

Kaipātiki Climate Action Plan



February 2023, Version 1.0





Chair's foreword: A climate action response

Auckland is in a climate emergency. We have less than a decade to make the major changes we need to avoid the worst impacts of climate change. While there are many actions underway at the national and regional level to reduce Auckland's emissions, it is vitally important that we also act at a local level.

This plan sets out practical actions that the Kaipātiki Local Board can take over the next three years and beyond to support the transition to a zero carbon and climate resilient future.

There are many initiatives already underway in the Kaipātiki Local Board area that are contributing to our climate goals. We fund and support a strong network of local community environmental groups, working to protect and restore our ngahere, and promote zero waste and local food production. We will continue to support these valuable community initiatives that contribute to our climate goals. We will also initiate a community climate activation programme, funding some community initiatives that target emissions reduction or create opportunities for the community to learn about climate change, including resilience and adaptation.

We will continue our investment into community conservation initiatives that protect our network of native bush reserves and our taonga species, such as kauri. We will also continue to increase our canopy cover in areas where this is lacking, through a funded programme of future tree planting.

The majority of trips in our board area are currently made by private vehicle, with transport being the highest source of emissions from our area. We will work to provide and improve safe walking and cycling connections between our parks, schools and local town centres, as identified in our Kaipātiki Connections Network Plan. Over the next ten years there will also be regional investment into improving ferry and bus services to our area. We will champion opportunities to improve walking and cycling connectivity to these public transport services, such as the northern expressway, and Beach Haven, Birkenhead and Northcote Ferry terminals.

The re-development of Northcote provides an opportunity for us to work with Eke Panuku Development Auckland, Kāinga Ora and others to champion a town centre with more affordable medium and high-density housing, where it is easy for people to live and get to services on foot. We will also work with Kaipātiki businesses to help them understand their carbon footprints and identify methods to reduce these.

We will support projects to help our communities become more resilient to climate impacts. This includes implementing the shoreline adaptation plan for Little Shoal Bay and supporting a plan for the rest of the Kaipātiki coastline. It also includes targeted education to help those in our area who will be the most vulnerable to climate impacts, to understand climate risks and prepare for these.

Finally, we will build relationships with mana whenua. This will provide the foundation for us to partner with mana whenua in the future on new Māori-led climate projects that increase the health of te taiao and enhance the resilience of Māori to climate impacts.

John Gillon

Chairperson, Kaipātiki Local Board

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1. Introduction

This plan is based on the strategic principles of The Auckland Plan, and Te Tāruke-ā-Tāwhiri: Auckland’s Climate Plan. These lay the foundation for Auckland’s transformation into a resilient, zero carbon community which is actively adapting to the impacts of climate change. Te Tāruke-ā-Tāwhiri sets out two core goals:

- to reduce our greenhouse gas emissions by 50 per cent against a 2016 baseline by 2030 and achieve net zero emissions by 2050;
- to adapt to the impacts of climate change by ensuring we plan for the changes we face under our current emissions pathway.

This action plan sets out how Kaipātiki can make this transition a positive pathway, socially, economically and environmentally, by focusing on the actions we can take now that are good for our communities. The plan also sets some medium-term targets that will create a pathway towards zero carbon.

The plan prioritises carbon reduction measures, following the decarbonisation pathway for Tāmaki Makaurau set out in Te Tāruke-ā-Tāwhiri, which identifies eight priority areas under the goal of halving emissions by 2030 and preparing for change.

The table below shows the relationship between plans, our climate goals, and our priority areas, which are drawn from Te Tāruke-ā-Tāwhiri and the development of this Kaipātiki Climate Action Plan, for action and implementation.



Plans	Our goals	Our priority areas	Implementation
<ul style="list-style-type: none"> • Auckland Plan • Te Tāruke-ā-Tāwhiri: Auckland’s Climate Plan • 10-year Budget 2021-2031 • Kaipātiki Local Board Plan • Kaipātiki Climate Action Plan 	<ul style="list-style-type: none"> • Halving emissions by 2030 • Zero carbon by 2050 • Adapting to the impacts of climate change • Our natural environment is protected and restored for future generations to enjoy (Local Board plan) 	<ul style="list-style-type: none"> • Natural environment • Built environment • Transport • Economy • Community and coast • Food • Te Puāwaitanga ō Te Tātai • Energy and industry 	<ul style="list-style-type: none"> • Working together, community and business partnerships • Governance, funding and engagement • Community climate activation programme • Demonstrating and measuring progress

At a global level, through the Paris Agreement, nations have set a goal to ensure temperature rises are below 1.5°C to avoid the most severe consequences of climate change. Kaipātiki must do our fair share to contribute to reaching these targets and prevent further catastrophic climate impacts.

In Tāmaki Makaurau we are already beginning to experience localised effects like heavy rain events, storm surges and coastal inundation, extreme heat events and drought. These are likely to increase in frequency and severity.

This plan includes actions to build our resilience and adaptations that we must take, to protect against the unavoidable and harmful effects of climate change. It also addresses how the board and community can continue and enhance their valuable work to offset and capture carbon through the restoration of our taiao / environment.

Kaipātiki Local Board will continue to:

- robustly and visibly incorporate climate change considerations into work programmes and decision-making
- advocate strongly for greater Governing Body and central government leadership and effective action on climate change
- connect community members and leaders who are working on climate change, particularly where this can help scale up or amplify innovation
- increase the visibility of our climate change work
- lead by example in reducing the council's greenhouse gas emissions
- include climate impact statements on all local board reports
- ensure that carbon emission reduction opportunities are identified and achieved, and greater resilience built.

We look forward to working with iwi, local and central government and community partners to ensure a collaborative response.

This action plan can only be successfully implemented with the support and participation of the Kaipātiki community. We invite you to join us in continuing to develop and implement this plan, and we encourage iwi, businesses, community groups and residents to become a part of leading our transition towards a zero carbon future in Kaipātiki.

With your feedback, as international and local knowledge and learning increases, and as new opportunities are identified, this plan will be reviewed every three years. It will be a living document that informs the local board and community's response to climate change.

We would like to thank community members and council staff for their contribution to this plan. Community organisations who were represented include: Kaipātiki Project, Pest Free Kaipātiki Restoration Trust, Birkdale Community House, Highbury Community House, Kaipātiki Community Facilities Trust, Takapuna Methodist Church, Northcote Intermediate, Auckland University youth representatives, Akoranga section of Smiths Bush Volunteers, Chelsea Heritage Estate Regional Park Association, Hinemoa Park Placemaking Group and Bike Kaipātiki.

2. Auckland's sources of carbon

Production emissions

Greenhouse gas emissions produced in Auckland can be broken down into the following five key sectors as shown in Figure 1 below. An understanding of the key sources of carbon helps inform actions that can be taken to reduce these emissions¹.

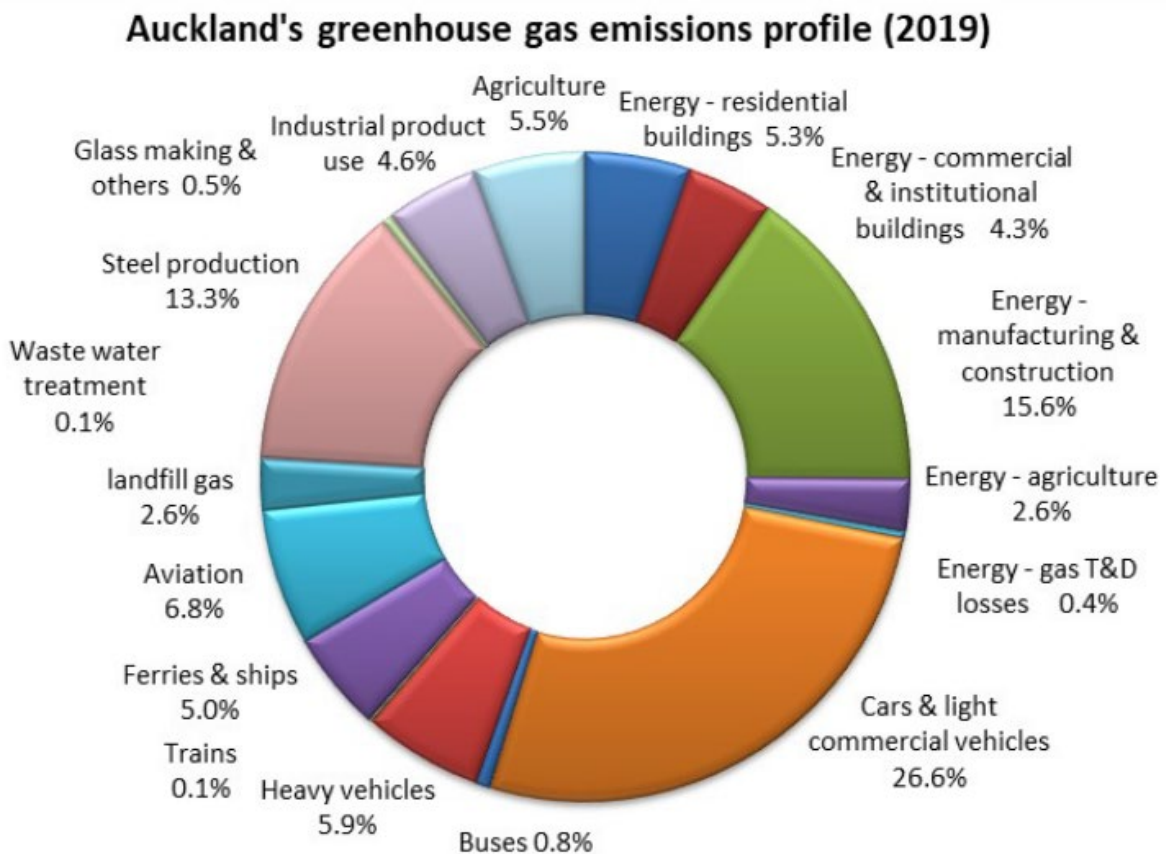


Figure 1 - Auckland's gross greenhouse gas emissions 2019

Overall, the largest source of production emissions in Auckland comes from **transport**, which generates 45.2 per cent of Auckland's emissions, with 73.9 per cent of this from travel by road. This includes emissions from private and light commercial vehicles, trucks, buses, trains, ferries and other ships and aviation.

The second largest source of emissions is **stationary energy**, which generates 28.1 per cent of Auckland's emissions. This includes emissions from electricity and natural gas consumption in residential and commercial buildings and energy use in manufacturing and construction. Transport

¹ Auckland's Greenhouse Gas Inventory to 2019: <https://www.knowledgeauckland.org.nz/publications/aucklands-greenhouse-gas-inventory-to-2019/>

and stationary energy are likely to be the highest sources of emissions from the Kaipātiki Local Board area by some margin.

Industrial processes and product use generate around 18.4 per cent of Auckland’s emissions, which in Auckland are mainly associated with steel production. Emissions from landfilled waste and wastewater treatment (2.7 per cent) and agriculture (5.5 per cent) are much lower and less of a priority for the board area.

Consumption emissions

Another way to measure emissions and prioritise our actions to reduce them is through considering consumption emissions – emissions from the products and activities that households buy and do. The chart below shows the carbon footprint of an average New Zealand household (Stats NZ, 2019)², with the largest emitting activities marked in bold.

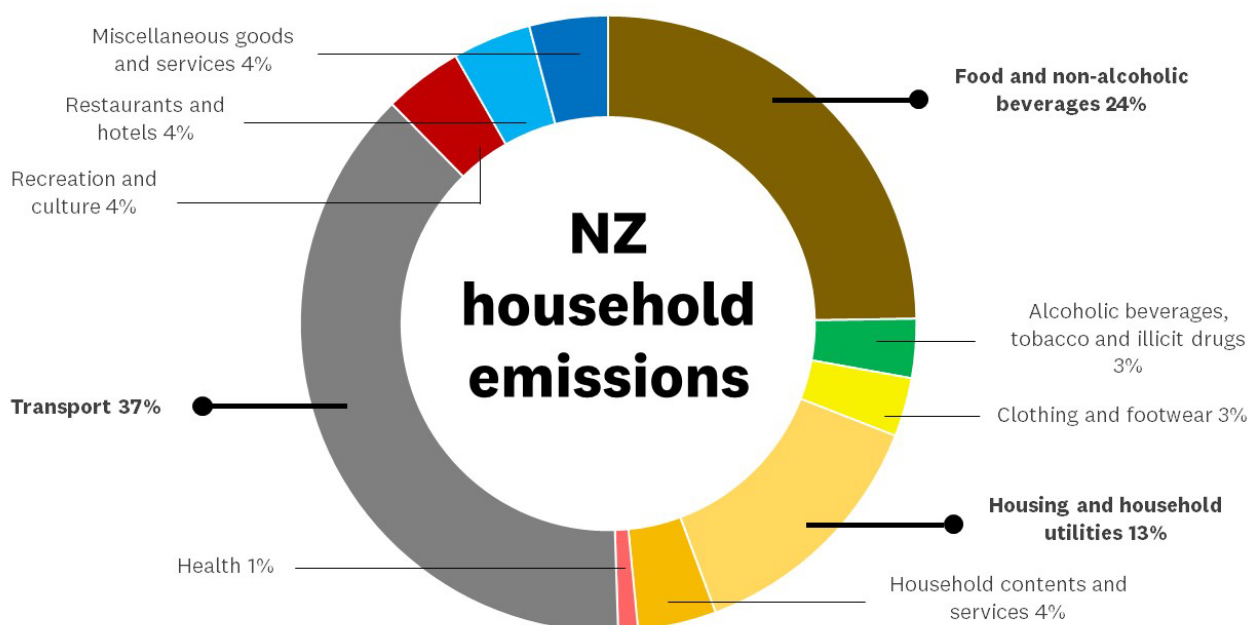


Figure 2 - New Zealand household emissions by category 2019

As Figure 2 shows, when considering what households and communities can do to reduce consumption emissions at a local level, transport is still the largest source of emissions (37 per cent) and top priority for action. Kaipātiki residents can also reduce consumption emissions in other areas. For example, projects that support residents to make sustainable low carbon food choices (24 per cent of footprint), save energy in their homes or purchase recycled clothes, furniture, and appliances, can also have an impact. Some variations in these emissions profiles will be evident

² Statistics New Zealand, Greenhouse gas emissions (industry and household): Year ended 2019: <https://www.stats.govt.nz/information-releases/greenhouse-gas-emissions-industry-and-household-year-ended-2019>

across local board areas, but priority areas for action, such as transport, food and stationary energy use, will remain consistent.

3. A Te Ao Māori lens

We have used a Te Ao Māori lens to help frame our thinking about, and approaches to, climate change. It helps ensure that taiao / environment, whenua / land and tangata / people remain the focal point for all climate-related decisions.

The Te Ora o Tāmaki Makaurau Wellbeing Framework was developed by the Mana Whenua Kaitiaki Forum in response to Te Tāruke-ā-Tāwhiri. These include:

- manaakitanga
- kaitiakitanga / tiakitanga
- whānaungatanga
- rangatiratanga
- mātauranga
- ōritanga
- tōnuitanga.

These principles can be applied as we develop and implement this action plan, remembering the world is a dynamic and complex ecosystem of whakapapa interconnections and interdependencies. All things – people, birds, fish, trees, weather patterns – are members of a cosmic family. It is critical we recognise the rights and interests of nature, place and people using a whole living systems approach.

Ngā Aho Taiao	The ability and capacity of the ngā taiao / nature anchor to sustain and maintain whole living systems and regenerate its own mauri, while contributing to the mauri of people and land.
Ngā Aho Whenua	The ability and capacity of the whenua / land anchor to sustain and maintain whole living systems and regenerate its mauri, while contributing to the mauri of people and nature.
Ngā Aho Tangata	The ability and capacity of the tangata / people to sustain and maintain their mauri, while contributing to the mauri of the land and nature.

4. What are climate actions?

Climate actions are projects, initiatives and activities which better connect us to the taiao / environment and whenua / land.

Climate actions aim to reduce our greenhouse gas emissions to achieve a better balance and reciprocity between the carbon we emit and the carbon that our environment is able to absorb or sequester.

They will:

- result in changes to our lifestyles, businesses, infrastructure, buildings, consumption patterns, behaviour and environment, which reduce or eliminate greenhouse gas emissions
- help restore the taiao / environment, whenua / land, tangaroa / seas, and awa and puna / waterways
- increase our ability to respond to the climate changes already locked in by helping us prepare, adapt and become more resilient

This action plan highlights existing climate action activity in Kaipātiki and where this activity could be expanded to enhance outcomes. It also identifies new climate actions that could be undertaken to support climate change mitigation and adaptation.

5. Developing the plan

The development of this climate action plan included a stocktake of local and Auckland-wide low carbon initiatives that are either making a positive contribution towards reducing the Kaipātiki Local Board area's carbon footprint, building community resilience, or supporting climate adaptation. Kaipātiki has strong business, iwi and community organisations that support these climate goals, with over a hundred existing initiatives identified that are already underway. A summary of these initiatives is provided in Appendix 1. This action plan aims to accelerate or expand these.

Representatives of the organisations involved in existing Kaipātiki-based initiatives were invited to participate in a working group to develop this plan.

Due to the COVID-19 pandemic, community consultation was delivered through online mechanisms. An online workshop was held with community representatives and leaders to help identify local board area climate priorities and project ideas. Further one-on-one interviews were also held with key community stakeholders, Auckland Council staff, and council-controlled organisations. A full list acknowledging these contributions is contained in Appendix 2.

This action plan also draws strongly on the consultation undertaken for other plans and on insights drawn from community initiatives including:

- Kaipātiki Local Board Plan 2020
- Te Tāruke-ā-Tāwhiri: Auckland's Climate Plan 2020
- Other existing plans and initiatives highlighted within each section of this action plan.

Several workshops were held with mana whenua through the Infrastructure and Environmental Services Mana Whenua Forum to seek their feedback on development of local climate action plans.

Feedback that mana whenua provided to Auckland Council on previous consultations, such as the 10-Year Budget 2021-2031, was also reviewed.

6. Adapting to climate change

Auckland Council has produced a Climate Change Risk Assessment (CCRA) technical report series to assess the impacts of climate change on people, environment and infrastructure³. The CCRA takes into consideration climate predictions, our current understanding of climate change impacts, and Auckland’s current environment, to better understand the key risks and vulnerabilities for Auckland. The CCRA assessed our vulnerability to climate change in Kaipātiki⁴, examining the degree to which our communities are susceptible to, and able to cope with, the impacts of climate change. The assessment identified Birkdale North, Westlake and Tuff Crater Census Area Units as vulnerability hotspots in Kaipātiki (see Figure 3). It also identified low adaptive capacity in Birkdale North, and the east of the local board area. These findings highlight the importance of working with these communities to build greater climate resilience.

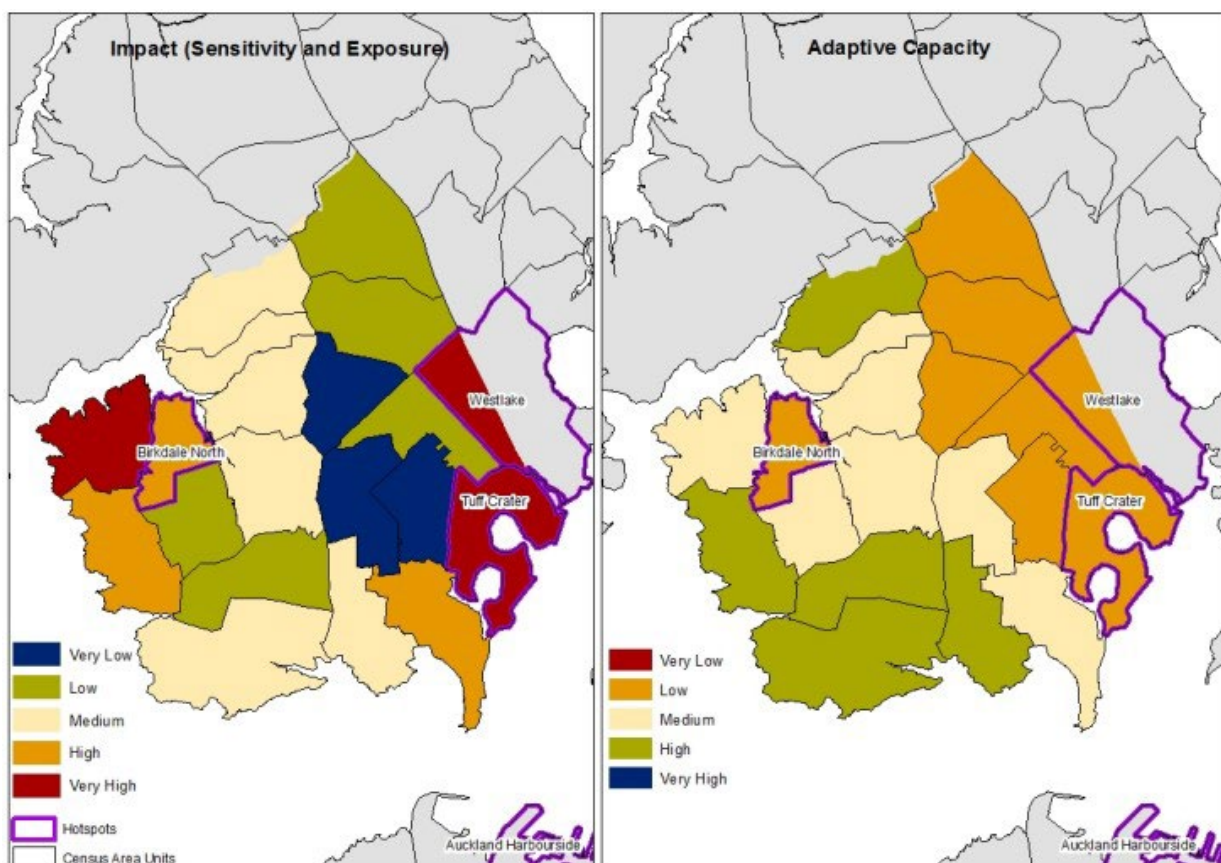


Figure 3 - Vulnerability Assessment in Kaipātiki

³ [Climate Change Risks in Auckland](#)

⁴ [An Assessment of Vulnerability to Climate Change in Auckland](#)

Some of the key risks we need to consider and respond to include:

- Sea level rise will put infrastructure and ecosystems at risk while flooding poses direct and indirect risks to people, infrastructure and services. The recent Auckland floods of January 2023 demonstrated that parts of the board area experienced both landslips and flooding during an extreme rain event.
- The changing climate will create an environment that allows water and vector-borne diseases to thrive, which will affect people and ecosystems.
- Terrestrial and freshwater ecosystems are at risk and face a combination of stressors.
- Changes to these ecosystems are likely to impact on human wellbeing and the economy.

The ability of people and households to adapt and respond to these risks is dependent on many factors, such as:

- Where people live, their socio-economic circumstances, their support networks, their occupations and their ability to have options can impact their vulnerability. Areas of the board with higher levels of socio-economic deprivation, like Birkdale North and Tuff Crater, will need more support to be resilient to climate risks.
- Children and older people will be more vulnerable to some effects.
- Māori (8.7 per cent of people living in the board) and Pacific peoples (6.1 per cent) may be more affected than others by some climate effects, due to their generally younger age structure as well as other factors.
- Targeted programmes to support the diverse ethnic groups living in Kaipātiki to understand and respond to climate impacts will also be needed, particularly for those who do not speak English (around eight per cent of the board's population).

7. The Action Plan and its implementation

This plan builds on Kaipātiki's existing environmental and sustainability initiatives, and the commitment in the Kaipātiki Local Board Plan 2020 to take action on climate change. It focuses on the priority areas from Te Tāruke-ā-Tāwhiri, which include Natural environment, Built environment, Transport, Economy, Community and coast, Food, Te Puāwaitanga o Te Tātai, and Energy and industry. The plan identifies goals for each priority area, and actions that contribute to achieving those goals.

There are a range of different mechanisms the local board can take to implement this plan, including:

- **Leading** – including delivering council projects within the board area and using powers available to drive change (including landowner approvals). This action area also includes

local board members leading by example and includes ensuring that climate actions are considered and emphasised in all local board decision-making.

- **Funding** – provision of funds through grants and other mechanisms to support delivery of community or Māori-projects.
- **Partnering** – including building relationships with key organisations and individuals who can help deliver action.
- **Advocacy** – including to the Governing Body and other organisations such as Waka Kotahi NZ Transport Agency and Auckland Transport.
- **Recognition** – including promoting actions and recognising others.
- **Supporting** – providing assistance for existing or emerging action such as letters of support and staff time.

The local board must ensure it is using all available levers to tackle the climate crisis.

A community climate activation programme will be established to progress certain actions in the plan with the community, and staff such as the local board strategic broker will be tasked with supporting the local board to deliver on the actions that relate to leading or funding tangible low carbon activities in Kaipātiki. The partnering, advocacy, recognition and support actions in the plan will be undertaken by local board members.

Progress updates will be prepared, setting out progress on each of the eight priorities, and will provide comment in relation to the ‘evidence of progress’ column for flagship actions, as well as any targets and metrics identified for each outcome area. Further detail is contained within Section 9 – Monitoring.



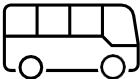
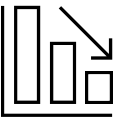
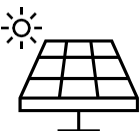
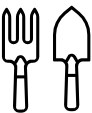
Mana whenua, as partners to Auckland Council under Te Tiriti o Waitangi, will be key to implementing the plan.

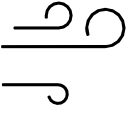
Key stakeholders that will support delivery of the plan include:

- Birkenhead Town Centre Association, Northcote Business Improvement District (BID)
- private businesses, including small and medium-sized enterprises (SMEs) and multi-nationals
- community organisations
- schools and tertiary providers
- central government, including Kāinga Ora
- Eke Panuku Development Auckland
- utility providers and renewable energy businesses.

8. Flagship projects

A flagship project tackles climate issues distinct to each local board area using the unique strengths and character of the board and community. Projects are particularly impactful in reducing carbon emissions and/or empowering community resilience within key priority areas.

<p>1. Taiao māori Natural environment</p>		<p>Develop a programme of funded tree plantings from the planting opportunities set out in the Kaipātiki Urban Ngahere Action Plan 2020.</p>
<p>2. Taiao hanga Built environment</p>		<p>Investigate installing solar on facilities with significant solar potential, including:</p> <ul style="list-style-type: none"> • Birkenhead Pool and Leisure Centre • Kaipātiki Local Board Office • Glenfield Pool and Leisure Centre.
<p>3. Ikiiki Transport</p>		<p>Champion opportunities for improved active travel within the forthcoming update to the Kaipātiki Connections Network Plan (for example, Wairau Road and Albany Highway).</p>
<p>4. Ōhanga Economy</p>		<p>Host new programme with the Sustainable Business Network, and business and town centre associations to help businesses measure and reduce climate emissions.</p>
<p>5. Ngā hapori me te tahatai Community and coast</p>		<p>Fund the establishment of a community climate activation programme to support community activities to implement plan.</p>
<p>6. Ngā kai Food</p>		<p>Support community-led low carbon food initiatives such as community gardens, markets, cooking lessons, plant-based meal choices, community fridges and urban farm projects, such as those set out in the Kaipātiki Naturalisation of Parks Service Assessment.</p>

<p>7. Te puāwaitanga o Te Tātai</p>		<p>Build relationships between local board and interested mana whenua as a foundation for future co-delivery of te taiao projects.</p>
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*Further details of flagship projects are within each section of the action plan and are shown as Year 1 projects.

8.1 Taiao māori – Natural environment

*Toitū te marae a Tane-Mahuta, toitū te marae a Tangaroa, Toitū te tangata
If the land is well and the sea is well, the people will thrive*

Taiao māori – Natural environment is a priority of Te Tāruke-ā-Tāwhiri: Auckland’s Climate Plan because ‘the quality of our beaches, harbours, bush, streams and maunga are dependent on how we treat them’. Whilst the natural environment is an interconnected ecosystem, made up of each of these parts, it is the bush, and in particular tree coverage, which is the focus of this section of our climate action plan because of the impact trees can make in sequestering carbon. The oceans also sequester carbon, and we know that responsible land management supports catchment and ocean health.

Kaipātiki has one of the largest areas of continuous urban native vegetation remaining in Auckland’s ecological region, at 30 per cent tree cover across public and private land. The area contains 540ha of local parks and reserves, including destination parks like Onepoto Domain and Chelsea Heritage Park. The urban ngahere (forest) and network of parks and reserves are important natural assets, supporting carbon sequestration whilst also supporting the wellbeing of Kaipātiki residents and attracting visitors to the area.

Whilst the overall tree cover in Kaipātiki is exemplary, there are variations across the board area⁵. Tree coverage across land tenure is:

- 64 per cent in public open space (up one per cent since 2013)
- 25 per cent on private land (the same as 2013)
- 12 per cent on roadsides (up two per cent since 2013).

According to an assessment of the board area, the leafy suburbs of south-eastern and eastern Kaipātiki are classified as ‘forested suburbs’ with 33 – 54 per cent cover; the eastern suburbs have ‘good cover’ at 23 – 28 per cent. The northern suburb of Totara Vale has ‘moderate cover’ at 18 per cent, while industrial Wairau Valley has ‘bare cover’ at eight per cent.

These variations in tree cover present opportunities, both for planting in areas of low cover, and protection in areas of strong tree cover. Pest control and measures to manage kauri dieback are also critical in managing these spaces to maximise carbon uptake.

There is a network of effective community conservation groups in Kaipātiki, such as Kaipātiki Project and Pest Free Kaipātiki, who are working to grow native trees, protect and restore natural areas and implement the Pest Free Kaipātiki Strategy. The local board provides over \$300,000 of funding a year to support these groups in their activities. We will continue our support for local conservation groups and their valuable efforts.

There is also concern that while community groups are working hard to plant trees, we are losing more unprotected trees on private property as housing development accelerates. Education and awareness of the need to protect existing trees is required.

⁵ Kaipātiki Local Board Ngahere Analysis Update 2021

Together with sustainable land management, the activities identified below will:

- help keep us cooler in summer
- reduce the effect of heavier rainfall and flooding due to climate change
- support our native ecosystems.

Current activities, actions, programmes and plans:

- [Kaipātiki Open Space Network Plan 2022-2032](#)
- [Kaipātiki Urban Ngahere Report 2019](#)
- [Kaipātiki Urban Ngahere Action Plan 2020](#)
- [Pest Free Kaipātiki MoU and Strategy](#)
- [Kaipātiki Community Facilities Trust](#)
- [North-West Wildlink](#)
- [Kaipātiki Play and SunSmart Provision Assessment](#)
- [Kaipātiki Project](#)
- [The Clean Up Crew](#)

Goals

- Protect existing ngahere
- Increase tree cover in areas of low coverage
- Enhance existing open space
- Enhance community understanding of the role of trees in sequestering carbon.

Opportunities and benefits

These actions below will have much broader positive impacts, including:

- carbon sequestration
- more shelter and sunshade provided
- less overheating
- biodiversity increased
- air quality improved
- prevention of erosion and improved water quality
- improved health and wellbeing
- increased property values
- reduced flood risk
- sustained and enhanced mauri
- increased resilience
- local sources of food

Taiao māori - Natural Environment actions

Goal	Action	Timescale/ Funding status	Collaborating organisation	Evidence of progress
Partner with community to protect and grow ngahere	Continue to fund and support community conservation groups such as Kaipātiki Project and Pest Free Kaipātiki to protect and restore the local ngahere	Ongoing/ Funded	Natural Environment team, Kaipātiki Project, Pest Free Kaipātiki	Funded conservation activity
Protect existing ngahere	Continue to support our local ecological and environmental volunteers in their valuable planting, and pest plant and animal control activity facilitated by the Community Park Ranger.	Ongoing/ Funded	Natural Environment team, various community groups	Funded conservation activity
	Continue to support the Parks Buffer Programme, delivered by the Natural Environment team.	Ongoing/ Funded	Natural Environment team	Funded conservation activity
	Support measures to minimise the spread of kauri dieback disease, including bush track upgrades, hygiene procedures and training for volunteers and contractors, messages around respecting temporary and permanent track closures, and support for installing and using hygiene stations	Ongoing	Natural Environment team, various community groups	Funded kauri dieback measures
Increase tree cover in areas of low coverage	Develop and deliver a programme of funded tree plantings from the planting opportunities set out in the Kaipātiki Urban Ngahere Action Plan 2020, to increase tree coverage in areas of low cover	Medium term/ Partially funded	Parks and Community Facilities	Completed tree planting programme with funding allocated
	Plant large specimen trees for shade as recommended in the Kaipātiki Play and SunSmart Provision Assessment	Medium term/ Partially funded	Parks and Community Facilities	Number of large specimen trees planted

	Offer grants, incentives and support to encourage low carbon initiatives in schools, such as tree planting in school grounds	Ongoing/ Community Grants Programme	Sustainable Initiatives team	Evidence of support
Enhance existing open space	Implementation of high priority projects from the Kaipātiki Open Space Network Plan 2022-2032	Medium term/ Partially funded	Various community groups	Completed projects
	Explore ways to manage our parks that are good for biodiversity and reduce operational emissions from our activities, such as mowing practices	Medium term/ Partially funded	Parks and Community Facilities	Evidence of operational emissions assessment
Enhance community knowledge of the role of trees in climate change mitigation	Use planting days and weeding bees as an educational opportunity for local residents and schools to learn about the climate issues we face and available solutions	Ongoing/ Funded	Community Park Ranger, Pest Free Kaipātiki, Kaipātiki Project	No. of planting and weeding days

Delivering on the actions and monitoring progress

The key internal Auckland Council departments involved in delivering these actions with the local board are Environmental Services and Community Facilities (Local Parks).

Regular progress updates, setting out progress on this priority and key actions will be prepared. The metrics set out below will also be used to measure progress against the Natural environment outcome area of this plan. Refer to Section 9 – Monitoring Framework for more information.

- Retention of % canopy cover in public open space
- Increase in % of canopy cover on private land to 30 per cent
- Increase in roadside canopy cover
- Number of trees planted
- Number of community weeding bees.

What you can do

- ❑ Plant trees and plants to support birds, bees, and native wildlife in your garden
- ❑ Retain existing trees on your property
- ❑ Control pest plants and animals on your property
- ❑ Join a local restoration group or look out for restoration events in your community
- ❑ Seek funding for your restoration project through:
 - ❑ Local Board Community Grants



Figure 4 - Eskdale Reserve, Birkenhead

8.2 Taiao hanga - Built environment

Ehara tāku toa i te toa takitahi, engari he toa takitini
My strength is not as an individual, but as a collective

Te Tāruke-ā-Tāwhiri defines the built environment as including ‘the buildings where we live, work and learn, the infrastructure systems that enable the region to function, and the urban spaces that shape our city.’ The overarching goal for Taiao hanga - Built environment in Te Tāruke-ā-Tāwhiri is to achieve a low carbon, resilient built environment that promotes healthy, low impact lifestyles. Our buildings are responsible for significant climate-changing pollution. Emissions from the construction sector have leaped 66 per cent in a decade. Constructing and renovating New Zealand buildings now produces climate-changing pollution equivalent to the emissions from one million cars on the road every year⁶.

While the phrase ‘built environment’ brings buildings to mind, it should not be forgotten that the built environment also includes the urban spaces that shape our city and the spaces between buildings. Significant carbon reduction can occur through quality urban planning which considers access to sustainable transport and amenities that reduce the need to travel.

Local opportunities: Large-scale development is planned for Northcote, meaning there is either the potential to add significant carbon to the atmosphere, or to reduce carbon through careful planning, design and action. The board will continue to work with developers and organisations such as Kāinga Ora, Eke Panuku Development Auckland, Auckland Council, Watercare, Auckland Transport, Waka Kotahi NZ Transport Agency, KiwiRail and Transpower to support carbon reduction actions. The board will also support initiatives such as Te Ara Awataha, which help to provide resilience to flooding through the use of nature-based solutions.

Greenhouse gas emissions from local facilities: Auckland Council has targets in the Long-Term Plan to halve operational greenhouse gas emissions by 2030. Local facilities, including community facilities and local parks, contribute almost half of Auckland Council’s operational emissions. This is mostly from the combustion of natural gas for heating aquatic centres and emissions related to electricity consumption. Auckland Council-operated local facilities within the Kaipātiki Local Board area contribute three per cent of Auckland Council’s total emissions. Ninety per cent of these emissions come from the two aquatic centres operated by the local board. As local boards have decision-making authority for community facilities, libraries and parks, local boards have direct control over actions to reduce greenhouse gas emissions from these facilities.

Initiatives like phasing out fossil fuels, improving energy efficiency, and investing in renewable energy typically reduce the operating costs of local facilities. Under the governance framework review, operational savings will be available to the local board to reinvest in their services.

Measuring carbon reduction: To acknowledge the national context and Kaipātiki Local Board’s place within this, the Ministry of Business, Innovation and Employment (MBIE) Building for Climate Change programme will set targets around energy use and carbon emissions. To meet the goals, changes will be made to current building laws, both the Building Act and the Building Code. The greatest carbon reductions will be seen when life cycle assessment and carbon

⁶ <https://www.nzgbc.org.nz/zerocarbon>

reduction is a requirement of the Building Code. Therefore, the local board will advocate for changes to the Building Code as soon as possible.

Ahead of life cycle assessment and carbon reduction being a requirement of the building code, green building frameworks can be used to help us design and build better. The most commonly used green building frameworks are the IS Rating Schemes by the Infrastructure Sustainability Council and those managed by the New Zealand Green Building Council; the most commonly used being Greenstar (for commercial / community buildings), Homestar (for homes) and more recently, Greenstar Communities (for urban scale developments).

Goals

- Reduce carbon emissions from community facilities by 50 per cent by 2030
- All new buildings operate at net zero carbon by 2030 and all existing buildings operate at net zero carbon by 2050⁷
- Reduce waste generation through community facility operation and renewals
- Achieve greater water efficiency
- Support more transit-orientated development

Current activities, actions, programmes and plans

National frameworks:

- [MBIE Building for Climate Change Programme](#)
- [A Zero Carbon Road Map for Aotearoa's Buildings](#)
- [NZGBC Zero Carbon Certification](#)
- [Infrastructure Sustainability Council's Rating Schemes](#)
- [Place Based Approaches to Net Zero](#)

Local development:

- [Eke Panuku Development Auckland - Northcote](#)
- [Te Ara Awataha](#)

Residential:

- [Warmer Kiwi Homes Grants](#)
- [Healthy Homes Standards](#)
- [Kāinga Ora Retrofit Programme](#)
- [Healthy Homes on a Budget Workshops](#)
- [Free Water Checks](#)

⁷ World Green Building Council global project goal

Opportunities and benefits

These actions below will have much broader positive effects including:

- lower power, water and waste bills
- warmer, drier, healthier homes
- healthier, more productive work environments
- cleaner air
- buildings durable and adaptable enough to meet the needs of future generations of occupiers
- reuse of construction materials and a circular economy for construction materials
- employment opportunities for a skilled sustainable construction sector
- use of nature-based solutions, such as wetlands, daylighting and naturalisation of waterways and rain gardens to make new developments more resilient to extreme weather events.



Figure 5 - Artist's Impression of Kaipātiki Rise

Taiao hanga - Built environment: Actions

Goal	Action	Timescale/ Funding status	Collaborating organisation	Evidence of progress
Reduce carbon emissions from community facilities by 50% by 2030	Ensure the planned and regionally-funded programme to upgrade Glenfield and Birkenhead Pool and Leisure Centres building management systems that control heating, ventilation, cooling and other mechanical systems, and replace pool heating from natural gas to electric heat pumps by 2025 goes ahead	Long term/ Funded	Community Facilities	Project completion by 2028
	Investigate installing solar on facilities with significant solar potential, including: <ul style="list-style-type: none"> • Birkenhead Pool and Leisure Centre • Kaipātiki Local Board Office • Glenfield Pool and Leisure Centre 	Medium term/ Funded	Community Facilities	Feasibility assessment completed by June 2024
	Assess utilisation of community facilities. For any underutilised facilities, assess required upgrades to make buildings fit for purpose, or consider divestment	Short term/ funded	Community Facilities	Completed assessment report
	Advocate to Eke Panuku Development Auckland for life cycle assessment in design and build of Central Northcote Community Hub	Medium term/ Does not require funding	Community Facilities	Completed assessment
	Request that officers assess replacing gas heating at the Birkenhead Library and Civic Centre with electric heating within the C&CS local board work programme	Medium term / Discretionary funding available	Community Facilities	Completed assessment
	Request officers assess the feasibility of upgrading lighting, heating, water heating and insulation in	Medium term /	Community Facilities	Completed assessment

	Kaipātiki facilities. Where cost effective, these upgrades are to be prioritised within the C&CS local board work programme	Discretionary funding available		
All new buildings operate at net zero carbon by 2030 and all existing buildings operate at net zero carbon by 2050	Target Greenstar ratings for projects over \$10m or utilise other relevant sustainable construction tools or accreditations for any new community facilities under local board decision-making authority	Ongoing/ Funded	Community Facilities	No. and address of projects targeting Greenstar credits
	Require all local facilities to have recycling and food waste collection services	Short term/ Funded	Community Facilities	Evidence of contracted recycling and food waste collection services at all facilities where local board has delegated authority
	Advocate for the reduction of embodied and operational carbon in major infrastructure projects, renovations and new developments that the board is consulted on	Ongoing/ Does not require funding	Community Facilities	No. and address of projects where carbon reduction was advocated for
Divert a minimum of 75% of construction and demolition waste generated	Ensure waste minimisation targets are included in contracts for community facility renewals: <ul style="list-style-type: none"> • For renewals involving capital works and generating construction and demolition waste - 75% diversion rate. • For operational waste minimisation - 40% waste reduction by 2040 	Medium term/ Does not require funding	Community Facilities	No. and % of renewals projects containing stated targets
Achieve greater water efficiency	Assess the feasibility of water efficiency upgrades in parks and community facilities. This includes upgrading irrigation controls, irrigation systems, installing flow	Medium term / Discretionary funding available	Community Facilities	Completed assessment

	restrictors and low-flow faucets and shower-heads. Prioritise these upgrades within the C&CS work programme.			
Champion use of nature-based solutions for resilient growth	Advocate for the use of nature-based solutions, such as greenways, wetlands, rain gardens, daylighting and naturalisation of streams, in major developments in the board area	Ongoing / Does not require funding	Eke Panuku Development Auckland, Kāinga Ora, private developers	Evidence of advocacy, e.g. board feedback on resource consents, major developments

Aspirational actions

These are aspirational and currently unfunded actions that will be considered by the local board for inclusion in future work programmes.

Goal	Action
Reduce carbon emissions from community facilities by 50% by 2030	Fund development of an operational carbon footprint for the local board, to help it identify and prioritise the top source of emissions from council activities in the board area
Achieve greater water efficiency	Continue to support household water efficiency and increased water storage through the provision of educational programmes

Delivering on the actions and monitoring progress

The key internal Auckland Council departments involved in delivering these actions with the local board are Community Facilities, the Chief Sustainability Office, Regulatory Services and Waste Solutions.

Regular updates setting out progress on this priority and key actions will be prepared. The metrics set out below will also be used to measure progress against the Built environment outcome area of this plan. Refer to Section 9 – Monitoring.

- % reduction in community facilities carbon emissions
- Number of zero carbon developments completed
- Number of community facility renewals projects meeting construction waste diversion targets.

What you can do at work

- ❑ Office space. Assess the energy efficiency of your business with [NabersNZ](#).
- ❑ Need energy efficiency expertise? See [programmes and funding from EECA](#).
- ❑ New space? Look for [NabersNZ](#) or [GreenStar certifications](#).

What you can do at home

- ❑ Complete a life cycle assessment to understand the carbon footprint of your development and take steps to reduce embodied and operational carbon when building new or renovating
- ❑ [Warmer Kiwi Homes Grants](#). Homeowners can access funding for up to 90 per cent of the cost of insulation and energy efficient home heating
- ❑ Borrow a HEAT Kit (Home Energy Audit Toolkit) from an Auckland Library to check your home insulation and find out how to save on your power bill
- ❑ [Do an online HomeFit assessment](#) to check how easily a home can be kept warm, dry and safe
- ❑ [Book a visit](#) from a HomeFit assessor to come to your home and verify whether or not it meets the ventilation, insulation, heating and energy efficiency standards
- ❑ Building or buying new? Look for [Homestar certification](#)

8.3 Ikiiki - Transport

Haere pai atu, hoki pai mai
Travel safe

The ultimate goal of the Ikiiki (Transport) priority within Te Tāruke-ā-Tāwhiri: Auckland's Climate Plan is 'a low carbon, safe transport system that delivers social, economic and health benefits for all'.

Transport accounts for nearly half (45 per cent) of Auckland's greenhouse gas emissions. People living in Kaipātiki usually get to work by private vehicle (59.3 per cent) or company vehicle (9.5 per cent). Almost half get to their place of study as a passenger or driver of a vehicle (48.6 per cent)⁸. Encouraging walking, cycling, scooting, train, bus, ride sharing, and use of electric vehicles in Kaipātiki will help reduce these emissions.

There are strong links between the built environment and transport in planning for low carbon communities. Kaipātiki contains a network of town centres, including Northcote, Birkenhead and Glenfield, and local centres such as Beach Haven. These centres provide goods and services supporting people's day-to-day needs. A strong walking and cycling network providing safe and

⁸ <https://www.stats.govt.nz/tools/2018-census-place-summaries/kaipatiki-local-board-area>

convenient connections to and between these centres, our parks, schools and places of work, will contribute to reducing transport emissions.

Transport connections from Kaipātiki to wider Auckland exist in the form of ferries at Beach Haven, Birkenhead and Northcote Point and the northern and north-western motorway. Major infrastructure investment is identified in the Regional Land Transport Plan 2021-2031 (RLTP) to improve Auckland's transport network in order to accommodate growth, increase travel choice, provide better access and connectivity, improve the resilience and sustainability of the transport system and significantly reduce the greenhouse gas emissions it generates. Key projects that will directly benefit Kaipātiki include:

- Northern Busway enhancements and extensions
- interchange improvements at Glenfield shops
- local projects to support Kāinga Ora's Northcote development
- safety improvements at Glenfield and Onewa Roads
- Rosedale and Constellation Bus Stations
- Increased ferry frequency and low emission ferries servicing Kaipātiki routes
- bus frequency improvements will be funded through the Climate Action Targeted Rate from 2024 along key routes such as from Constellation to Britomart via Glenfield, Constellation to Smales via Wairau Road and Smales to Northcote.

The Regional Land Transport Plan also includes a \$200m local board initiatives fund to be split between Auckland's 21 local boards. These funds provide for an ongoing programme of smaller-scale local transport improvements. Each local board decides on its own investment initiatives. Through our Kaipātiki Connections Network Plan, the local board will identify and invest in projects that make walking and cycling in Kaipātiki safer and more convenient.

The local board can also advocate for and champion priority connections to be funded at a regional level. This could include cycleways on Wairau Road and Albany Highway.

Equitable access to sustainable travel options is a key issue. Auckland's current car dependent transport systems mean that many Aucklanders who cannot drive or afford to own a private vehicle have limited mobility. More active transport modes like walking and cycling also aren't workable for everyone. Providing convenient, frequent and affordable public transport services will help address these issues. Supporting the transition to affordable low emission vehicles is another important part of the transition to a zero carbon transport system. Provision for electric vehicle charging in new developments will also be important.

Goals

- Improve local infrastructure for active travel
- Support community action on sustainable travel
- Advocate for and champion low carbon transport connections within Kaipātiki and to wider Auckland.

Current activities, actions, programmes and plans

- [Bike Kaipātiki](#)
- [Awataha Greenway](#)
- [Auckland Regional Land Transport Plan 2021-2031](#)
- [Kaipātiki Connections Network Plan](#)
- [Kaipātiki Open Space Network Plan 2022-2032](#)
- [Auckland's Low Emission Bus Pathway](#)
- [Travelwise Programme for Schools](#)
- [Walking School Bus](#)
- [Bike Safe training](#)
- [Travelwise Choices Programme for Organisations](#)

Opportunities and benefits

The actions below will have much broader positive effects including:

- improved air quality
- improved public health
- more car-free public spaces to enjoy
- cycling and active commuting safer and making us healthier
- cheaper and quicker to get around



Figure 6 - Local cycleway

Ikiiki - Transport actions

Goal	Action	Timescale/ Funding status	Collaborating organisation	Evidence of progress
Improve local infrastructure for active transport	Work with Auckland Transport to secure better bus services to the Northern Busway stations	Medium term/ Funded though Climate Action Targeted Rate	Auckland Transport	New bus routes and increased frequency of buses
	Champion opportunities for improved active travel within the forthcoming update to the Kaipātiki Connections Network Plan, including connections to ferry terminals and the Northern Busway	Short term/ Does not require funding	Auckland Transport	Completed connections plan including active travel opportunities, completed additional metres of cycleway
	Champion the inclusion of bike and scooter parking and rapid transit bus stops into new developments, particularly in high-density residential and town centre regeneration projects	Ongoing/ Does not require funding	Auckland Transport	List of developments supported
	Advocate for more electrical charging carparks in the Kaipātiki Local Board area	Ongoing/ Does not require funding	Auckland Transport	Evidence of advocacy
Support community action on sustainable transport	Support events and activities by local active transport groups, such as Bike Kaipātiki, and initiatives such as low traffic neighbourhoods, tactical urbanism, and street closures	Short term/ Funded through community climate activation programme	Bike Kaipātiki	Support such as grants for activities or promotion of community events through local board media channels
	Offer grants, incentives, and support to encourage low carbon transport to sports events	Ongoing/ Funded through Community Grants Programme	Bike Kaipātiki, sports clubs, schools	Evidence of support

	Update the community grants policy to require applicants to consider low carbon transport options at events	Short term/ Does not require funding	N/A	Updated grants policy
	Advocate for the inclusion of sports clubs in the Travelwise Programme	Ongoing/ Does not require funding	Auckland Transport	Evidence of advocacy
	Board members lead by example, demonstrating use of active transport and public transport modes in movements throughout Kaipātiki and wider Auckland	Ongoing/ Does not require funding	N/A	Evidence of leading by example, such as social media posts
	Advocate to Auckland Council for the inclusion of elected members in the Auckland Council benefits which are available for employees, particularly those with a sustainability focus	Ongoing/ Does not require funding	Auckland Council	Evidence of advocacy
Advocate for and champion low carbon transport connections within Kaipātiki and to wider Auckland	Advocate to Auckland Transport for delivery of public transport projects in RLTP	Ongoing/ Does not require funding	Auckland Transport	Evidence of advocacy action, such as letters, meetings
	Advocate for investment into regionally funded cycleways, for example, along Wairau Road and Albany Highway	Ongoing/ Does not require funding	Auckland Transport	Evidence of advocacy action, such as letters, meetings
	Advocate for faster electrification of ferries and buses	Ongoing/ Does not require funding	Auckland Transport	Evidence of advocacy action, such as letters, meetings
	Advocate for cheaper ferry and bus fares, and higher frequency of services	Ongoing/ Does not require funding	Auckland Transport	Evidence of advocacy action, such as

				letters, meetings
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Aspirational actions

These are aspirational and currently unfunded actions that will be considered by the local board for inclusion in future work programmes.

Goal	Action
Support community action on sustainable transport	Support targeted programmes which encourage mode shift for journeys, such as bike to sport programmes or personal journey planning

Delivering on the actions and monitoring progress

The key internal Auckland Council departments involved in delivering these actions with the local board are Transport Strategy, Sustainability Initiatives, and the Chief Sustainability Office. Auckland Transport will deliver most of the actions outlined above.

Regular updates setting out progress on this priority and key actions will be prepared. The metrics set out below will also be used to measure progress against the Transport outcome area of this plan. Refer to Section 9 – Monitoring Framework for more information.

- % of people getting to work by transport mode
- % of people getting to their place of study by transport mode
- Numbers of movements over cycle counters in the board area
- Number of schools and businesses participating in mode shift programmes such as Travelwise.

What you can do at work

- Sign your workplace up to the Auckland Transport Travelwise Choices programme
- Join Love to Ride, the [Aotearoa Bike Challenge](#)
- Join the Walk to Work Challenge
- Choose an electric vehicle
- Access personalised journey planning, cycle and public transport promotions, events and resources on the [Auckland Transport website](#).

What you can do at home and in the community

- Walk or cycle more - try out local cycle and walkways
- Join a local bike group like [Bike Kaipātiki](#)
- Plan your bus or train trip at [at.govt.nz](#)
- Find someone to share a ride with at [smartrtravel.org.nz](#)
- Set up a flexi workspace so you can work from home
- Have a staycation and reduce the amount you fly
- Seek funding from the [Auckland Transport Community Bike Fund](#)
- Participate in consultations on new transport projects in your area.

8.4 Ōhanga - Economy

He aha te kai a te Rangatira? He kōrero, he kōrero, he kōrero
What is the food of the leader? It is knowledge, it is communication

Our economy can currently be described as predominantly linear; where we take materials from the earth, make them into products, and discard them as waste. This drives climate change, biodiversity loss, waste production and pollution. A circular economy offers an alternative, whereby resources are never abandoned to become waste or pollution. The growing network of Community Recycling Centres in Tāmaki Makaurau contribute towards a more circular economy, providing spaces where residents can drop off unwanted items and materials for reuse and recycling. Glenfield has been identified as a potential future location for a community recycling centre. Wairau and Birkenhead have also become emerging designations for op shopping, giving second-hand goods a new life.

There are over 9,600 businesses based in Kaipātiki⁹, with the largest number of local businesses in rental, hiring and real estate services, construction and professional, science and technical services, retail trade and manufacturing. These businesses provide over 32,000 jobs with the highest areas of employment within the construction, retail trade, manufacturing and education and training sectors¹⁰.

There is a significant opportunity to measure and reduce the carbon emissions created by our local businesses. There are a range of tools available to help businesses measure their carbon emissions and create an action plan for reduction. The appropriateness of each tool will depend on the sector and size of each business. Carbon certification and offset providers that are generally used by larger businesses include Toitū, Ekos, CarbonClick and COGO. FutureFit in business, by Auckland Council, is a comprehensive staff engagement programme that equips businesses with a suite of resources to deliver on corporate sustainability objectives, and support staff to take climate action. The Sustainable Business Network also has a Climate Action Toolbox and emissions calculator for businesses that is available online free of charge.

Disruptions such as climate change and the global pandemic have highlighted vulnerabilities in our regional and global economy. These disruptions have demonstrated the need for a more resilient economy that is local, circular and regenerative. Planning to respond to the risks created by climate change is an essential part of continuity planning and risk management. Auckland Council, Tātaki Auckland Unlimited and EECA have many existing resources and programmes which can support our businesses.

Pursuing low carbon, resilient process, product and service innovations means local businesses can create new forms of value, prompt new markets and support sustainable growth. By leveraging knowledge and resources, we can create a thriving zero carbon business community.

Goals

- By 2025 local businesses have been supported to:
 - measure their carbon emissions and reduce them by 25 per cent
 - set targets to halve their footprints by 2030 and reach carbon zero by 2050

⁹ <https://ecoprofile.infometrics.co.nz/Kaipatiki/Businesses>

¹⁰ <https://ecoprofile.infometrics.co.nz/Kaipatiki/Employment>

- identify and plan for climate risks.
- Creation of a circular economy by minimising waste and maximising recovery of materials
- Businesses in Kaipātiki have risk management and continuity plans in place.

Current activities, actions, programmes and plans

- [FutureFit in Business](#)
- [Sustainable Business Network Climate Action Toolbox](#)
- [EECA Energy Efficiency Technical and Funding Support](#)
- [Climate Leaders Coalition](#)
- [The ReCreators](#)
- [Work Ready – Business Continuity Planning](#)
- [Auckland Hazard Viewer](#)
- [Mandatory Climate Related Financial Disclosure](#)
- [North West Zero Waste Hub](#)

Opportunities and benefits

The actions below will have much broader positive effects including:

- | | |
|--------------------------------|--|
| • increased profitability | • higher sales |
| • improved efficiency | • more productive workforce |
| • greater levels of innovation | • better work-life balance |
| • greater access to capital | • less risk for businesses |
| • lower operating costs | • businesses better prepared for emergencies |
| • better air quality | |

Ōhanga -Economy actions

Goal	Action	Timescale/ Funding status	Collaborating organisation	Evidence of progress
Circular economy	Support community repair cafes such as the ones run by Highbury House	Short term/ Funded through community climate activation programme	Highbury House	Funding and/or other support provided
	Support community organisations working to create a circular economy, such as Zero Waste Hub Northcote, The ReCreators, Fair Food	Ongoing/ Community Grants Programme	Specified groups	Evidence of support provided to circular economy projects
	Support the establishment of the Glenfield Community Recycling Centre (CRC), by working with community groups active in the waste reduction and environmental education space to ensure they are connected to the development of this centre and its education programmes	Medium term/ Funded	Waste Solutions	Connections established between the centre and existing groups

Aspirational actions

These are aspirational and currently unfunded actions that will be considered by the local board for inclusion in future work programmes.

Goal	Action
Business decarbonisation and business resilience	Host a new programme for local businesses in partnership with the Sustainable Business Network, Birkenhead Town Centre Association, Northcote Business Improvement District and Wairau businesses to support local businesses in: <ul style="list-style-type: none">• understanding climate change• preparing to measure, reduce, certify, and offset emissions• planning for climate risk and a just transition
	Work with Auckland Emergency Management and local businesses to develop risk management and continuity plans in response to climate change and extreme weather events

Delivering on the actions and monitoring progress

The key internal Auckland Council departments involved in delivering these actions with the local board are Waste Solutions and Sustainability Initiatives. Tātaki Auckland Unlimited provides economic programmes that the board can access to support their local communities and businesses.

Regular progress updates, setting out progress on this priority and key actions will be prepared. The metrics set out below will be used to measure progress against the Economy outcome area of this plan. Refer to Section 9 – Monitoring Framework for more information.

- Number of businesses in the board area that have measured their carbon footprints and set reduction targets
- Number of businesses in the board area that have developed business continuity plans.

What you can do at work

Climate change will affect every aspect of our society and economy. You can make a difference by asking about, and planning for, climate change in your workplace.

Be a voice for change. Here are some questions to ask your employer or any businesses that you purchase products from:

- Have you measured your carbon emissions as a business?
- Do you have a target to reduce your carbon emissions?
- What are you doing to support government policies that limit carbon pollution across the economy and cut emissions in your sector?
- Does your business or trade association have a climate programme or policy in line with your agenda and values?
- How else is your company engaged in fighting climate change? (e.g. innovation in green tech)
- How does your company empower employees to fight climate change?
- Have we identified climate change risks for the business and created a business continuity plan?

Also see: livelightly.nz/resources/at-work

8.5 Ngā hapori me te tahatai - Community and coast

He waka eke noa

We are all in this together



Figure 7 - Beach Haven Wharf

The Kaipātiki Local Board area is bounded by coast to the north, west and south, so is particularly susceptible to coastal inundation, flooding, coastal erosion, and slips. Coastal inundation and flooding at Little Shoal Bay Reserve is an example of where we are currently experiencing impacts.

Auckland Council has identified coastal and major waterway sites within the Kaipātiki Local Board area that are vulnerable to coastal inundation (flooding). Sea level rise resulting from climate change increases the risk of coastal inundation. Residents can see a coastal inundation map, showing which places are at risk, on the Auckland Hazard Viewer¹¹. Sea level rise of up to one to two metres¹² is predicted over the next 100 years based on the projections by the Intergovernmental Panel on Climate Change. The council is developing shoreline adaptation plans to address these impacts within the coastal marine area.

¹¹ <https://www.arcgis.com/apps/MapSeries/index.html?appid=81aa3de13b114be9b529018ee3c649c8>

¹² One metre sea level rise is representative of the upper bound scenario to 2115. Two metre sea level rise is representative of potential, longer term sea level rise (2120 to approximately 2200).

Preparing for the impacts of climate change and reducing emissions requires major system changes. Community connectedness or high social capital is shown to be the key factor which enables communities to support each other and respond to natural disasters, such as major storms and floods. The strength of community organisations was evident in the local response to the Auckland floods in January 2023, with community groups providing support and help to those affected. For this action area, programmes and policies that focus on building social capital – the relationships, connections, and community participation that occurs on the ground between individuals and groups – will also improve resilience to climate impacts. Targeted programmes to help residents understand climate risks and prepare for them will also be valuable.

Individual, rangatahi/youth and community action is vital in influencing our everyday choices and driving the changes we need. Our formal education sector and community groups play an important role in enabling climate awareness and action. Network North is a collaboration between community groups working in the sustainability space in North Auckland which aims to foster communication and catalyse real collaboration towards a sustainable future for our communities. It is through such networks that we can continue to learn together and have conversations about climate change. As described below, and in the Natural environment sector of this plan, there is a range of existing community-led climate change activity underway in the board area.

Goals

- Support community initiatives that reduce emissions and increase our communities' understanding of and capacity to respond to climate change
- Strengthen the resilience of our communities, people and places
- Reduce the risk of flooding and hazards to properties and infrastructure.

Current activities, actions, programmes, and plans

- [Community Resilience Plan – Auckland Emergency Management](#)
- [Auckland Hazard Viewer](#)
- [Network North](#)
- [EcoFest North](#)
- [Live Lightly](#)
- [FutureFit](#)
- [Sustainable Schools](#)
- [Enviroschools and Te Aho Tū Roa](#)

Opportunities and benefits

The actions below will have much broader positive effects including:

- understanding current and future impacts of extreme weather events and climate change
- creating resilience in communities and business
- reducing negative social and financial effects of climate change
- protection of culture, taonga and sacred sites that may be affected.

Ngā hapori me te tahatai - Community and coast actions

Goal	Action	Timescale/ Funding status	Collaborating organisation	Evidence of progress
Support community initiatives that reduce emissions and increase our communities' understanding of climate change	Resource and support a community climate activation programme to support and amplify community initiatives to implement the Kaipātiki Climate Action Plan, create opportunities for the community to learn about climate change and reduce their carbon footprints	Short term/ Funded	Sustainable Initiatives team Relevant community groups	Work programme confirmed and projects completed
	Funding community-led activation events, such as EcoFest for local residents and schools to learn about climate issues we have and how to take action	Ongoing/ Community Grants Programme	Kaipātiki Project Relevant community groups	Funded events
	Promote the Kaipātiki Climate Action Plan through existing networks and platforms such as Community Houses, resident groups and the Kaipātiki Local Board Facebook page	Ongoing/ Does not require funding	Relevant community groups	Evidence of promotion
Strengthen the resilience of our communities, people and places	Support initiatives that help to improve the resilience of homes and/or properties in the face of extreme weather events	Short term/ Funded through community climate activation programme	Resilient Land and Coasts team	Evidence of funded initiatives
Reduce the risk of flooding and hazards to properties and infrastructure	Support regional actions to inform property owners and occupiers of potential climate change hazards, particularly those within identified climate vulnerability hotspots and those	Medium term/ Partially funded	Various Auckland Council teams	Evidence of communications regarding climate change hazards

	impacted by the changing coastline			
	Champion the creation of a Shoreline Adaption Plan for the western Waitematā Harbour, from Northcote to Beach Haven and Bayview, that assesses coastal hazards and the impacts of climate change on the coast, discussing adaptation options for the future with mana whenua, communities and asset owners	Medium term/ Funded	Resilient Land and Coasts team	Completed plan
	Support implementation of the Mini Shoreline Adaptation Plan for the Little Shoal Bay/Te Wai Manawa area with mana whenua, communities, and asset owners	Medium term/ Partially funded	Resilient Land and Coasts team	Completed and implemented plan

Aspirational actions

These are aspirational and currently unfunded actions that will be considered by the local board for inclusion in future work programmes.

Goal	Action
Strengthen the resilience of our communities, people and places	Support networks and initiatives that help produce strong and cooperative community connections, which help in a response to climate impacts (such as Network North)

Delivering on the actions and monitoring progress

The key internal Auckland Council departments involved in delivering these actions with the local board are Resilient Lands and Coasts, Sustainability Initiatives and Auckland Emergency Management. Regular updates, setting out progress on this priority and key actions will be prepared. The number of schools engaged in Sustainability Education programmes will also be monitored over time. Refer to Section 9 – Monitoring Framework for more information.

What you can do at work

- Hold a futurefit.nz corporate challenge
- Check the local hazards viewer
- Create a climate risk management plan and a business continuity plan

What you can do at home

- Attend EcoFest North events to learn more about sustainable living
- Visit [Live Lightly](#)
- Measure your carbon footprint at [Future Fit](#)
- Check the local hazards viewer
- Get to know your neighbours, so you can support those at risk in an emergency
- Create a household emergency plan

8.6 Ngā kai - Food

Nau te rourou, naku te rourou, ka ora te manuhiri

With your food basket and my food basket, together we will feed the people

Our kai / food is central to life, the health of our taiao / environment, our bodies, our cultural traditions, and our resilience. In Tāmaki Makaurau, food and non-alcoholic beverages make up 26 per cent of Aucklanders' consumption emissions, second only to transport. To reduce these emissions, we need to make more sustainable choices around the foods that we consume. By creating a more sustainable and regenerative food system, we can reduce the emissions we create through food production, distribution, processing, and disposal.

Sustainable food choices: A key action for the local board will be supporting community initiatives that encourage and enable people to make these choices, such as vegetarian cooking classes. One of the most effective ways of reducing our carbon emissions from food is shifting to a plant-rich diet.

Eating local and growing your own food: Eating food that is grown and consumed in season and locally helps to avoid the use of energy-intensive hothouse growing and freight. Supporting community gardens and enabling people to grow their own food can contribute to this goal. These actions also have many other sustainability benefits, in terms of community connectedness, wellbeing, and resilience. The local board can provide space for these projects and support them to build their capacity through grants.

Reducing food waste: Encouraging 'food rescue' and reducing food wastage at household, community, and business level, helps to reduce emissions. Key actions the local board could support include working with producers and distributors to redirect unsaleable food via a network of charities, community groups, and Pātaka Kai. At a household level, key actions are only buying what you need (for example, through meal planning and using shopping lists) and eating what you buy, to avoid wasting food.

Composting and promoting our food scraps collection: When disposing of unused food and garden waste, composting will generate less carbon emissions than sending these items to landfill. Programmes should be supported which encourage households to compost food scraps at home, or to use community compost hubs if the space is not available at home. In addition to encouraging local composting, Auckland Council is also introducing a food scraps collection. The local board can support this service by spreading the word about it and helping residents understand how to use it.

Goals

- Support and enable our residents to make sustainable food choices
- Increase the ability of residents to enjoy seasonal and locally produced food with a low carbon footprint
- 100 per cent Kaipātiki food waste composted by 2030 including:

- composting facilities or services at all community facilities, local food markets and schools by 2023
- food waste collections for all homes by 2023
- business food waste collections and composting.

Current activities, programmes, and gardens

- [Naturalisation of Parks Service Assessment](#)
- [Kaipātiki Project – Teaching Garden and Community Compost Hubs](#)
- [Fair Food](#)
- [Aotearoa Food Rescue Food Rescue](#)
- [Love Food Hate Waste](#)
- [Food Scraps Collection](#)
- [The Compost Collective](#)

Opportunities and benefits

The actions below will have much broader positive effects including:

- developing a vibrant and diverse sustainable food economy
- nurturing skills and awareness that build greater self-sufficiency
- reviving Māori food practices
- self-determining and mana-enhancing community participation in local food systems
- building community knowledge, sharing, skills and resources
- reducing hunger and food poverty
- reducing the costs of living
- improving access to healthy affordable food
- improving health
- improving soil health
- reducing food waste

Ngā kai - Food actions

Goal	Action	Timescale/ Funding status	Collaborating organisation	Evidence of progress
Support community initiatives that reduce emissions and increase our communities' understanding of climate change	Support community-led low carbon food initiatives such as community gardens, markets, cooking lessons, plant-based meal choices, community fridges and garden projects, such as those set out in the Kaipātiki Naturalisation of Parks Assessment	Short term/ Partially funded through community climate activation programme	Relevant community groups	Evidence of support - e.g. funding
	Offer grants, incentives, and support to encourage low carbon initiatives in schools, such as fruit tree planting on school property or establishing vegetable gardens	Ongoing/ Community Grants Programme	Schools	Evidence of support
100% Kaipātiki food waste composted by 2030	Support the sharing of surplus or waste food through the network of charities and community groups.	Ongoing/ Community Grants Programme	Relevant community groups	Evidence of support - e.g. funding
	Promote the Love Food Hate Waste Fund, and supplement with additional local board grants for local food waste prevention projects	Ongoing/ Community Grants Programme	Waste Solutions	Evidence of promotion - e.g. social media and support e.g. grants
	Champion use of the new regional kerbside food scraps collection when this is rolled out to all Kaipātiki households	Short term/ Does not require funding	Waste Solutions	Kerbside collection operational

Aspirational actions

These are aspirational and currently unfunded actions that will be considered by the local board for inclusion in future work programmes.

Goal	Action
Support community initiatives that reduce emissions and increase our communities' understanding of climate change	Develop a map of current urban agriculture (e.g. community gardens) and share with the public to enable more networking and volunteering
100% Kaipātiki food waste composted by 2030	Advocate for the introduction of composting services at all community facilities
Increase the ability of residents to enjoy seasonal and locally produced food with a low carbon footprint	Provide subsidies for rainwater tank installation to allow sufficient water storage for food production in times of drought

Delivering on the actions and monitoring progress

The key internal Auckland Council departments involved in delivering these actions with the local board are Sustainability Initiatives, Community Facilities and Waste Solutions.

Regular progress updates, setting out progress on this priority and key actions will be prepared. The metrics set out below will be used to measure progress against the Food outcome area of this plan. Refer to Section 9 – Monitoring Framework for more information.

- Number of urban agriculture areas
- Number and % of community facilities composting food waste.

What you can do at work

- Choose organic, local, seasonal drinks and food for kitchen and catering
- Share food and host a low carbon cooking demonstration
- Set up a compost collection for coffee grounds and food waste

What you can do at home

- Plan meals and choose local seasonal food
- Join a community garden and learn how to grow your own vegetables
- Try to have more plant-based meals and eat less meat and dairy
- Use up leftovers and reduce food waste
- Learn to compost at a free workshop



Figure 8 - Gardening at Kaipātiki Project



Figure 9 - Kumara Harvest, Kaipātiki Project

8.7 Te Puāwaitanga o Te Tātai

Te puawaitanga o te tangata

If Māori are flourishing, we are all flourishing

Māori, the indigenous people of Aotearoa New Zealand, have lived in Tāmaki Makaurau for over 1000 years. Te Tiriti o Waitangi recognises the rangatiratanga of Auckland's mana whenua and the inseparable bond between Tāmaki Makaurau the people and Tāmaki Makaurau the place. Tāmaki Makaurau embraces its uniqueness sourced in the cosmological traditions and guardianship of mana whenua. The establishment of Auckland is founded on Te Tiriti o Waitangi and is shaped by its Māori history and presence.

Our tūpuna have provided rich legacies of knowledge and practices that nurture whakapapa and reaffirm Māori ways of collective action. These can guide our responses today. Learning from these intergenerational relationships and practices allows us to plan for what our unique places and communities will face over the next few generations and beyond.

Mana whenua play a significant role in sustaining the region and the region's identity. Their responsibilities and obligations as kaitiaki of te taiao, our precious natural environment, must be upheld. Mataawaka make a significant contribution to the wellbeing of the region and add to the economic, cultural and social richness. The strengths and contributions Māori bring to Auckland will advance cultural, social, economic and environmental wellbeing for all Aucklanders.

Te Tāruke-ā-Tāwhiri is a narrative of climate change that speaks to the struggles of the ātua (primordial ancestors) as a result of human behaviour that is out of balance with the world around us. Climate change is a threat to the whakapapa connections of nature, people and place.

Māori exercise tino rangatiratanga and kaitiakitanga through Te Tiriti-based relationships with Auckland Council to enhance the mauri of te taiao. Projects which enable mana whenua to enact kaitiakitanga responsibilities to enhance the mauri of te taiao o Tāmaki Makaurau - waterways and treasured environments - are an important goal to work towards.

The Kaipātiki Local Board area is home to over 7,500 Māori, making up 10.3 per cent of the population (compared to 11.5 per cent in Auckland)¹³. The following iwi whakapapa to the Kaipātiki Local Board area:

- Ngāti Whātua – Ngāti Whātua, Ngāti Whātua o Kaipara, Ngāti Whātua Ōrākei
- Waiohua-Tāmaki – Te Kawerau ā Maki, Ngāi Tai Ki Tāmaki, Ngāti Tamaoho, Ngāti Te Ata Waiohua
- Marutūāhu – Ngāti Paoa, Ngaati Whanaunga, Ngāti Maru, Ngāti Tamaterā, Te Patukirikiri.

There is one community marae in the board area (Awataha Marae) and two whare wānanga (learning marae) that are college-based – Te Whare Wānanga O Te Purapura Pai (Birkenhead College) and Te Whare Opuawananga (Glenfield College).

The local board's role for this priority is to build relationships with local iwi and marae in the first instance. This step of making connections through kanohi ki te kanohi (face-to-face) hui is a critical

¹³ <https://stats.govt.nz/tools/2018-census-place-summaries/albert-eden-local-board-area>

foundation for future projects. This will help build an understanding of mātauranga Māori as well as sites of significance and historical cultural land uses. Once connections are built, co-designed projects can be developed which deliver kaitiakitanga outcomes.

The key characteristics of these projects would be:

- co-designed with mana whenua
- design uses mātauranga Māori
- provides training and employment opportunities for rangatahi Māori
- promotes kaitiakitanga and incorporates te reo Māori.

It is critical to ensure projects are properly resourced where engagement or partnership with Māori is within the project scope.

Goals

- Māori culture informs our climate actions and is accessible and visible in these
- Rangatahi are leaders in climate solutions
- Māori, taiao (the natural environment), whenua (land), and tangaroa (sea) are flourishing and able to support people for generations to come (intergenerational equity).

Current activities, actions, programmes and plans

- [Toitū Waitākere Report 2017](#)
- [Waitākere ki tua 2019](#)
- [Mana Whenua Kaitiaki Forum](#)
- [Te Ora ō Tāmaki Makarau](#)

Opportunities and benefits

The actions below will have much broader positive impacts:

- wellbeing enhanced
- kaitiakitanga obligations are met
- mauri of taiao, whenua and tangata is enhanced
- better health, housing, employment, career and business opportunities.



Figure 10 - Glenfield College Kapa Haka

Te Puāwaitanga o Te Tātai actions

Goal	Action	Timescale/ Funding status	Collaborating organisation	Evidence of progress
Māori culture informs our climate actions	Identify and invest in rangatahi Māori climate-related representation and development opportunities, including supporting rangatahi Māori-led projects in the board area	Medium term/ Community Grants Programme	Relevant rangatahi Māori groups	Evidence of support - e.g. funding
	Build relationships between local board and interested mana whenua as a foundation for future co-designed te taiao projects	Short term/ Does not require funding	Mana whenua	New and enhanced relationships are built
Taiao is flourishing	Continue support for projects outlined in the Natural environment section of the plan which increase the health of te taiao and restore significant ecological areas	Ongoing/ Partially funded	Relevant Auckland Council teams and community groups	Supported projects

Aspirational actions

These are aspirational and currently unfunded actions that will be considered by the local board for inclusion in future work programmes.

Goal	Action
Māori culture informs our climate actions	Look for opportunities to partner with mana whenua on new climate action and environmental projects
	Support mana whenua to tell stories of Māori cultural heritage and knowledge in public spaces, reflecting tikanga and matauranga Māori

What you can do

- Learn te reo Māori, tikanga and Māori culture
- Learn about the maramataka calendar and its role in our wellbeing
- Check out the Kaipātiki Project website for Te Ao Māori events e.g. rongoā, harakeke restoration

8.8 Te ngao me te ahumahi - Energy and industry

Hurihia tō aroaro ki te rā tukuna tō ātārangi kia taka ki muri i a koe
Turn your face to the sun and the shadows fall behind

Energy provides the electricity in our homes, fuel for our transport system and the heat that manufactures the products we need¹⁴.

- 84 per cent of New Zealand’s energy is currently produced from renewable energy sources
- current national energy targets aim for 90 per cent renewables by 2025 and 100 per cent renewable energy by 2035
- 66 per cent of Auckland’s energy emissions are from primary fuel combustion within the region, from fuels including natural gas, coal and liquid petroleum gas (LPG).

This section of the plan focuses on identifying opportunities to increase the proportion of renewable energy used and reduce energy consumption. The focus is on switching energy sources, such as from coal to biomass or natural gas to electricity, while we continue to improve energy efficiency and ensure a just transition for affected businesses and organisations.

Process heat is the steam, hot water or hot gases used in industrial processing, manufacturing and space heating. Process heat has been identified by EECA as New Zealand’s second biggest opportunity after transport to reduce energy-related carbon emissions. Half of New Zealand’s process heat demand comes from burning coal or natural gas. Businesses can reduce their energy costs and carbon footprint by running boilers and process heat systems efficiently or switching to innovative new heating technology.

The council has already begun phasing out gas boilers and improving energy efficiency in its community facilities. Further information is contained within the Built environment section of this plan.

Many of the steps that can be taken to change our levels of energy consumption or proportion of renewable energy require action at the national or regional level. Within Kaipātiki, there are opportunities to work with businesses and EECA to identify and accelerate opportunities for businesses that use coal or natural gas in their industrial processes to reduce emissions.

As well as improving the energy efficiency of their own buildings, the local board can also support the community to reduce energy consumption in their homes, for example, by promoting the FutureFit carbon footprint calculator, Auckland Council’s home performance advice service, Home Energy Audit Toolkits (HEAT kits) available through libraries and the Live Lightly resources.

Goals

- Renewable energy generation
- Developing decentralised renewable energy
- Reducing natural gas, coal and liquid petroleum gas (LPG) use and emissions
- Reducing non-renewable process heat and industrial process heat emissions and reducing refrigerant-related emissions

¹⁴ Auckland Council. (2020). *Te Tāruke-ā-Tāwhiri: Auckland’s Climate Plan*

- Promote energy efficiency initiatives.

Current activities, actions, programmes and plans

- [Co-funding for Process Heat Projects](#)
- [Low Emission Transport Fund](#)
- [New Zealand's Energy Strategy 2011-2021](#)
- Refer to [Built environment](#) for other building-related initiatives.

Opportunities and benefits

The actions below will have much broader positive effects including:

- growing a reputation as a leading sustainable community or eco-city
- attracting investment into sustainable infrastructure
- improving indoor air quality as unflued gas heating is removed
- reducing energy costs for local businesses and residents
- increasing energy security through local low carbon energy generation.

Te ngao me te ahumahi - Energy and industry actions

Goal	Action	Timescale/ Funding status	Collaborating organisation	Evidence of progress
Decentralised renewable energy	Support community-led initiatives to implement sustainable energy solutions	Ongoing/ Community Grants Programme	Relevant community groups	Evidence of support – e.g. submissions, letters, funding
Promote energy efficiency initiatives	Advocate to central government for the acceleration of renewable energy as a percentage of grid supply	Ongoing/ Does not require funding	N/A	Evidence of advocacy-based submissions, emails, letters

Aspirational actions

These are aspirational and currently unfunded actions that will be considered by the local board for inclusion in future work programmes.

Goal	Action
Reduction in process heat, industrial process, and refrigerant emissions	Work with businesses in Kaipātiki and EECA to: <ul style="list-style-type: none"> Identify and accelerate the uptake of support for industrial processors or users of process heat derived from coal or natural gas to reduce emissions Reduce emissions from refrigerants Support the installation of distributed renewable energy generation including solar PV generation
Support homeowners to reduce energy consumption	Support educational programmes to help residents to understand their home energy usage and provide tools and advice to reduce it.

Delivering on the actions and monitoring progress

The key internal Auckland Council departments involved in delivering these actions with the local board will be the Chief Sustainability Office and Sustainability Initiatives.

Regular progress updates, setting out progress on this priority and key actions will be prepared. The percentage of renewable energy generation nationally will also be monitored.

What you can do at work

- Find out more about the support available from EECA for reducing emissions from process heat, industrial processes, refrigerants and vehicles
- Purchase electricity that is certified as zero carbon
- Get quotes to check the return on investment of solar or wind generation for your business

What you can do at home

- Save energy through taking shorter showers and using LED lightbulbs
- Upgrade your insulation
- Purchase electricity that is certified as zero carbon
- Choose heat pump solutions for water and space heating
- Get a quote to check the feasibility of solar for your home
- Ensure your next vehicle is electric or has a five-star fuel efficiency rating



Figure 11 - Residential solar

9. Monitoring framework

We will monitor progress against this action plan regularly using the ‘evidence of progress’ column of each action table within the plan, and the climate monitoring framework below.

Theme	Target / metric	Monitoring method	Baseline	Frequency indicator available
Natural environment	Retention of % canopy cover in public open space	LiDAR survey - parks	64% (2021)	Once every three years
	Increase in % of canopy cover on private land to 30%	LiDAR survey - parks	25% (2021)	Once every three years
	Increase in roadside canopy cover to 30%	LiDAR survey - parks	12% (2021)	Once every three years
	Number of trees planted annually	Urban Ngahere (Parks, Sports and Recreation)	NA	Annual
	Number of community weeding bees annually	Parks, Sports and Recreation	NA	Annual
Built environment	% reduction in community facilities’ carbon emissions	Carbon monitoring – community facilities	Unknown	Annual
	Number of community facility renewal projects meeting construction waste	Community facilities	NA	Annual

	diversion targets			
Transport	% of people getting to work by transport mode	Census	Private vehicle 59.3% Company vehicle 9.5% (2018)	Once every five years
	% of people getting to their place of study by transport mode	Census	48.6% (2018)	Once every five years
	Number of schools and businesses participating in mode shift programmes	Auckland Transport	Establish baseline	Annual
	Number of movements on cycle monitors in board area	Auckland Transport	32,985– Lake Road, Northcote (Jan to Mar 22)	Quarterly
Economy	No. businesses in the board area that have measured their carbon footprints and set reductions targets	Toitū/Ekos/Local board data	Unknown	Annual
	No. businesses in the board area that have developed business continuity plans	Local board data	Unknown	Annual

Communities and Coast	Number of schools engaged in Sustainability Education programmes	Sustainable Schools		Annual
Food	Number of community gardens or other urban agriculture areas	Survey of community groups	Established by completing map in food section	Annual
	Number of community facilities composting food waste	Local board information and Community Facilities	NA	Annual
Te Puāwaitanga o Te Tātai	No numeric metrics for this outcome area. Action table identifies how progress against actions can be demonstrated over time.			
Energy and Industry	100% renewable generation by 2035	Central Government	84%	Annual

10. Definitions

Definitions of some common climate terms	
Active transport	Relates to physical activity undertaken as a means of transport and not purely as a form of recreation, e.g. commuting to work by bike or walking to school.
Adaptation	Actions taken to help communities and ecosystems cope with changing climate conditions.
Adaptive capacity	The ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or to respond to consequences.
Carbon sequestration	A natural or artificial process by which carbon dioxide is removed from the atmosphere by the activities of people, organisations and communities e.g. tree planting, regenerative farming.
Embodied and operational carbon	<p>The total carbon footprint of the built environment is made up of two categories of carbon: embodied and operational.</p> <p>Embodied carbon is essentially the sum of the carbon in all the materials and products used in the creation or renovation of a built asset.</p> <p>Operational carbon is the carbon emissions attributable to the operation of buildings, meaning the carbon emitted through the use of energy for things like lighting, heating, cooling, ventilation and water systems. In the case of buildings, those which are designed to be naturally thermally comfortable, dry and with sustainable water systems are likely to require less carbon to operate.</p>
Low-Traffic Neighbourhood	A low-traffic neighbourhood is a group of residential streets where through-traffic is discouraged. Instead, buses, trucks, and other vehicles driven by non-residents travelling through the neighbourhood stick to identified main roads which border the low-traffic area. People who live inside the low-traffic neighbourhood can drive directly to and from their homes, arrange deliveries, and be accessed by emergency services, but non-residential traffic is discouraged.
Mitigation	A reduction in greenhouse gas emissions which reduces the severity of climate change.
Net zero	Where the amount of greenhouse gases emitted into the atmosphere equals the amount sequestered or offset (e.g. by forestry).
Resilience	The ability of a system, community or society exposed to the effects of climate change to resist, absorb, accommodate, adapt to, transform and recover. Including preserving and restoring essential basic structures, services and functions.

Universal design	The process of creating buildings and products accessible to people with a wide range of abilities, disabilities, and other characteristics. For example, hallways and doors in homes wide enough for wheelchair access.
Vulnerable communities	Communities at higher risk for poor health because they face barriers to social, economic, political and environmental resources, as well as limitations due to illness or disability. Children, pregnant women, elderly, malnourished people, and those who are ill or immunocompromised are particularly vulnerable when a disaster strikes, and take a relatively high share of the disease burden associated with emergencies. Poverty and its common consequences such as malnutrition, homelessness, poor housing and destitution is a major contributor to vulnerability.

11. Appendices

Appendix 1: Contributors to this Action Plan

We would like to thank community members and council staff for their contribution to this plan.

Community organisations who were represented include

Kaipātiki Project

Pest Free Kaipātiki Restoration Trust

Birkdale Community House

Highbury Community House

Kaipātiki Community Facilities Trust

Takapuna Methodist Church

Northcote Intermediate

Auckland University youth representative

Birkenhead Library

Akoranga section of Smiths Bush Volunteers

Chelsea Heritage Estate Regional Park Association

Hinemoa Park Placemaking Group

Bike Kaipātiki

Find out more: phone 09 3010101
or visit aucklandcouncil.govt.nz