



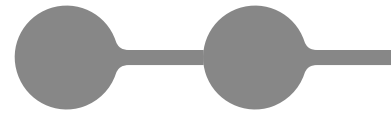
Te Tāruke-ā-Tāwhiri: Auckland's Climate Plan

2022 Progress Report

September 2022

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Purpose of this report

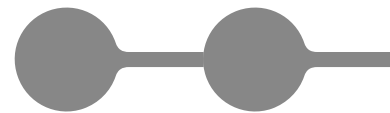
Te Tāruke-ā-Tāwhiri: Auckland's Climate Plan is a long-term approach to climate action for the Auckland region. It sets out eight priority action areas to deliver our goals to reduce emissions and adapt to the impacts of climate change. Key action areas are outlined within these priorities as well as key partners required to deliver on these actions.

Regular monitoring and reporting are fundamental to understanding progress towards the main goals of reducing emissions and adapting to climate change impacts. The plan states we will report on progress of actions contained within the plan annually and that we will use a series of indicators to identify trends and measure success in delivery against our climate goals.

This report is focused on evaluating progress, summarising successes and challenges, and determining where further focus is required, acknowledging that delivery relies on individual action, collective action, and partnerships across all sectors of the economy and society. To ensure consistency, the publication date of this progress report is aligned with the Auckland Plan Annual Dashboard, Māori Outcome Report and Annual Report. The first annual progress report was published in November 2021; therefore, this second annual progress report (September 2022) is reporting on nine months of progress rather than twelve months.

Figure 1 Reporting cycle (strategic plans)

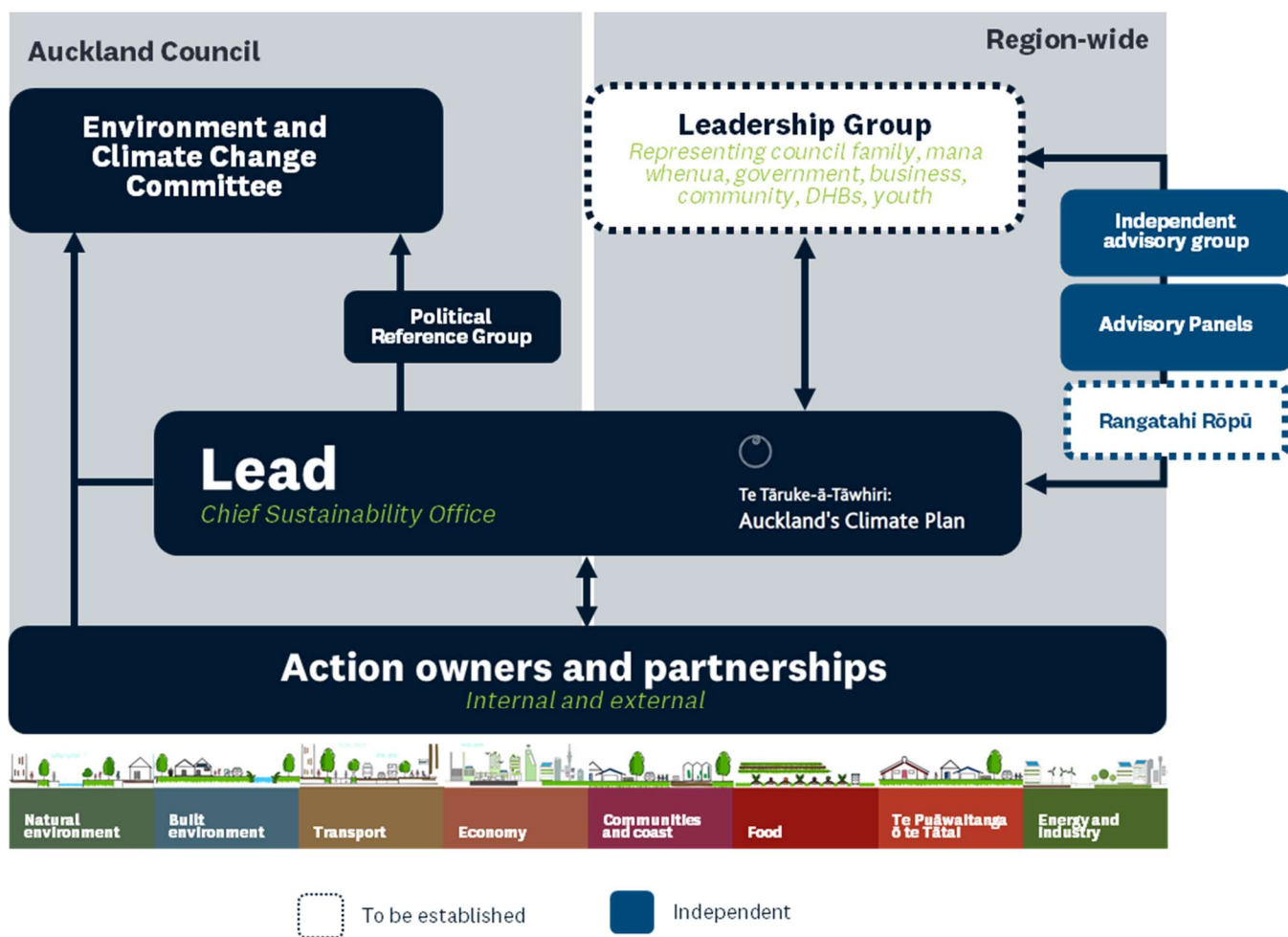




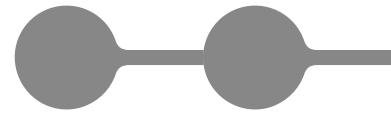
Governance arrangements

In order to achieve the goals in Te Tāruke-ā-Tāwhiri: Auckland's Climate Plan, a coordinated, cross sectoral approach across the region is required. Auckland Council's Environment and Climate Change Committee agreed to establish two groups to enable effective role out and widespread adoption of Te Tāruke-ā-Tāwhiri: a Regional Leadership Group, and a Climate Political Reference Group.

Figure 2 Proposed regional governance and partnership structure



The Climate Political Reference Group has been established and 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. Mana whenua has been invited to propose a format for selecting and appointing representation. The purpose of the Climate Political Reference Group is to provide guidance and oversee the implementation of Te Tāruke-ā-Tāwhiri. The Regional Leadership Group is in the process of being established to accelerate climate action and the implementation of Te Tāruke-ā-Tāwhiri through cross-sectoral partnerships.



Partnership with Mana Whenua

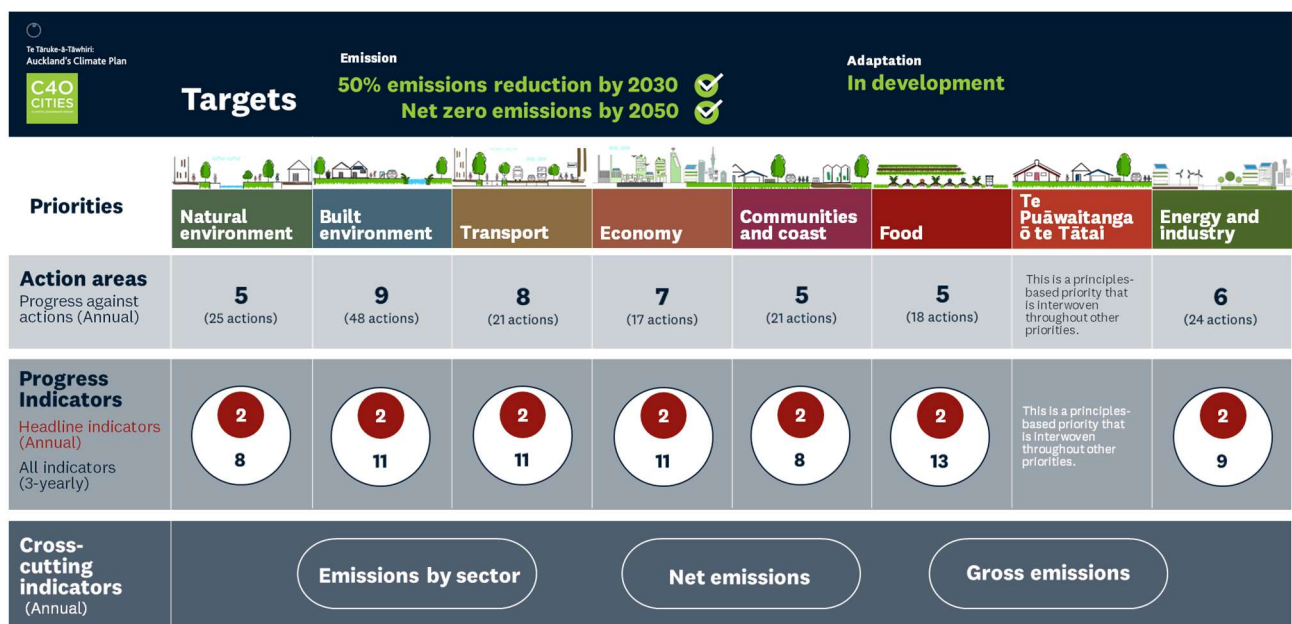
The Mana Whenua Kaitiaki Forum (now the Tāmaki Makaurau Mana Whenua Forum), a collective of the 19 hapū and iwi authorities of Tāmaki Makaurau, worked closely with Auckland Council throughout the development of Te Tāruke-ā-Tāwhiri.

The forum set up a working group with representatives from the forum, council, and Māori subject matter experts to focus on supporting the development of climate actions for Tāmaki Makaurau. This partnership has been instrumental in ensuring the incorporation of kaupapa Māori and mātauranga a-iwi values and principles into the plan from the outset.

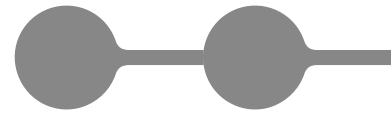
Over the past nine months, Māori specialist staff have provided support to build knowledge and capability amongst staff working on Te Tāruke-ā-Tāwhiri in preparation for the next phase of delivery. This includes initiating the early stages of engagement with mana whenua to discuss the implementation of Te Tāruke-ā-Tāwhiri. Staff are currently working towards an upcoming hui with mana whenua and seeking to better understand how implementation of Te Tāruke-ā-Tāwhiri can be taken forward in partnership with mana whenua.

Monitoring and reporting framework

Figure 3 Monitoring and reporting framework



The monitoring framework assesses progress at three levels. The highest level (referred to as cross-cutting indicators) will monitor progress on the plan’s targets for emissions reduction. The secondary level will use headline indicators (data) of progress against each of the priorities to indicate how well we are tracking in those areas. The third level of monitoring relates to the actions set out in the plan and will show the progress that has been made in what we are doing in each of those priority areas to achieve our climate goals.



The plan is currently guided by two overarching targets, a 50% emissions reduction by 2030 (against a 2016 baseline) and net zero emissions by 2050. Progress towards these targets is monitored through Auckland’s Greenhouse Gas Inventory, which provides annual data on total emissions (net and gross), emissions by sector and emissions per capita. The modelled decarbonisation pathway in Te Tāruke-ā-Tāwhiri identifies gross emissions reductions by sector to support a 50 per cent reduction in emissions by 2030:

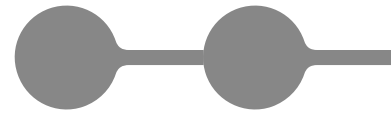
Sector	Gross emissions reduction 2016 –2030
Stationary energy	65%
Transport	64%
Waste	0% ¹
Industrial processes and product use	23%
Agriculture	15%

The development of climate change adaptation targets and a monitoring system is ongoing with extensive engagement across Auckland Council, with Council Controlled Organisations (CCOs) and District Health Boards.

A series of progress indicators were detailed when the plan was developed. The baseline trend for each indicator is reported on in the plan and data for the headline indicators is reported against annually. All indicators will be reported on every three years. The indicators will be reviewed each year to ensure they are fit-for-purpose.

Progress of actions contained within the plan will be reported on annually. This report provides highlights of progress, alongside the percentage of actions that are completed, on track, partially underway but require more work, or not in progress.

¹ Modelled emissions for the waste sector remain at around the same level from 2016 to 2030. Compared to the ‘business as usual’ projection for the waste sector this represents a 24% reduction in emissions.

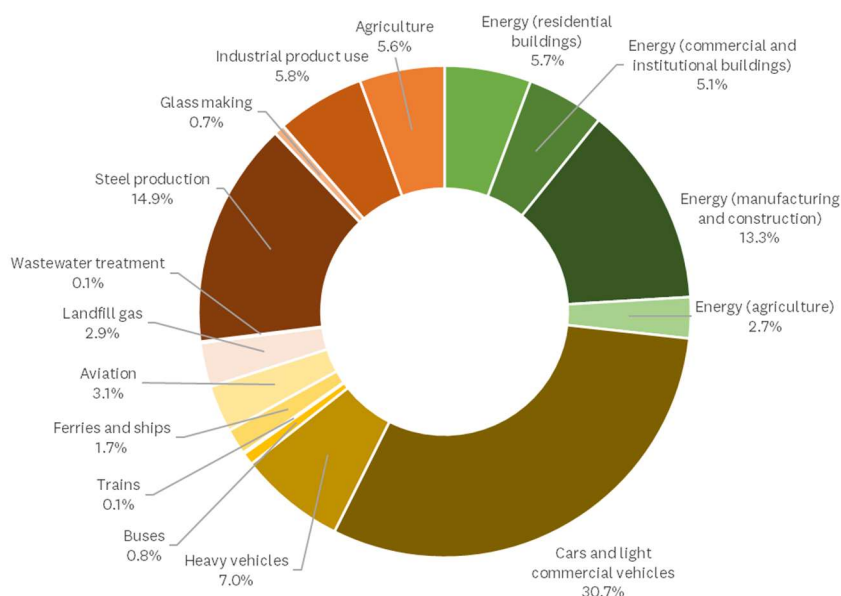


Auckland's Greenhouse Gas Inventory

Auckland Council produces an annual greenhouse gas inventory for the Auckland region. The latest greenhouse gas inventory available is to 2018. This is the same inventory that was reported on nine months ago in the previous progress report (November 2021). Auckland's greenhouse gas inventory to 2019 has not yet been published and will be released later in 2022. As a result, it is not possible to provide an update on any change to Auckland's greenhouse gas inventory in this progress report.

There is approximately a two-to-three-year lag in publishing Auckland's greenhouse gas inventory due to the time it takes for Auckland Council to receive data from external sources, process the data and produce the inventory.

Figure 4 Auckland's greenhouse gas emission profile (2018)



In 2018, Auckland's gross emissions were 11,396 kilo-tonnes of carbon dioxide equivalent (kt CO₂e). This is a 2.5 percent increase from 2016 levels. This continues a gradual upward trend in gross emissions since 2009, but increased carbon sequestration from forestry resulted in lower net emissions in 2018 than 2009. When carbon sequestration from forestry was included, net emissions were 10,198 kt CO₂e. Transport and stationary energy are the dominant sectors, accounting for 43.4 per cent and 26.7 per cent of gross emissions. Carbon dioxide (CO₂) contributed 82.9 per cent, methane (CH₄) 9.2 per cent, nitrous oxide (N₂O) 2.6 per cent and other GHGs 5.3 per cent.

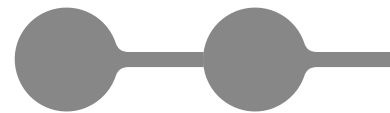
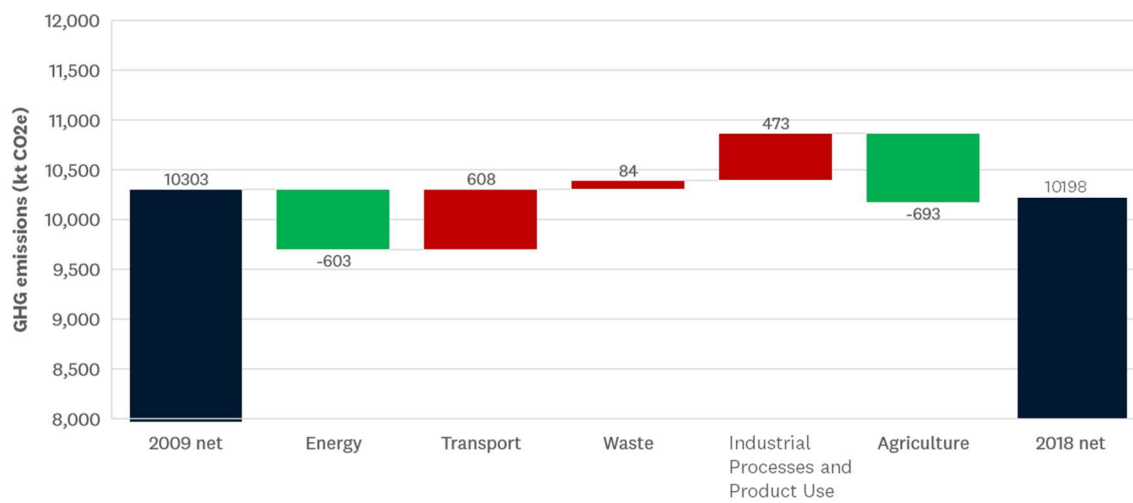
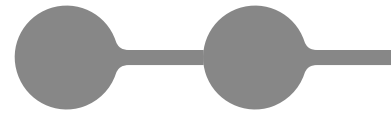


Figure 5 Auckland's GHG emissions (2009 - 2018)





Global update

IPCC report

In February 2022, the Intergovernmental Panel on Climate Change (IPCC) released the second part of its sixth assessment report (the first part, the physical science basis of climate change, was released in August 2021). The Working Group II report focuses on climate impacts, adaptation and vulnerability. The report shows that human-induced climate change is causing dangerous and widespread disruption in nature and affecting the lives of billions of people around the world, despite efforts to reduce the risks, with people and ecosystems least able to cope being hardest hit. The Chair of the IPCC Hoesung Lee said the report is “a dire warning about the consequences of inaction” and that “it shows climate change is a grave and mounting threat to our wellbeing and a healthy planet”. The UN Secretary General António Guterres called the report “an atlas of human suffering and a damning indictment of failed climate leadership”.

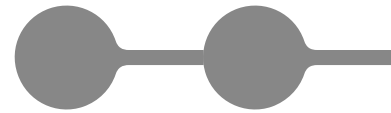
The report shows that increased climate impacts such as heatwaves, droughts and floods are already exceeding plants’ and animals’ tolerance thresholds. These weather extremes have exposed millions of people to food and water insecurity. To avoid the worst impacts of climate change, accelerated action is required to adapt to climate change. So far, progress on adaptation is uneven and there are increasing gaps between action taken and what is needed to deal with the increasing risks, with the largest gaps among lower-income populations.

However, the report indicates that investments in adaptation do work, particularly in restoring degraded ecosystems and encouraging nature to become more resilient to climate impacts.

The third report in the IPCC sixth assessment series (Working Group III) was released in April 2022 and focuses on how we can limit further climate change with methods to reduce emissions. This report shows that global greenhouse gas emissions continue to rise to the highest levels in human history and current plans to address climate change are not ambitious enough to limit warming to 1.5°C above pre-industrial levels – a threshold scientists believe is necessary to avoid even more severe impacts. The report noted that an increasing share of emissions can be attributed to towns and cities, caused by rising global activity levels in industry, energy supply, transport, agriculture and buildings.

Jim Skea, Co-Chair of IPCC WGIII said, “it’s now or never, if we want to limit global warming to 1.5°C; without immediate and deep emissions reductions across all sectors, it will be impossible”. The report shows that to limit warming to 1.5°C, global greenhouse gas emissions would have to peak before 2025 at the latest and be reduced by 43 percent by 2030. Chair of the IPCC Hoesung Lee said “I am encouraged by climate action being taken in many countries. There are policies, regulations and market instruments that are proving effective. If these are scaled up and applied more widely and equitably, they can support deep emissions reductions and stimulate innovation”.

The report emphasised that rethinking how cities and other urban areas function in the future could help significantly in mitigating the worst effects of climate change. This could be through action to reduce energy consumption (by creating more compact, walkable cities), electrification of transport, and enhanced carbon uptake and storage using natural solutions. Implementing the right policies, infrastructure and technology to enable changes to our lifestyles and behaviour “can result in a 40 to



70 percent reduction in greenhouse gas emissions by 2050” (IPCC WGIII Co-Chair Priyadarshi Shukla), while also improving health and wellbeing.



National update

Aotearoa New Zealand's first Emissions Reduction Plan (ERP)

Aotearoa has committed to reaching net zero emissions of long-lived greenhouse gases by 2050 and reducing biogenic methane emissions between 24-47% by 2050. In order to achieve this target, Aotearoa set multi-year emissions limits (carbon budget set for a 5-year period) through the Climate Change Response Act 2002. From December 2021, there must be one current and two prospective emissions budgets in place at any one time (i.e., covering a 15-year period). The Government published the first three emissions budgets (2022–2025, 2026–2030, 2031–2035) in May 2022. Along with the carbon budgets, the government created an Emissions Reduction Plan (ERP) to help achieve the emissions budgets. The plan, published in May 2022, sets out the actions and policies that government will use to lower emissions. It is a key step in the country's transition to a low emissions future, with roughly 300 actions that cover every sector of the economy. These policies and strategies form a package with a mutually supportive and balanced mix of emissions pricing, targeted regulation, tailored sectoral policies, direct investment (public and private), innovation and mechanisms that should help nature thrive.

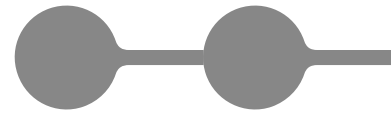
The plan also sets specific targets and sector sub-targets that need to be achieved. Central government agencies are responsible for monitoring and regularly reporting on progress towards the sub-sector targets and emissions budgets, as well as the success and implementation of the emissions reduction plan. Six sectors have specific targets: transport, energy and industry, agriculture, waste, fluorinated gas and forestry.

Meeting the first emissions budget of 290 Mt CO₂-e for 2022–25 is currently estimated to require an additional reduction of 11.5 Mt CO₂-e, compared with how emissions are tracking. This means that the emissions reductions needed to meet the first emissions budget amount to around a further 4 per cent reduction over this time period.

Aotearoa New Zealand's first National Adaptation Plan (NAP)

Aotearoa New Zealand's first National Adaptation Plan (NAP) was released in August 2022, following consultation earlier in the year. The NAP is the first step in New Zealand's response to the risks it will face from the impacts of climate change. While emissions reduction will help reduce the severe impacts, some impacts are already locked in and being felt now, with worsening floods, droughts, destructive storms, and sea level rise.

The NAP is required under the Climate Change Response Act 2002 and sits alongside the Emissions Reduction Plan (ERP). It sets out the long-term strategy for Aotearoa New Zealand's approach to adaptation and includes the first national adaptation plan focused on priority climate risks for the next six years.



The goals of the strategy are to reduce vulnerability to the impacts of climate change, enhance adaptive capacity, consider climate change in decisions at all levels, and strengthen resilience. These goals will guide the development of each subsequent NAP.

This NAP aims to work toward these goals by enabling better risk-informed decisions, driving climate resilient development, preparing for a range of adaptation options, and embedding climate resilience in government policy.

Over 120 actions address the 43 priority risks identified in the National Climate Change Risk Assessment (NCCRA) published in 2020. They relate to either system-wide issues or the five outcome areas of natural environment, homes, buildings and places, infrastructure, and communities, which broadly align with the risk assessment.

Several actions are already underway including the Government reforming the resource management system and emergency management system. Other major actions signalled in the NAP that will support Aotearoa to build resilience and adapt to a changing climate include; a platform to work with Māori on climate actions, risk and resilience and adaptation information portals which will provide access to information, a rolling programme of targeted guidance, and a programme of work to unlock investment in climate resilience.

The NCCRA will be updated every six years and a new NAP will be published within two years of each NCCRA update to respond to changing risk priorities.

National Policy Statement for Urban Development (NPS-UD) update

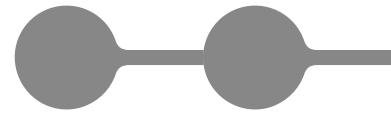
The National Policy Statement on Urban Development 2020 – updated in May 2022 (NPS-UD) aims to ensure that New Zealand’s towns and cities are well-functioning urban environments that meet the changing needs of our diverse communities.

The NPS-UD requires that Auckland Council enables greater density in the walkable distances of city centres and rapid transit stops; to adopt medium density residential standards to boost housing supply and enable more types of housing; and requires the removal of rules requiring the provision of car parking in developments. These major policies should support a move away from car dependent urban development and towards a low carbon quality compact urban form.

The climate-related objectives and policies in the NPS-UD are in line with the Built Environment Priority of Te Tāruke-ā-Tāwhiri: Auckland's Climate Plan, which has a goal of achieving "A low carbon, resilient built environment that promotes healthy, low impact lifestyles". The plan recognises that:

"To move to a low carbon and resilient region, climate change and hazard risks need to be integral to the planning system that shapes Auckland. Integrating land-use and transport planning is vital to reduce the need for private vehicle travel and to ensure housing and employment growth areas are connected to efficient, low carbon transport systems."

Auckland Council undertook specific consultation with Aucklanders between April and May 2022 on proposed changes to the Auckland Unitary Plan in response to the NPS-UD. 7,860 pieces of feedback



were received through the consultation. Following further consideration of this feedback and further council work, the council publicly notified Proposed Plan Change 78 on 18 August 2022 for the public to make submissions. The views of the public will be considered by an Independent Hearings Panel when it makes recommendations on changes to the Auckland Unitary Plan. This proposed plan change responds to the NPS-UD and the requirements of the Resource Management Act.

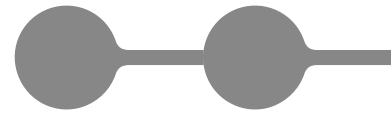
Objective 8(a) of the NPS-UD provides that New Zealand's urban environments support reductions in greenhouse emissions. Policy 1(f) provides that planning decisions contribute to well-functioning urban environments, which are urban environments that, as a minimum: are resilient to the likely current and future effects of climate change. However, Objective 8(a) and Policy 1(a)(f) of the NPS-UD do not operate to override the current RMA framework, in which climate change mitigation (reduction of greenhouse gas emissions) is presently essentially beyond the scope of the council's resource management responsibilities.

Giving effect to Policies 3 and 4 of the NPS-UD in Auckland Council's Intensification Planning Instrument (IPI), will enable additional residential intensification to occur in areas where jobs, services and amenities can be easily accessed by active modes and public transport. In addition, higher density housing is typically more energy efficient and has lower lifecycle emissions than detached housing. These factors will contribute to reducing greenhouse gas emissions and the more efficient use of land will reduce growth pressures in areas more susceptible to the effects of climate change.

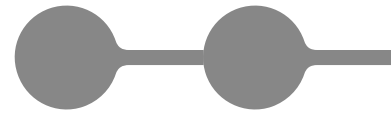
The Resource Management (Enabling Housing Supply and Other Matters) Amendment Act (the Act) passed into law in December 2021. The Act amends the Resource Management Act 1991 (RMA) by bringing forward and strengthening the National Policy Statement on Urban Development (NPS-UD). The Act requires Medium Density Residential Standards (MDRS) for specified urban areas, including Auckland. Incorporating the MDRS into relevant residential zones will support reductions in household emissions and enable intensification in central Auckland and other areas that have rapid and/or frequent public transport. However, a key aspect of the council's submission on the Resource Management (Enabling Housing Supply and Other Matters) Amendment Bill was that enabling three-storey medium density housing across all of Auckland's urban environment is likely to result in a greater number of people living in areas where it is extremely difficult to provide a high level of public transport service. This means that the requirement to incorporate MDRS in relevant residential zones in these areas, where a high level of public transport service is not likely/possible, will reduce the efficacy of the intensification in walkable catchments and around centres. It is also likely to increase vehicle kilometres travelled from those areas where intensification is enabled and where there are no viable alternatives other than to travel by car.

With respect to avoiding risks from natural hazards associated with climate change, qualifying matters relating to flooding, coastal erosion and coastal inundation have been identified to ensure intensification does not occur in hazardous areas.

Including special character as a qualifying matter will impact the opportunity for intensification within the walkable catchments of the city centre and in some areas with train stations and frequent public transport. This impacts greenhouse gas emissions by reducing the effectiveness of public transport investment in these areas. It therefore has an opportunity cost by way of not enabling intensification – and the potential emissions reduction associated with that – from occurring in Special Character areas.



Overall, while the government’s policy framework seeks to reduce emissions and improve climate resilience, the council’s view (as stated in its submission on the Resource Management (Enabling Housing Supply and Other Matters) Bill) is that the current requirements of the RMA to enable intensification right across the urban environment may undermine a compact, quality land use pattern and the desired climate outcomes.



Auckland Council's update

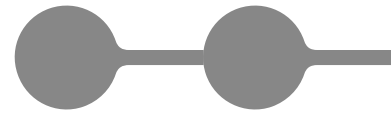
Figure 6 Roadmap on climate action



Climate Action Targeted Rate

A Climate Action Targeted Rate (CATR) over the next 10-years was adopted as part of the Annual Budget 2022/23. The purpose of this targeted rate is to increase funding for climate action to reduce emissions, lay the foundation to enable further reductions in the future, and prepare for the impacts of climate change, with an immediate focus on enhancing low carbon transport options and greening our neighbourhoods. The CATR builds on the \$152m climate action investment in the 10-year Budget 2021-2031. The CATR package was developed based on four principles, it needed to be high impact, address inequity, be started fast and have wide regional benefits.

Public consultation on the CATR received two-thirds majority support from individuals, organisations and Māori entities and there was also a clear margin of support from the independent Kantar Public Survey. The \$574million raised through the targeted rate will be used to unlock government co-funding of \$354 million. Together with the expected fare revenue of \$127 million, we expect to be able to invest an additional \$1.056 billion investment in buses, ferries, walking, cycling and our urban ngahere (forest) over the next 10 years.



The CATR will deliver 10 new frequent bus routes serving South Auckland, West Auckland, Orakei, Tamaki and New Lynn to Onehunga via Mt Roskill and an extension of frequent services on the Northern Express to Hibiscus Coast station. In addition, 69 improved bus routes will be delivered along with 79 additional electric or hydrogen buses. Improved bus services will be available to more than a million Aucklanders with 170,000 more people brought within 500m of a frequent bus route.

The CATR will also deliver 6-7 additional low emissions ferries, approximately 18km of cycling infrastructure and up to 35km of walking connectivity improvements. The CATR also includes funding for tiny forests, food forests and māra kai, expanding bush remnants and rongoā planting.

Figure 7 The three focus areas of the Climate Action Targeted Rate

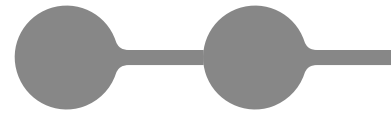


Transport Emissions Reduction Pathway (TERP)

Auckland Council and Auckland Transport have developed a Transport Emissions Reduction Pathway (TERP) that sets out a pathway to reduce transport emissions by 64 per cent by 2030, as directed by Te Tāruke-ā-Tāwhiri. TERP describes how the transport system must transform in eight years if Auckland is to drastically cut its transport emissions and realise the benefits of a much more sustainable, safer and healthier transport system.

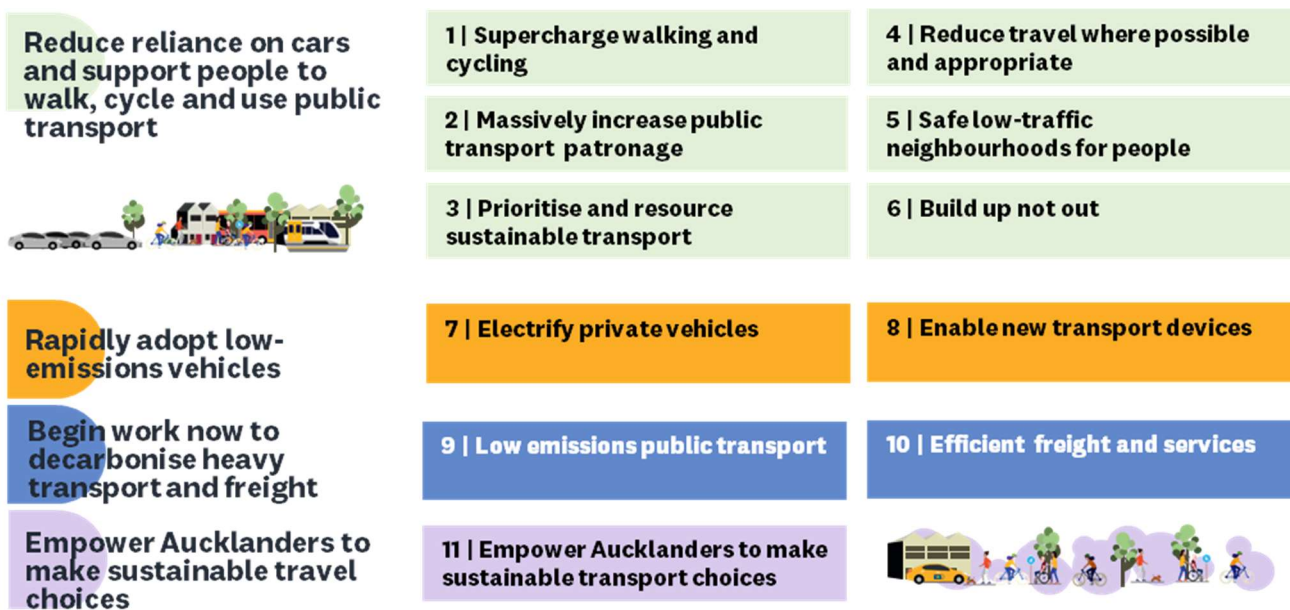
Achieving this target will be incredibly challenging – every single system lever must be pulled as hard as credibly possible. In essence, this means:

- Aucklanders must drive less. Around half of all car trips are less than 6km in length. It is these trips that represent the greatest opportunity for mode shift.
- A huge increase in the uptake of walking, cycling, micromobility and public transport is required to facilitate trips no longer taken by car.
- Cars will still have a place in the system, but they must be more efficient, with a higher proportion of the fleet being zero and low emissions.
- Trips need to be shorter. This means land use must change so that people can more easily access amenities close to where they are.



These key features underpin the 11 areas for transformation described in the TERP, which provide strategic direction to help decision-makers put (and keep) Auckland on a pathway to emissions reduction by 2030 and beyond. Each transformation area includes several strategic directions and more detailed actions for implementation. The 11 transformation areas are shown in the diagram below:

Figure 8 The 11 transformation areas in the Transport Emissions Reduction Pathway

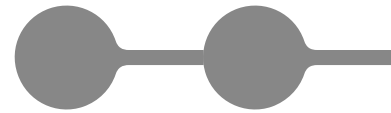


The TERP supports greater partnership with mana whenua in the development of transport plans and more resourcing for Māori-led low-carbon transport solutions. Auckland Council’s Environment and Climate Change Committee has instructed Auckland Council and Auckland Transport to engage fully with mana whenua and mataawaka throughout all aspects of the implementation of the TERP.

Ultimately, the transition to a low-emissions and climate-resilient transport future is a pathway towards wellbeing for all Aucklanders. The actions presented in the TERP would mean more affordable transport choices, noticeably safer streets that promote independent travel for all ages and abilities, increased levels of healthy physical activity, improved air quality and reduced noise pollution, reduced congestion, and more effective use of limited public roads and road space leading to economic and social benefits.

Auckland Water Strategy

The Auckland Water Strategy is a thirty-year vision that commits the council to *te mauri o te wai*, protecting and enhancing the life-sustaining capacity of Auckland’s water. It was adopted by Auckland Council’s Governing Body in March 2022 along with an implementation plan outlining the



specific actions to achieve each of its eight Strategic Shifts, providing an organising framework for the council group to guide decision-making around water.

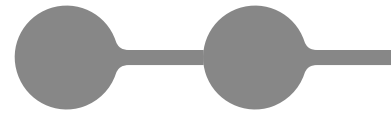
The Auckland Water Strategy sits alongside Te Tāruke-ā-Tāwhiri: Auckland's Climate Plan under the Auckland Plan 2050. Climate change is a cross-cutting theme for The Auckland Water Strategy, which embeds mitigating and adapting to the impacts of climate change in its implementation. The Strategy outlines a specific focus on reducing emissions associated with water services and infrastructure and adapting to a changing climate through accelerating the use of carbon sequestering (green) assets.

Watercare and Healthy Waters Climate Action Plan

Te Tāruke-ā-Tāwhiri: Auckland's Climate Plan includes a number of actions that relate to the water system. Watercare and Healthy Waters have collaborated on a joint climate action plan to implement the actions for which they are delivery leads, as well as those actions where they have a significant influence on the successful outcome. The action plan is a collaboration between these operational arms of Auckland Council responsible for providing water services aimed at improved environmental, social, economic and cultural outcomes. The joint approach ensures that water management is undertaken in a holistic manner, capable of mitigating and adapting to climate change.

The action plan is directly aligned and further enhanced by The Auckland Water Strategy 2022-2050, Auckland Council's strategy to protect and enhance te mauri o te wai, the life sustaining capacity of water.

The internally focused action plan provides the key focus areas for teams, split into 14 portfolios and also sets the integration of direct activities for teams and individuals through more detailed work plans. The portfolios are split into the categories of Māori Partnerships, Overarching, Adaptation, Mitigation and Engagement. Watercare and Healthy Waters have seized the opportunity to share learnings, apply a systems-thinking methodology and align approaches as part of a journey to operate a low carbon water system resilient to climate impacts in Tāmaki Makaurau.



Emergency Budget (Annual Plan 2020/2021)

Since the Emergency Budget was adopted in July 2020, Auckland Council has delivered allocated funding for projects to provide an initial response to our most urgent climate change priorities. Key progress over the last nine months is summarised below:

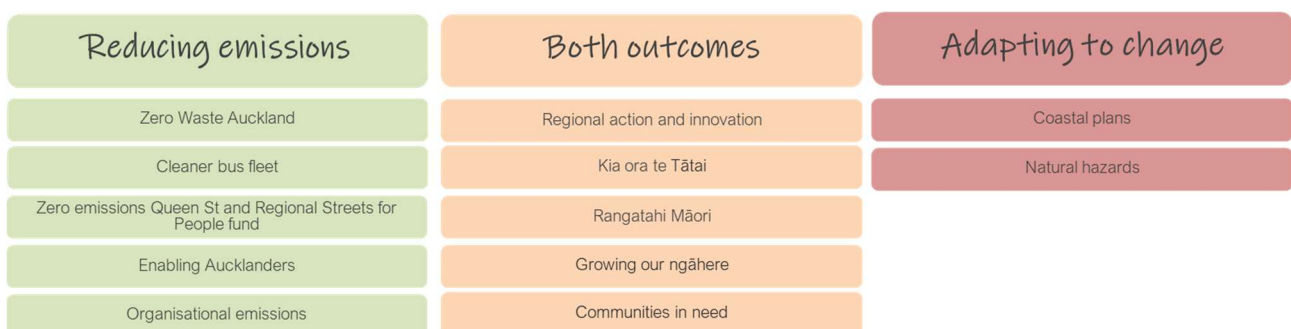
- A Climate Impact Assessment Tool has been developed to enable the effective integration of climate change considerations in Auckland Council’s decision-making processes. The tool will provide a consistent approach to considering climate impacts (mitigation and adaptation) across projects and support better informed decision making. The development of the tool included engagement workshops with key stakeholders and scenario-based testing. The next steps are to make the tool available to staff for further testing, while working on how it will embed in decision making processes.
- Auckland Council launched a new climate action communications platform, Auckland Forever to provide information on the climate action initiatives being delivered in Tāmaki Makarau.
- Phasing out gas boilers in aquatic centres and replacing them with electric heat pumps saw the first project completed. Heat pumps were commissioned at the Moana-nui-a-kiwa Leisure Centre, and physical works is underway at Westwave and Onehunga Pools.
- Decarbonisation of the council vehicle fleet is ongoing with emissions set to be reduced by 50% by 2025.
- The Mayor’s Million Tree programme has a target of planting 1.5 million trees and shrubs over three years, with 500,000 of these being enabled by additional funding. Planting has been ongoing to support the delivery of this target.

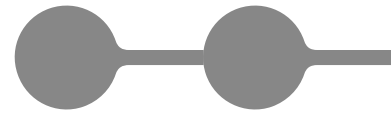
10-year Budget 2021-2031 (Long-Term Plan)

In 2020, Climate action was identified as a priority area for investment through the 10-year Budget 2021-2031. Council for the first time included a dedicated climate action investment package of \$152 million of funding allocated over 10 years.

The climate action investment package consists of twelve prioritised programmes (see Figure 9 below).

Figure 9 Climate action investment package





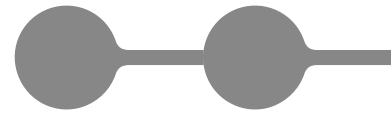
Over the last nine months progress has been made in several areas, and key highlights of the delivery in 2021/22 include:

- There are now 37 zero emission buses in the overall fleet bringing the percentage of the fleet that is zero emissions up to 2.7%, ahead of yearly targets.
- Queen Street zero emissions project has seen Zone 5 Wellesley Street to Mayoral Drive completed.
- 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 mātāwaka networks. A significant number of rangatahi applications were received, and subsequently a kāhui rangatahi (group) has been formed. A rangatahi wānanga series has been created for the period July - November 2022, with an aim to develop a climate action programme, as created by rangatahi, that explores Māori approaches and solutions to the climate crisis, advocating for systems change, and opening up further training and employment opportunities for rangatahi Māori in the taiao space.
- 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 FY22/23.
- The first five hectares of the additional 200 hectares of native forest planned for unproductive farmland on regional parks has been planted.
- To enable the 200 hectares of planting on regional parks, a five-year plan has been developed and signed off. Planting sites have been identified and planting lists and planting plans are being developed. Further work has seen contracts, service agreements and procurement documents developed for a number of planting sites. Work is underway clearing and preparing sites for planting at Te Ārai, Waitawa, Anawhata and Mahurangi East regional parks.
- The Shoreline Adaptation Plan (SAP): Whangaparāoa Pilot was completed and endorsed by the Environment and Climate Change Committee, with several more SAPs in progress.
- Successful recruitment for a number of key positions required for the delivery of the climate action investment package.
- A number of low socio-economic households have received energy assessments, resulting in energy efficient items being installed in properties around Auckland.
- 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.
- Other community engagements have been delivered, with 12,745 Aucklanders using FutureFit to calculate their carbon footprint, leading to 101 tonnes of carbon reduced and over 20,000 carbon saving actions.
- 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.

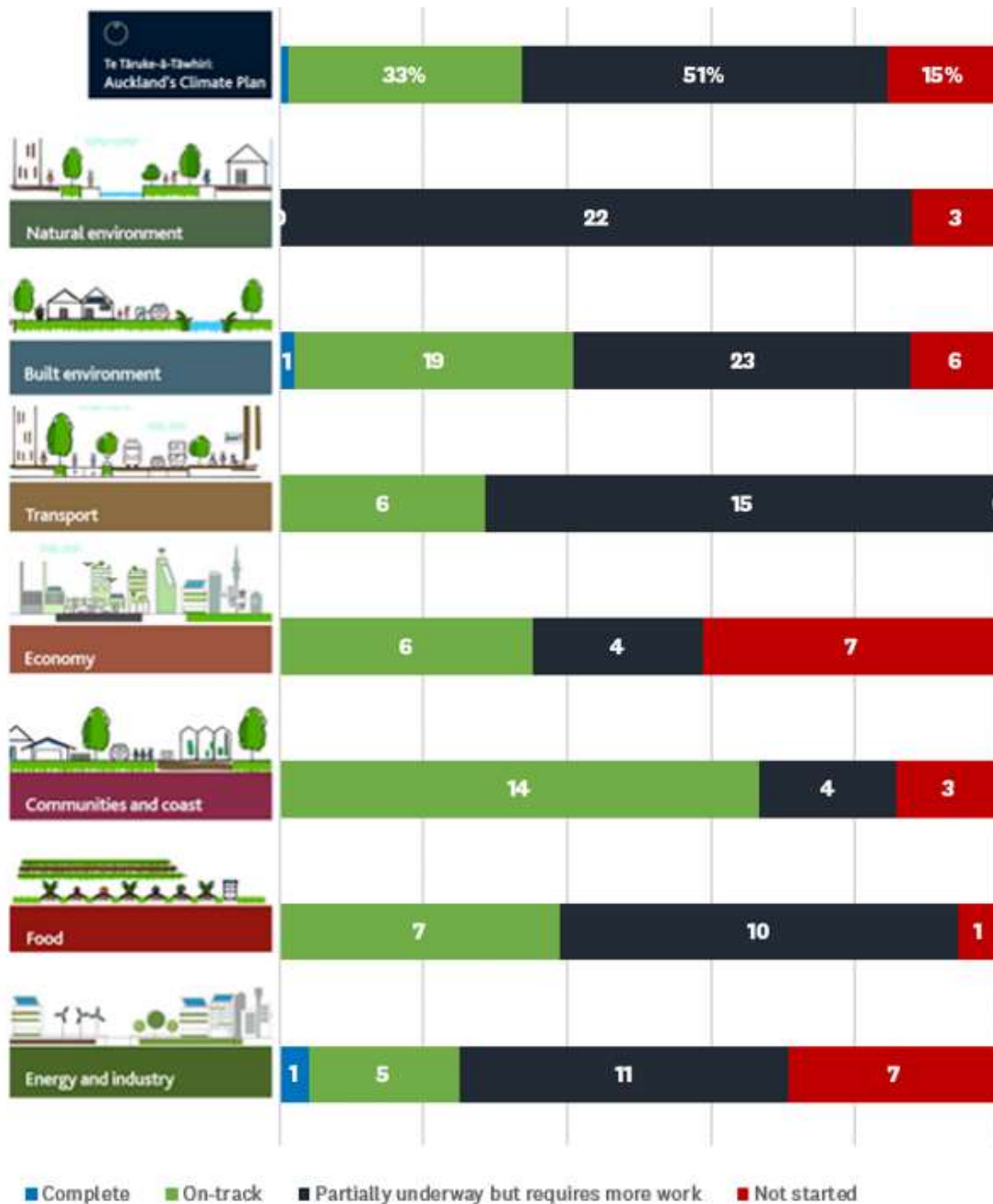


The overall delivery of the climate action investment package faced significant headwinds in 2021/22, predominantly due to delays in recruitment for key roles. Many of the roles require specialised skill sets which are in high demand, this was further exacerbated by limited supply due to border closures. Covid-19 lockdown delays impacted field work and community engagement and put pressure on supply chains and logistics, affecting procurement of some capital items.

The development of monitoring and control processes is progressing and will more closely monitor the performance and delivery of the climate action investment package going forwards.

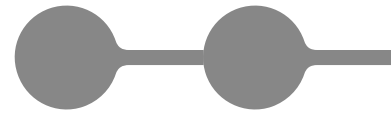


Status of action areas and actions 2021/22



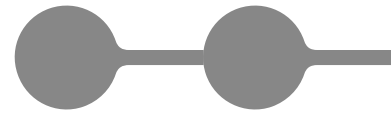
Status of action areas and actions 2020/21



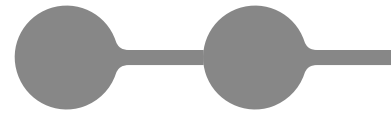


Action highlights and challenges

Priority Natural environment	
Goal	A healthy and connected natural environment supports healthy and connected Aucklanders. The mauri (life essence) of Tāmaki Makaurau is restored.
Actions	5 action areas (25 actions)
Highlights	<p>Since 2018, the Natural Environment Targeted Rate has allowed Auckland Council to increase management of key pests and weeds that are expected to benefit from climate change. In 2021/2022, there has been an increased commitment to control pests and weeds including 12,578 ha of sustained management of pest plants on regional parks and Hauraki Gulf islands. Over 7,000 hours of Kauri dieback ambassadors' time has been undertaken to protect our ngahere (forests) from kauri dieback. There has been 11,473 hectares of possum control delivered across rural Auckland. Two lakes are under pest control plans. In the marine environment, 1,251 vessel hulls have been inspected for marine pests.</p> <p>The Natural Environment Targeted Rate has invested in planting 67,434 plants through the Trees for Survival campaign. The Ngahere (forest) Programme has been mapping forest areas across the region and designing a long-term tree planting plan. A 200-hectare tree planting programme is underway. Recent research into developing a New Zealand version of i-Tree is underway. This software is an ecosystem services assessment tool that will enable Auckland Council to assess the value of public trees. Programmes of work in partnership with mana whenua have commenced in Mahurangi (Mahurangi Environment and Land Remediation). There are ongoing partnerships in the Kaipara (Kaipara Moana Remediation) with an investment of \$205M in green infrastructure solutions to address ongoing erosional risk, with benefits of improving resilience to future climate erosional risks for degraded water quality.</p> <p>The Water Quality Targeted Rate has invested in the Freshwater Management Tool- a decision-support tool, to predict water quality across all catchments, regionally (flow, contaminants, sources and grades). New modelling work is underway to identify optimised management strategies for green and grey infrastructure to maintain or improve water quality (environmental flows, concentration, grade, load). Included in this new work are predictions of different climate change scenarios and their corresponding estimated changes in water quality under existing and projected urban growth, for existing and two future climate predictions in 2050 and 2100).</p>
Challenges	<p>The Natural Environment Targeted Rate still only provides for a highly prioritised sub-set of threatened species and indigenous ecosystems to be actively managed. Some of these programmes were significantly impacted by Covid-19 lockdowns last year causing significant delays and delivery of work programmes. With current funding, by 2028 there will still be over 300 threatened species with no active management in the region.</p> <p>Covid-19 lockdowns and other Covid-19 related delays such as disruptions to goods and services, recruitment and staff availability have been challenging for many work programmes. There have been difficulties in accessing field sites for planting and pest control activities, and tree canopy surveying has been undertaken by desktop with subsequent ground truthing after lockdowns have lifted.</p> <p>Costs have increased due to supply issues and inflation and some programmes have been impacted by higher costs of materials and increases in salaries to attract staff. New work programmes are expecting these impacts to continue for a further two years causing set up times to be slower. Programme budgets have been affected by the increased timelines and costs resulting in less budget being available for longer term maintenance work.</p>

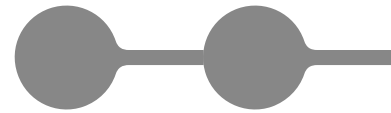


Priority Built environment	
Goal	A low carbon, resilient built environment that promotes healthy, low impact lifestyles.
Actions	9 action areas (48 actions)
Highlights	<p>Auckland Council – sustainable buildings and infrastructure</p> <p>In October 2021, Auckland Council adopted the Sustainable Asset Policy. The policy, which aims to improve the sustainability of Auckland Council’s Community Facilities, sets minimum requirements for sustainability ratings and carbon neutral operation for new buildings and infrastructure. Community Facilities has projects underway that the Sustainable Asset Policy applies to, these include:</p> <ul style="list-style-type: none"> • The Scott Point Sustainable Sport Park development that achieved an Infrastructure Sustainability (IS) Leading Design Rating in 2021, the highest rating possible. The sports park is currently under construction and targeting a Leading as-built rating. • Te Whau Pathway, where the IS Essentials Rating tool is being piloted. This is a version of the IS rating tool that targets smaller infrastructure projects. A gold rating is being pursued and establishment works are underway for the first sections. • The Avondale Community Centre is currently being designed and is targeting a minimum 5 Green Star rating and net zero energy. • The Kaipātiki Eco Hub, which is under construction and is targeting a Zero Energy Certification under the Living Building Challenge. <p>In addition to these projects in Community Facilities, Auckland Council’s new Albany Hub corporate office is under construction and the Corporate Property department is targeting a 6 Green Star interior rating. For the building itself, where Auckland Council will be a tenant, 5 Green Star and 5 Star NABERSNZ ratings are being targeted. The Albany Hub is currently under construction.</p> <p>Auckland City Library Green Roof</p> <p>As part of the Central Library Roof Remediation Project, which aims to preserve the library building for years to come, Auckland Council chose to install a living roof that uses vegetation cover instead of conventional roofing. Living infrastructure has many environmental, economic, and social wellbeing benefits and helps us work towards Auckland's climate change goals. The project started in early July 2021 and was completed in April 2022. The roof's environmental and economic performance (energy efficiency, solar protection) will be monitored over the course of the next five years and results will inform similar projects.</p> <p>Watercare and Healthy Waters Climate Action Plan</p> <p>Watercare and Healthy Waters have collaborated on a joint climate action plan to deliver a low carbon, climate resilient water system for Tāmaki Makaurau. This action plan implements the commitments made in Te Tāruke-ā-Tāwhiri: Auckland's Climate Plan, as well as strategic initiatives at an organisational level. This action plan is directly aligned and further enhanced by the Auckland Water Strategy 2022-2050, Auckland Council’s strategy to protect and enhance te mauri o te wai, the life sustaining capacity of water.</p>



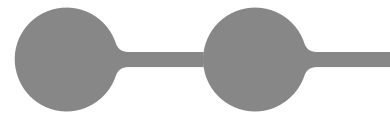
Priority Built environment	
Challenges	<p>Auckland Council has limited opportunity to mandate the changes required in the building and construction sector to support our climate goals. The region is predicted to undergo significant growth, and it is essential that this growth supports a low carbon, resilient future. The current Building Code is underperforming in delivering healthy, efficient buildings and does not align with our climate goals.</p> <p>The Auckland Plan 2050 notes our current housing stock will make up approximately half of all dwellings in Auckland in 2050. The quality of these existing buildings needs to be improved significantly in order to improve energy efficiency and health and wellbeing outcomes. As significant energy efficient retrofit programme is required to support our climate goals.</p> <p>The Transport Emissions Reduction Pathway (TERP) identifies ‘Build up not out’ as one of 11 areas for transformation to support a reduction in transport emissions. Auckland needs most future growth to be accommodated through intensification in the existing urban area, particularly locations with shorter average trip lengths and access to good quality transport options, rather than continued expansion into greenfield and rural areas. Without intervention, Auckland is expected to continue expanding and the average motorised vehicle trip length is expected to increase by around 5% by 2030.</p>

Priority Transport	
Goal	A low carbon, safe transport system that delivers social, economic and health benefits for all
Actions	8 action areas (21 actions)
Highlights	<p>Auckland Council and Auckland Transport have developed the Transport Emissions Reduction Pathway (TERP) to provide the next level of detail on how to achieve a 64% reduction in transport emissions by 2030, as modelled in Te Tāruke-ā-Tāwhiri. Central government also released its first Emissions Reduction Plan (ERP), with transport expected to play a crucial role in meeting national emissions reduction targets. While the ERP’s national pathway and targets are not directly comparable to TERP’s more ambitious pathway for Auckland, the actions in the two documents are very well aligned. Partnership between government and Auckland Council is crucial to reducing emissions and transforming the transport system. The government’s Climate Emergency Response Fund (CERF) provides the first tranche of funding to support the transition to a low carbon economy and includes \$375m to deliver mode shift and reduce transport emissions.</p> <p>Delivery of the Rapid Transit Network is ongoing and likely to continue for many years to come. Highlights include construction of the City Rail Link (CRL), Eastern Busway, Northwest Bus Improvements, Rosedale and Constellation bus stations, Northern Busway extension and electrification of the rail network from Papakura to Pukekohe. Investigation for the Airport to Botany rapid transit and Auckland Light Rail is also progressing.</p> <p>Delivery of the cycling and walking networks is also progressing, with Auckland Transport completing Stage 2 of the Glen Innes to Tāmaki Path and the New Lynn to Avondale Path. Other planned and funded walking and cycling improvements include the delivery of 60km of pop-up cycleway protection over the next 3-5 years and the Cycling and Micromobility Programme Business Case.</p> <p>Council endorsed the Climate Action Targeted Rate, a \$1 billion package that aims to accelerate the reduction of emissions, with a strong focus on transport. The package provides a step-change in public transport services in Auckland by funding 10 new frequent bus routes, 69 improved bus routes, as well as 79 additional electric or hydrogen buses. More than 1 million Aucklanders will live within 500 metres of an improved bus</p>



Priority Transport	
	<p>route funded by the targeted rate. The package will also fund walking and cycling improvements across Auckland. It will accelerate the delivery of the Cycling and Micromobility and Walking Programme Business Cases, resulting in approximately 18km of new separated cycleways, local area network improvements, and up to 35km of walking network improvements. The package also provides for 6 to 7 new low-emissions ferries.</p> <p>Auckland Council is progressing on its commitment to halve its corporate fleet emissions by 2025 by removing 230 ICE vehicles and converting the remaining 358 vehicles to EVs. Other actions include providing shared e-bikes and HOP cards for staff use for meetings. The council is also supporting staff to reduce personal transport emissions through actions such as providing 'end of trip' facilities at key sites, enabling flexible working and ensuring hubs are located close to public transport.</p>
Challenges	<p>The Transport Emissions Reduction Pathway (TERP) shows the scale of change and types of system level changes needed to achieve a 64% reduction in transport emissions in line with Te Tāruke-ā-Tāwhiri.</p> <p>The following challenges need to be overcome to achieve the scale of transformation required by the TERP:</p> <ul style="list-style-type: none"> - The current transport planning system is still largely set up to maintain the status quo or deliver only incremental change. Specific issues include land use decisions which undermine emissions reduction goals, complex transport planning processes, insufficient funding for sustainable transport modes and organisational conservatism. - Aucklanders' very high car ownership rates compared to other international cities, which means investment in providing other choices can be perceived as not meeting their current needs. - Average distance travelled has increased over time as Auckland's urban form has grown, and this is projected to continue rising. - The ongoing recovery from the Covid-19 pandemic has been uneven. Car traffic volumes are back to 2019 levels, but public transport patronage is still much lower compared to 2019 levels. - Acute shortages of professional staff, labour and materials which continue to constrain the capacity of the transport sector. - Strong public support for climate action that does not necessarily translate to on the ground support for meaningful change at the local level. This requires meaningful change to engagement processes including forming early and meaningful partnerships with mana whenua and communities. <p>Auckland Council and Auckland Transport need to embed implementation of the TERP through all of their activities, including future updates to key transport planning and funding processes such as the Auckland Transport Alignment Project and the Regional Land Transport Plan, and land use policy such as the Future Development Strategy and the Auckland Unitary Plan.</p>

Priority Economy	
Goal	A resilient, low carbon economy, guided by our kaitiaki values, that supports Aucklanders to thrive.
Actions	7 action areas (17 actions)



Priority | Economy

Highlights

Climate disclosures

The Auckland Council Group continues to progress its climate disclosure work in preparation for reporting against the XRB climate disclosure reporting standards under the Financial Sector (Climate-related Disclosures and Other Matters) Amendment Act. Auckland Council is captured as a reporting entity under this act because it has bonds listed on the NZX. The group has put in place a cross-council governance and working group to drive this work. In March 2022, the group began delivery of the climate disclosure work programme 2022, which includes the delivery of three projects; scenario analysis to identify its climate-related risks and opportunities; identifying a process for assessing and managing climate risk as a group; and carrying out a climate risk governance assessment.

The Chief Sustainability Office is working with Ngā Mātārae to understand how to embed te ao Māori into the programme delivery and identify how the values and principles of Te Ora ō Tāmaki Makaurau can be realised through the climate disclosure work programme.

Sustainable finance programme

Auckland Council's green bond programme continues to grow with \$2 billion raised through green bonds to date. Green bonds are a continuation of our commitment to our climate goals and allow us to align our funding streams to our climate response and support the broader shift to a more sustainable financial system.

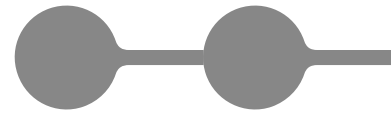
Auckland Council also expanded its sustainable finance products and executed a sustainability linked loan and derivative in February 2022. These products financially incentivise the council to meet three different sustainability performance targets. These targets include increasing the number of low emissions buses in Auckland Transport's bus fleet, reducing the council group's greenhouse gas emissions, and supporting Māori and Pasifika owned businesses and social enterprises in Auckland by strengthening our social procurement model.

Climate Connect Aotearoa (the climate innovation hub)

Climate Connect Aotearoa (CCA), led by Tātaki Auckland Unlimited, is an innovation hub to support collaborative climate action and will launch later in 2022. It delivers on the Economy Priority action to 'Accelerate the uptake of innovation that supports the delivery of a resilient, climate-proof and regenerative economy'. An impact measurement model has been established, and two challenge sprints for Energy and Built Environment will be held in late 2022. Memorandum of Understanding (MOU) documents were formalised with two Auckland-based Universities, and an energy lead has been co-sponsored. An Advisory Group representing key stakeholders has met monthly, providing a diversity of perspectives. The expansion of a 'Climate Innovation Ecosystem' and 'Knowledge Hub' will be an ongoing activity.

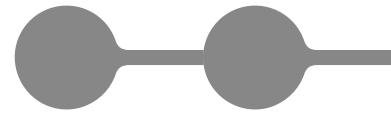
Cost of Transition – Economic Modelling

Tātaki Auckland Unlimited has worked with Market Economics to develop a model which assesses the regional-level consequences of climate mitigation initiatives. It has been used to understand the economic impacts of targets, initiatives, and associated technologies that have been set by the Climate Change Commission, in addition to Te Tāruke-ā-Tāwhiri. The work will enable Tātaki Auckland Unlimited to understand how these mitigation options may impact Auckland's economy. Additionally, it considers what green jobs may be generated through the transition.



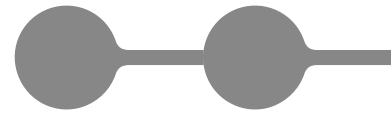
Priority Economy	
Challenges	<p>Due to high-demand, Climate Connect Aotearoa has faced delays recruiting for specialist roles with an appropriate level of expertise and experience. This has particularly impacted the recruitment of a Senior Māori Advisor.</p> <p>People resource remains low across the relevant organisations due to funding constraints following Covid-19, as well as Covid-19 related work programme disruptions for staff. This has slowed progress against actions E1 and E4 in Te Tāruke-ā-Tāwhiri.</p> <p>Lack of capability and capacity in this space continues to be a challenge.</p>

Priority Communities and coast	
Goal	Communities and individuals are prepared for our changing climate and coastline, and carbon footprints of Aucklanders have reduced.
Actions	5 action areas (21 actions)
Highlights	<p>Auckland Council had 72,749 engagements (via events, campaigns, local board projects, online tools and community partnerships) exceeding the target of 65,000. These engagements educated and inspired Aucklanders to reduce their carbon footprints and to undertake climate action in their community. Auckland Council also worked with 65.5% (362 out of 553) of Auckland school communities (against a target of 60%) and provided many of them with professional development and action orientated events for climate change.</p> <p>Our significant highlights include:</p> <ul style="list-style-type: none">• 12,745 Aucklanders calculated their carbon footprint on FutureFit, leading to 101,070 kgs carbon reduced and 21,625 carbon saving actions."• Students Decarbonising Schools: As a follow-up to a School Carbon Footprint Pilot project delivered in FY 21/22, we have received funding from the Ministry for the Environment (\$40k) and the Westpac NZ Government Innovation Fund (\$150k) to expand this climate action project to support more schools and students in FY 22/23.• The Auckland Climate Grant administered \$378,769 in funding to community-led initiatives to drive climate action across key categories such as transport and sustainable food.• We partnered with Habitat for Humanity to reach 1,611 Aucklanders who were part of 304 households living with energy hardship, offering them tools and resources to save on power and warm up their homes.• Community Bike Hubs : Three new bike hubs were opened this year, at Queens Wharf, on Waiheke and in Māngere, with the support of local board funding. This increased the total number of bike hubs supported through local board environmental funds from four to seven, providing a low-cost way for Aucklanders to access second-hand bikes or get their bikes repaired. Total visitor numbers to all bike hubs during the year was 9,034 with 3,596 bikes repaired by the hubs.• Seven community climate catalysts were engaged to run initiatives targeted at specific audiences including youth, Pacific and South Asian audiences. Our network of local board climate activators was also expanded.• Te Aho Tū Roa holistic regeneration plans: we worked with eight Māori medium schools or roopu to develop regenerative action projects for community and marae



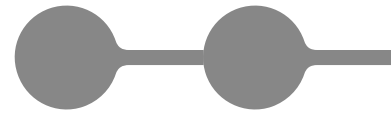
Priority Communities and coast	
	<p>including sustainable food systems and riparian and coastal planting. 130 teachers and students were involved in four training and action projects events.</p> <ul style="list-style-type: none"> • Climate change program at Arataki: A new education programme addressing climate action has been developed and trialled at Arataki Experience Centre and will now be delivered across Tāmaki Makaurau. • Trees for Survival has completed 47 planting days so far this planting season. This has seen 39,558 native plants planted along 2,679m of waterways and on erosion-prone land. 1,553 school students and their teachers and adult helpers participated.
Challenges	<p>Covid-19 continued to impact many of our in-person events, school, and community programmes. Flexible responses to these challenges have led to new partnerships and ways of working including remote home visits and online hui. However, programmes that rely on face-to-face interaction have been more challenging to deliver and are experiencing lower response rates.</p> <p>Reaching the larger and more diverse audiences required to achieve our climate action outcomes is an ongoing challenge and will continue to require increased investment to be successful.</p> <p>The Sustainable and Resilient Marae and Mātātahi Taiao - Rangatahi climate action programme is being co-designed and delivered in partnership with mana whenua. Covid-19 and other competing demands on resources for all parties is resulting in the need for increased flexibility when working together and meeting project milestones.</p>

Priority Food	
Goal	A low-carbon, resilient, local food system that provides all Aucklanders with access to fresh and healthy food.
Actions	5 action areas (18 actions)
Highlights	<p>Sustainable Food Choices</p> <p>Research was undertaken to inform design of a programme to support Aucklanders to make more healthy, low carbon food choices. This novel research received wide interest both nationally and internationally, with outcomes presented to: the C40 Cities Network food and climate action behaviour change workshop; the University of Auckland Food Sustainability Network; and the Aotearoa Council Climate Network.</p> <p>Love Food Hate Waste</p> <p>Love Food Hate Waste is a regional programme led by Auckland Council in conjunction with a national campaign led by WasteMINZ. The programme is aimed at the top of the waste hierarchy, reducing waste by educating and supporting residents to reduce food waste at home through actions such as meal planning, cooking from root to tip, and eating leftovers. A total of 42 workshops were delivered and \$50,000 distributed to community led initiatives promoting food waste reduction. This is an increase from the 32 workshops delivered and \$40,000 in grants distributed last year.</p>



Priority Food	
Challenges	<p>A lack of government mandate, decentralised responsibility for delivering action across the food system, and high numbers of stakeholders make coordinating and resourcing this Priority challenging.</p> <p>Covid-19 has impacted delivery of some projects through delays caused by lockdowns and global supply shortages.</p>

Priority Te Puāwaitanga ō te Tātai	
Goal	<p>Intergenerational whakapapa relationships of taiao, whenua and tāngata are flourishing. The potential and value of Māori is fully realised. Māori communities are resilient, self-sustaining and prosperous.</p>
Actions	<p>Te Puāwaitanga ō te Tātai does not outline specific actions but instead identifies seven te ao Māori principles that should be interwoven throughout the other Priorities and are fundamental to the delivery of Te Tāruke-ā-Tāwhiri. These principles are:</p> <ul style="list-style-type: none">• Kaitiakitanga• Mātauranga• Taurite• Whanaungatanga• Manaakitanga• Rangatiratanga• Tōnuitanga
Highlights	<p>The projects below are highlighted as examples of projects that are working towards delivering and upholding the te ao Māori principles outlined in Te Puāwaitanga ō te Tātai:</p> <p>Mātātahi Taiao / Rangatahi Project</p> <p>Auckland Council is currently onboarding 20 rangatahi who will form the kahui rangatahi. They will design, develop, and support Mātātahi Taiao. This Kaupapa focused on recruiting Uri o ngā iwi Mana Whenua o Tāmaki Makaurau aged between 15-30 years of age, who have good Te Reo Māori and Tikanga Māori knowledge, along with a diversity of whakaaro.</p> <p>A key focus to date, has been on establishing a strong foundation for the programme. Auckland Council has worked on development of a rangatahi aligned well-being strategy, tuakana wrap around support for rangatahi, and methods of communication that reflect rangatahi centric messaging. This is to create a programme that is safe, supportive, and empowering for rangatahi participants.</p> <p>Staff have also been engaging regularly with mana whenua through updates to the I&ES Mana Whenua Forum and are working to meet individually with representatives of each iwi to discuss opportunities to partner on climate action.</p> <p>This project is shaped by and demonstrates the principles of Manaakitanga, Kaitiakitanga, Whanaungatanga, Rangatiratanga, Mātauranga and Taurite.</p>



Priority | Te Puāwaitanga ō te Tātai

Resilient and sustainable marae project

The resilient and sustainable marae project commenced in November 2021 with the recruitment of the Senior Māori Advisor Marae. The focus to date is on iwi engagement to confirm the scope and kaupapa of the project.

This has involved 19 hui with individual iwi representatives between Dec 21 - April 22, presentations at the I&ES Mana Whenua Forum between Dec 2021 - April 2022 and regular monthly updates at the May, June, and July Mana Whenua Forum.

A number of insights and areas of focus for climate action have been gathered from these hui, including but are not limited to; wastewater, consistent water supply to rural marae on tanks during summer, flooding, taonga species loss and regeneration, energy, climate change education wānanga, te taiao wānanga for whānau, marae, hapu, iwi and managed retreat.

Currently, there are two iwi representatives onboard for the co-design roopu and another six iwi and/or marae representatives are anticipated by end of August.

This project is shaped by and demonstrates the principles of Manaakitanga, Kaitiakitanga, Whanaungatanga and Mātauranga.

Restore Hibiscus and Bays

Restore Hibiscus and Bays is a community-led initiative that aims to restore native habitats and improve water quality across the Hibiscus & Bays Local Board area.

The initiative follows te ao Māori principles to foster guardianship, care, and respect for the local environment to restore it back to health.

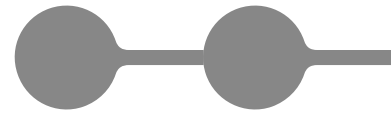
Auckland Council has had successful meetings with Ngāti Manuhiri and Ngā Maunga Whakahii o Kaipara to work through the updated approach to project objectives, while navigating iwi capacity. Four cultural inductions were delivered during June 2022, with Ngāti Manuhiri to support 42 community members. Planning has started, and an agreement has been made with Ngā Maunga Whakahii o Kaipara to deliver cultural inductions next financial year. Funding has been put towards Ngā Maunga Whakahii o Kaipara time to deliver this.

Significant engagement occurred with both iwi during this financial year to develop successful collaborations, taking time to ensure good communication, and to inform opportunities for community conservation groups to engage with their local iwi.

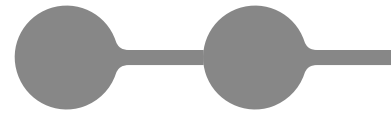
This project is shaped by and demonstrates the principles of Whanaungatanga, Manaakitanga and Kaitiakitanga.

Challenges

It is currently a challenge for staff to successfully embed the principles of Te Puāwaitanga ō te Tātai across the other Priorities in a way that delivers on the goal of Te Puāwaitanga ō te Tātai in a meaningful way. A greater understanding is required and there is a need to work further with Māori specialist staff and partner with mana whenua to define an approach that ensures the principles of Te Puāwaitanga ō te Tātai shape the design and delivery of climate action in Tāmaki Makaurau.



Priority Energy and industry	
Goal	A clean energy system that supports and provides for a resilient, low carbon Auckland.
Actions	6 action areas (24 actions)
Highlights	<p>Project Gigawatt</p> <p>Project Gigawatt is an initiative to develop solar power and other renewable energy initiatives on properties owned and managed by Auckland Council. The project was approved as part of the 10-Year Budget climate action investment package and seeks to meet any growth in electricity demand through renewable energy.</p> <p>The first project, a 200kW photovoltaic array at Albany Pool, is expected to be completed by the end of 2022, with the second project, at Manurewa Pool expected to be completed by the end of FY22/23.</p> <p>Aquatic Centre Boiler Phase-Out Programme</p> <p>The Emergency Budget (Annual Plan 2020/2021) provided funding to phase out boilers for water heating at Auckland Council’s aquatic centres. The first project is completed with heat pumps commissioned at the Moana-nui-a-kiwa Leisure Centre, physical works are underway at Westwave and Onehuna Pools. Overall, this programme is expected to reduce Auckland Council’s operational GHG emissions by 19%.</p> <p>Government Investment in Decarbonisation</p> <p>EECA’s Government Investment in Decarbonising Industry Fund (GIDI) April 2022 funding round invested \$7.1 million in the Auckland Region. Projects include investments in biomass boilers, energy efficiency and high temperature heat pumps.</p>
Challenges	<p>Some projects have either been scaled back or delayed due to financial and logistical constraints associated with the Covid-19 outbreak and subsequent lockdowns.</p> <p>Delivering first of a kind technical projects can present unique challenges in relation to safety, design and legislative requirements, among others. All of which can, and do, lead to delays.</p>



Case Study 1 - Reduce Energy Hardship Project improving outcomes for whānau and the environment

The Reduce Energy Hardship project led by council's Climate Action Solutions Team addresses energy poverty by providing targeted support for households in low socio-economic circumstances that struggle to afford heating and experience cold and damp homes most of the time. Energy hardship is the opposite of energy wellbeing - it is the situation when individuals, households and whānau are not able to obtain and afford adequate energy services to support their wellbeing in their home or kāinga.

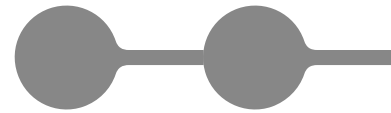
A partnership between council and Habitat for Humanity was established in 2021 to expand and add services to their Tō Kāinga Whare Programme which provides a wraparound healthy homes service to whānau. The strength of the Tō Kāinga Whare Programme is through its collaborative approach and working with a variety of partners and funders to provide tailored support to whānau in their homes.

Of the whānau supported by the programme, 46% identify as Māori and 38% as Pacific Islander. Through this partnership 304 home assessments were delivered this year, which included the installation of energy efficiency items including LED lights, efficient shower heads, draught stopping, hot water cylinder wraps and curtains, and education about behavioural changes that support creating warmer, drier homes and lower power bills. The physical interventions carried out by Habitat resulted in estimated carbon savings of 72 tons CO₂-e. Other benefits include creating warmer, drier homes that reduce household illness and save householders money in energy bills. A Social Return on Investment report determined that for every \$1 spent on the Tō Kāinga Whare Programme, \$6.30 of value is returned to society.

Auckland Council's partnership with Habitat for Humanity is a successful example of Council working with community partners to build their capacity and capability to provide local services. Next year the project will be scaled up through enabling Habitat for Humanity to further extend their Tō Kainga Whare programme to deliver 500 healthy home /energy refits to Auckland households.

Figure 10 Energy hardship work being undertaken within the community





Case Study 2 - Central library living roof

In the largest example on a council-owned building, Auckland Council has installed a living 'green roof' featuring more than 2,000 plants on top of the central Auckland Library.

Living roofs, which are roofs partially or completely covered with vegetation, can increase resilience to the impacts of climate change through reducing the urban heat island effect and slowing and reducing stormwater runoff. Living roofs also provide a host of other benefits including improved air quality, enhanced biodiversity and habitats for insects and birds. With the library building dating back to the 1970's, repair work was required on the roof, and Auckland Council took this opportunity to install plants as an alternative top layer to the usual stone ballast.

The project itself started in early July 2021 and was completed in April 2022. A total of 2,050 low-maintenance, hardy native plants have been planted in 'eco-pillows' designed to incorporate a mix of soil and nutrients and prevent soil particles and sediment from filtering into drainage and stormwater systems. An additional 300 to 400 plants will be planted over the coming months to improve overall coverage.

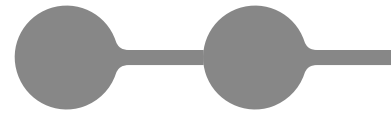
The remedial roof work for the library, which was delayed by Covid-19, cost around \$10 million, with an additional \$730,000 for the installation of the living roof.

Local iwi Ngāti Whātua Ōrākei developed the roof design inspired by whāriki, a plaiting style of weaving representing the laying of foundations for all that it bears.

Moving forward, a range of benefits will be monitored and reported on publicly.

Figure 11 Central library green roof project





Headline Progress indicators

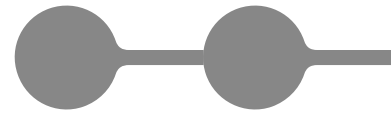
Te Tāruke-ā-Tāwhiri includes 71 progress indicators against the 8 priorities. On an annual basis, the following headline indicators (by priority) will be reported against in the progress report and all indicators will be reported against every three years (where data is available).

Priority Natural Environment		
Air quality (Baseline FY20/21)		Tree canopy (Baseline 2018)
Concentration of air pollutants (NO ₂ µg/m ³)*		Average percentage canopy cover of urban Ngahere (3m+ height)
	2022 Result (FY21/22)	Baseline (FY20/21)
Glen Eden	4.8	4
Henderson	7.2	7.4
Patumahoe	2.7	2.3
Penrose	13.6	15.2
Queen Street	30.5	36.8
Takapuna	12.6	12.4
	2022 Result (Jan-Dec 21)	Baseline (2018)
	No Update	18%

*Source: Boamponsem, L. (2022). Auckland air quality – 2021 annual data report. Auckland Council technical report, TR2022/5

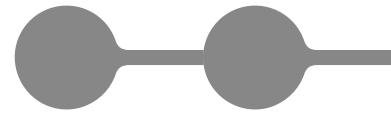
Priority Built environment	
Access to public transport (Baseline FY20/21 Result)	Sustainable buildings (to be established)
Percent of annual dwellings consented within 1km of a train or busway station (rapid transit network stations) ² .	Data not yet available.
2022 Result (FY21/22)	Baseline (FY20/21)
14%	17%

² 2020 report reported 26%, however this should have been 17% for annual dwellings within 1km.



Priority Transport														
Use of public transport (Baseline FY20/21 Result)	Use of cars, light and heavy vehicles (Baseline FY20/21)													
Public transport boardings per annum	Litres of petrol sales and litres of diesel sales													
<table border="1"> <thead> <tr> <th>2022 Result (FY21/22)</th> <th>Baseline (FY20/21)</th> </tr> </thead> <tbody> <tr> <td>41 million</td> <td>64 million</td> </tr> </tbody> </table>	2022 Result (FY21/22)	Baseline (FY20/21)	41 million	64 million	<table border="1"> <thead> <tr> <th></th> <th>2022 Result (FY21/22)</th> <th>Baseline (FY20/21)</th> </tr> </thead> <tbody> <tr> <td>litres of Petrol (Million Litres)</td> <td>810</td> <td>874.5</td> </tr> <tr> <td>litres of Diesel (Million Litres)</td> <td>653</td> <td>615.9</td> </tr> </tbody> </table>		2022 Result (FY21/22)	Baseline (FY20/21)	litres of Petrol (Million Litres)	810	874.5	litres of Diesel (Million Litres)	653	615.9
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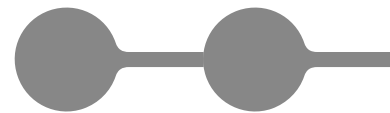
Priority Economy										
Transition to low carbon economy (to be established)	Waste to landfill (Baseline FY20/21 Result)									
Data not yet available	<ul style="list-style-type: none"> • Kilograms of total solid waste per capita per year • Tonnes domestic waste per capita per year <table border="1"> <thead> <tr> <th></th> <th>2022 Result (FY21/22)</th> <th>Baseline (FY20/21)</th> </tr> </thead> <tbody> <tr> <td>Tonnes of Solid waste per capita per year</td> <td>804 tonnes</td> <td>885 tonnes</td> </tr> <tr> <td>Kg of domestic waste per capita per year</td> <td>142kg</td> <td>147kg</td> </tr> </tbody> </table>		2022 Result (FY21/22)	Baseline (FY20/21)	Tonnes of Solid waste per capita per year	804 tonnes	885 tonnes	Kg of domestic waste per capita per year	142kg	147kg
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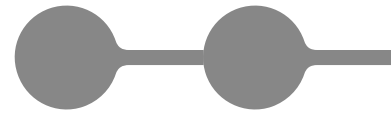
Priority Food			
Percentage of domestic food waste as a proportion of total domestic waste collected at kerbside		Tonnes of domestic food scraps diverted from landfill by the Auckland Council kerbside collection service *does not include private volumes of domestic and commercial food waste	
2022 Result	Baseline (2016)	2022 Result (FY21/22)	Baseline (FY20/21)
45%	45%	1037 tonnes	1144 tonnes

Priority Communities and coast			
Low carbon lifestyles (Baseline FY20/21 Result)		Education (Baseline FY20/21 Result)	
Number of Aucklanders engaged in living low carbon lifestyles		Percent of Auckland's schools engaged in sustainability education	
2022 Result (FY21/22)	Baseline (FY20/21)	2022 Result (FY21/22)	Baseline (FY20/21)
72,749	48,816	65.5%	60%

Priority Te Puāwaitanga ō te Tātai	
The Priority includes the seven te ao Māori principles below:	
<ul style="list-style-type: none"> • Kaitiakitanga • Mātauranga • Taurite • Whanaungatanga 	<ul style="list-style-type: none"> • Manaakitanga • Rangatiratanga • Tōnuitanga
<p>There are currently no specific progress indicators for measuring progress against the te ao Māori principles outlined in Te Puāwaitanga ō te Tātai. These principles need to be embedded throughout the other Priorities and are fundamental to the delivery of Te Tāruke-ā-Tāwhiri. Work is ongoing to understand how we can develop indicators for Te Puāwaitanga ō te Tātai and evaluate progress in a meaningful way.</p>	



Priority Energy and industry											
Percentage change in emissions from electricity consumption (Scope 2 emissions is percent difference between 2016-2018)		Percentage change in emissions from stationary fuel combustion (e.g., process heat) (Scope 1 emissions is percent difference between 2016-2018)									
<table border="1"><thead><tr><th>2022 Result</th><th>Baseline (2016-18)</th></tr></thead><tbody><tr><td>No update</td><td>13.7 % Increase</td></tr></tbody></table>	2022 Result	Baseline (2016-18)	No update	13.7 % Increase		<table border="1"><thead><tr><th>2022 Result</th><th>Baseline (2016-18)</th></tr></thead><tbody><tr><td>No update</td><td>-5.3 % decrease</td></tr></tbody></table>	2022 Result	Baseline (2016-18)	No update	-5.3 % decrease	
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2022 Result	Baseline (2016-18)										
No update	-5.3 % decrease										



What's next?

There is a need to accelerate the delivery of climate action to meet our climate goals.

This report identifies that there are currently more Te Tāruke-ā-Tāwhiri actions underway, and less actions not in progress, compared to the previous progress report (November 2021). This represents positive progress, but significant additional action and commitment is required by a range of stakeholders. With staff now recruited for key positions at Auckland Council, facilitating the accelerated delivery of Te Tāruke-ā-Tāwhiri will be an important focus for the year ahead. This will require collaborative working with a range of stakeholders and partners.

Engagement with mana whenua to better understand how implementation of Te Tāruke-ā-Tāwhiri can be taken forward in partnership with mana whenua is a priority for the year ahead and beyond. There is a need to build capacity and capability within the Auckland Council Group to enable and support delivery that upholds the partnership approach outlined through Te Tāruke-ā-Tāwhiri.

A Regional Leadership Group is in the process of being established and will set out to accelerate the implementation of Te Tāruke-ā-Tāwhiri through cross-sectoral partnerships and climate action. The Regional Leadership Group is expected to include leaders from the Auckland Council Group, mana whenua, central government, business, community, district health boards and youth.

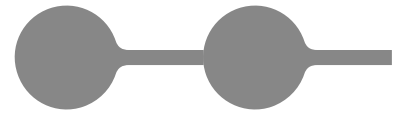
Climate Connect Aotearoa, an innovation hub to support collaborative climate action and drive transformation towards a climate resilient and low carbon Tāmaki Makaurau Auckland is set to launch later in 2022.

Delivery of the \$152m climate investment package in the 10-year Budget 2021-2031 is ongoing with key deliverables outlined in this report. A number of programmes will be established or implemented further in 2022/23 with new monitoring and control processes more closely monitoring the performance and delivery of the package.

Governance and delivery plans are currently being established for programmes funded by the Climate Action Targeted Rate (CATR). All programmes across Auckland Transport and Auckland Council will progress design and procurement phases over the next year.

To achieve our climate goals, climate action needs to be embedded across all our planning, investment and decision making. A Climate Impact Assessment Tool to enable the effective integration of climate change considerations in Auckland Council's decision-making processes will be rolled out in 2022/23.

The Transport Emissions Reduction Pathway (TERP) has outlined the transformational change required to reduce transport emissions by 64 per cent by 2030. Auckland Council and Auckland Transport need to embed implementation of the TERP through all of their activities, including future updates to key transport planning and funding processes such as the Auckland Transport Alignment Project and the Regional Land Transport Plan, and land use policy such as the Future Development Strategy and the Auckland Unitary Plan.



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