their Key Risk Register states that climate change is a critical risk, the full complexity of climate-related risks to the organisation is yet to be understood. The Readiness Assessment road map includes a work programme to develop the coordinated processes that will enable it to reliably identify and analyse climate change and sustainability-related risks, and ensure that over time, the collective risk management system is viewed through a climate lens.



Panuku identifies and assesses climate-related risks in line with its risk management framework which has been developed in accordance with "ISO 31000:2018 Risk Management Guidelines". Risks are identified and assessed as to the likelihood and level of consequence with mitigations specified. These are, in turn, integrated into organisational risk management processes.

Risks will become more detailed as Panuku becomes more aware of the effects of climate change on its assets. While the impacts of climate change are already becoming evident, Panuku will focus on the most effective controls (including cost) to mitigate potential losses as new risk areas are identified.

Where risks have been identified, controls are identified and integrated into organisational processes. Climate change risks will influence Panuku's capital works for both improving existing asset resilience and mitigating risks in new infrastructure.



While ATEED doesn't currently identify, assess, and manage climate-related risks separately, some environmental and climate risks and impacts are collected and managed through its Environmental Management System. This system is verified by Toitū's Enviromark and is awaiting Diamond certification, a step up from last year's Gold. The Climate Change Risk Assessment for Auckland's economy priority sectors of construction, food and beverage, visitor economy, and screen and creative will be delivered after balance date and will identify climate-related risks that will influence ATEED's work.



RFA's Risk, Safety and Assurance team manage risk across the organisation, reporting to the board's Risk Committee at each meeting. Enterprise risks, which include climate change risk, are identified and assessed annually by the Lead Team and the board in workshops facilitated by external consultants.



“Whaungarongaro  
te tangata toitū te whenua”

As man disappears from sight, the land remains.

Pukekaroa Hill  
with Auckland city  
in the background.

## Ngā aronga me ngā tatauranga Targets and metrics

The Auckland Council Group has committed the region to a target of 50 per cent reduction in GHG emissions by 2030.

**This target sets the region on the path required for rapid emissions reduction in order to meet our long-term target of net zero emissions by 2050.**

The group is identifying how it can reduce operational emissions in line with this target. Initiatives across the group include energy efficiency, increase in renewables on group properties, fleet optimisation, and gas boiler conversion to electric alternatives. While significant work is already underway, we will need to accelerate these programmes to meet this target. These programmes will be considered as part of the 10-year Budget 2021-2031.

The preparation of the 10-year Budget 2021-2031 will assist in ensuring consistency of organisational targets set by all group entities, and define the pathways and contributions to achieving the 50 per cent target by 2030 .

The council has been compiling an inventory of GHG emissions associated with its operations since 2012. Measurement of these emissions has been independently assured by Toitū Envirocare since 2017, the base year against which future years are compared. This is being done in accordance with “ISO 14064-1:2006 Specification with guidance at the organisation level for quantification and reporting of greenhouse gas emissions and removals”.

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

- Scope 1 – Includes direct emissions from sources owned or controlled by the group
- Scope 2 – Includes indirect emissions from the generation of purchased electricity, heat or steam consumed by the group

Scope 3 emissions include all indirect emissions that occur in the group’s value chain, that are not otherwise included in Scope 2.

Scope 3 emissions data has not been included in this disclosure, as we do not currently have sufficient visibility of the emissions associated with our supply chain. The group views understanding our scope 3 emissions and the associated risks as a priority. We will continue to expand on and improve the quality of our data to ensure the group and our stakeholders have a comprehensive oversight of our scope 3 emissions.

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

The group has its GHG emissions audited by Toitū Envirocare. Audits are conducted in accordance with the Programme Verification Guidelines including ISO 14064-3:2006. They include a verification of emissions back to source data and a checking of calculations and assumptions.



## Auckland Council

Emissions associated with council buildings such as pools, libraries and service centres make up the largest portion of the council’s Scope 1 and 2 emissions. Overall, our 2019/2020 emissions have reduced by 17 per cent from 2018/2019. Emissions from electricity, the combustion of natural gas used to heat and cool our buildings, and transport used by council staff, decreased in 2019/2020 by 21 per cent. This was largely due to the majority of council buildings being closed or operating at a reduced capacity over the months of April and May as a result of the COVID-19 lockdown.

Agricultural emissions make up the second most significant source of Scope 1 emissions. Agricultural and other land use emissions reduced by 5 per cent from 2018/2019 due to a reduction in fertiliser use on our sports fields and in our farming operations. Our scope 1 waste, derived from the council-owned Claris landfill, has also reduced by 34 per cent from 2018/2019.

Emissions from the combustion of natural gas used to heat and cool our buildings increased in 2018/2019 by 1%. This is believed to reflect changes in the utilisation of our assets e.g. more patrons using our community facilities.

Auckland Council’s GHG Scope 1 and 2 emission sources which have been audited by Toitū Envirocare are as follows:

Indicator	2016/2017 (Base Year)	2018/2019	2019/2020
Scope 1	17,332	20,270	16,516
Scope 2	6,957	5,167	4,499
<b>Total Scopes 1 and 2</b>	<b>24,289</b>	<b>25,437</b>	<b>21,015</b>

Indicator	2016/2017 (Base Year)	2018/2019	2019/2020
<b>Scope 1</b>			
Agriculture	4,970	6,231	5,931
Energy	7,781	7,867	5,474
Fugitive emissions & other gases	106	753	313
Transport	3,844	4,585	4,249
Waste	631	834	549
<b>Total</b>	<b>17,332</b>	<b>20,270</b>	<b>16,516</b>
<b>Scope 2</b>			
Electricity	6,957	5,167	4,499
<b>Total</b>	<b>6,957</b>	<b>5,167</b>	<b>4,499</b>
<b>Total Scopes 1 and 2</b>	<b>24,289</b>	<b>25,437</b>	<b>21,015</b>

## Auckland Transport

Auckland Transport has determined, but not yet implemented, a process to identify and assess climate change risks and opportunities to its assets and operations. This process includes understanding costs to improve the resilience of existing assets

and to evaluate the financial impact on future new capital expenditure spending. Some specific risks have already been identified for critical road assets, including sea level rise, coastal erosion, landslips, flooding and rainfall events, and storm surges.

Auckland Transport’s unaudited GHG Scope 1 and 2 emission sources are as follows:

Indicator	2019/2020
Scope 1	713
Scope 2	11,459
<b>Total Scopes 1 and 2</b>	<b>12,172</b>

## Watercare Services

Watercare has three mitigation targets; a 40 per cent reduction in infrastructure carbon by 2025; a 45 per cent reduction in operational emissions by 2030; and net zero carbon emissions by 2050.

Watercare’s GHG Scope 1 and 2 emissions sources exclude those of its subsidiary, Lutra Limited. They have been audited by Toitū Envirocare and are as follows:

Indicator	2019/2020
Scope 1	13,266*
Scope 2	15,210
<b>Total Scopes 1 and 2</b>	<b>28,476</b>

## Ports of Auckland

Ports of Auckland aims to become a zero emissions port by 2040. It has an emissions reduction plan underway, with its strategy for reducing emissions being to first improve energy efficiency and then to implement further renewable energy and zero emission technologies, such as delivering zero-emission technologies for the container handling equipment and harbour fleet vessels.

Ports of Auckland’s GHG Scope 1 and 2 emission sources which have been audited by Toitū Envirocare are as follows:

Indicator	2019/2020
Scope 1	12,058
Scope 2	1,041
<b>Total Scopes 1 and 2</b>	<b>13,099</b>

## Panuku Development Auckland

Panuku has a target to reduce absolute Scope 1, 2 and 3 emissions by 35 per cent by 2030. This includes separately reducing Scope 1 and 2 emissions by 41 per cent during the same period.

Panuku’s unaudited GHG Scope 1 and 2 emission sources are as follows:

Indicator	2019/2020
Scope 1	49
Scope 2	105
<b>Total Scopes 1 and 2</b>	<b>154</b>

\*The emissions audit has not verified 2,682 of the above emissions. These emissions come from land rehabilitation, such as the regeneration of Puketutu Island using boisolds, and could not be verified due to the lack of verifiable source data. This matter will be resolved in future years.

## Regional Facilities Auckland

RFA measures and independently audits operational carbon emissions on an annual basis. A 50% reduction target has been set for 2030, from baseline 2018-19 emissions (3,397tCO<sub>2</sub>e). Specific targets

have been set for energy-related emissions and waste reduction, and projects have been identified to enable transition away from fossil fuel use at RFA venues.

Regional Facilities Auckland’s unaudited GHG Scope 1 and 2 emission sources are as follows:

Indicator	2019/2020
Scope 1	999
Scope 2	1,512
<b>Total Scopes 1 and 2</b>	<b>2,511</b>

## Auckland Tourism, Events & Economic Development

ATEED is committed to transitioning to a low carbon organisation, aligning with Auckland Council’s priority to decrease its emissions by 50 per cent by 2030 and achieve net zero emission by 2050. Another significant risk and impact is the management of waste produced at delivered events. ATEED has a

target of 70 per cent waste diversion from landfill to managed waste produced at delivered events. In 2019/2020, 76 per cent of the waste at the Diwali Festival and 75 per cent from the Tamaki Herenga Waka Festival were diverted from landfill.

ATEED’s GHG Scope 1 and 2 emission sources which have been audited by Toitū Envirocare are as follows:

Indicator	2019/2020
Scope 1	16
Scope 2	39
<b>Total Scopes 1 and 2</b>	<b>55</b>



Auckland city from Devonport.

## Papakupu kupu Glossary of terms

<b>Adaptation</b>	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).
<b>C40 cities</b>	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.
<b>Climate resilience</b>	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.
<b>Climate risks</b>	The exposure to climate related danger, harm or loss.
<b>Coastal inundation</b>	Coastal inundation is when sea water rises high enough that it floods infrastructure and buildings or endangers peoples’ safety.
<b>Emissions</b>	The production and discharge of something e.g. the production and discharge of greenhouse gases into the atmosphere.
<b>Emissions footprint</b>	The total greenhouse gas emissions caused by an individual, event, organisation, service, or product, expressed as carbon dioxide equivalent.
<b>Environmental degradation</b>	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.
<b>Flood risk</b>	Storms were in the past generally modelled as 2, 5 and 100-year events to give an idea of the magnitude of each. These are now called 50 per cent, 20 per cent and 1 per cent respectively. They refer to the likelihood of the storm happening in any one year.
<b>Greenhouse gas emissions (GHG)</b>	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.
<b>Low carbon economy</b>	An economy based on low-carbon power sources that therefore has a minimal output of greenhouse gas emissions into the atmosphere, specifically carbon dioxide.
<b>Marine ecosystems</b>	Living organisms and non-living structures in the ocean environment, and their complex relationships to each other.
<b>Mitigation</b>	The action of reducing the severity, harm and seriousness of climate change through emissions reduction.
<b>Natural carbon assets</b>	Natural features, e.g. wetlands and shrublands, that actively remove carbon dioxide from the atmosphere through photosynthesis, a process called carbon sequestration.
<b>Net zero</b>	Net-zero emissions describes a situation whereby the amount of greenhouse gases emitted into the atmosphere is equal to the amount sequestered or offset (e.g. by forestry).
<b>Ocean acidification</b>	The absorption of carbon dioxide by seawater ultimately reducing its pH.
<b>Resilience</b>	The ability of a system, community or society exposed to hazards to resist, absorb, accommodate, adapt to, transform and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions through risk management.
<b>Retrofitting</b>	Adding components or accessories to something that did not have it when first made.
<b>Risk register</b>	A risk register is a tool for documenting risks, and associated actions to manage each risk.
<b>Supply chains</b>	The sequence of processes involved in the production and distribution of a commodity.
<b>Zero carbon</b>	Not releasing carbon dioxide into the atmosphere or removing the same amount of carbon dioxide from the atmosphere as produced e.g. by an activity, building or organisation.
<b>Zero waste</b>	Zero waste is a set of principles focused on waste prevention that encourages the redesign of resource life cycles so that all products are reused. The goal is for no waste to be sent to landfills, incinerators or the ocean.

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