

Environment Strategy

Green Network - the natural environment

Air, Water, Waste - environmental resource use



Adopted December 2008

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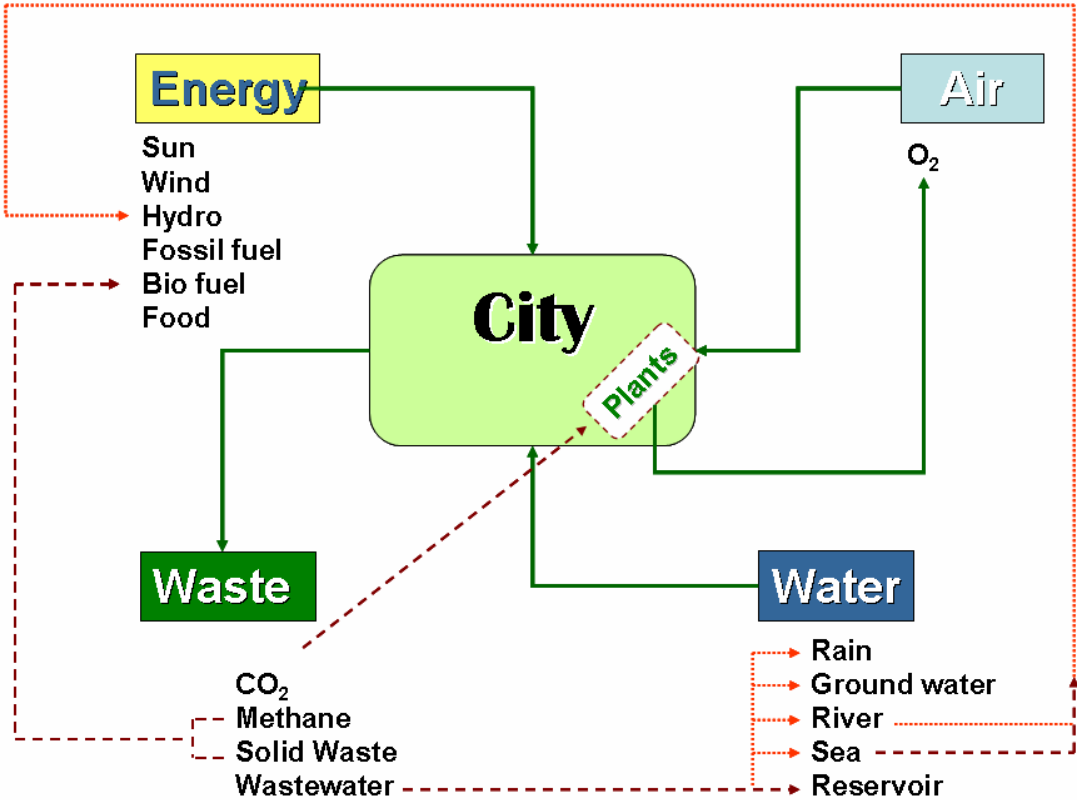
INTRODUCTION

Approximately half of the Waitakere area is urban, supporting a population of 195,300 (2008 estimate) increasing by an average of 1.2% per year. On this basis, it is estimated that the population will double by 2066. Sixty per cent of the working population of Waitakere commute out of the City to work. This has implications for vehicle emissions and localised air quality as well as for the economy.

The City of Waitakere can be considered as an ecosystem with interdependencies between the living things (people, animals and plants), the place or physical environment in which they live (both living component and the physical environment comprising the Green Network) and their essential requirements for life (energy, air and water). As in all ecosystems, waste is a by-product of the living process and often becomes a resource at another level in the ecosystem.

The Waitakere City Eco System

---> Links yet to be formed



Waitakere's climate is warm temperate/subtropical with temperatures 14⁰-27⁰C in summer and 8⁰-19⁰C in winter. Average monthly rainfall is slightly higher than other parts of the region (90mm in summer, 140mm in winter). It is predicted that temperatures will rise by 2-3⁰C and rainfall will be heavier and more frequent with the current trend in climate change. This change in climate will have implications for stormwater management and infrastructure provision and maintenance.

The City's water supply comes from Watercare's reservoir in the Waitakere Ranges and consistently achieves an A rating. Domestic water use is consistently below 200 litres per

person per day. Wastewater from the urban area is reticulated to Watercare’s Mangere Treatment Plant. The rural sector relies on on-site disposal of wastewater.

Solid waste is managed in the City by the provision of kerbside refuse and recycling collection, annual inorganic collections, servicing litter bins and loose litter collection. The Council’s Recycling and Refuse Transfer Station also provides the community with an opportunity to drop off hazardous waste and also separated waste streams such as green waste, plastics, glass, timber, metals and computers to enable resource recovery. Staff at the transfer station also recover material such as timber and metals for reuse from the general mixed waste that is brought to the facility.

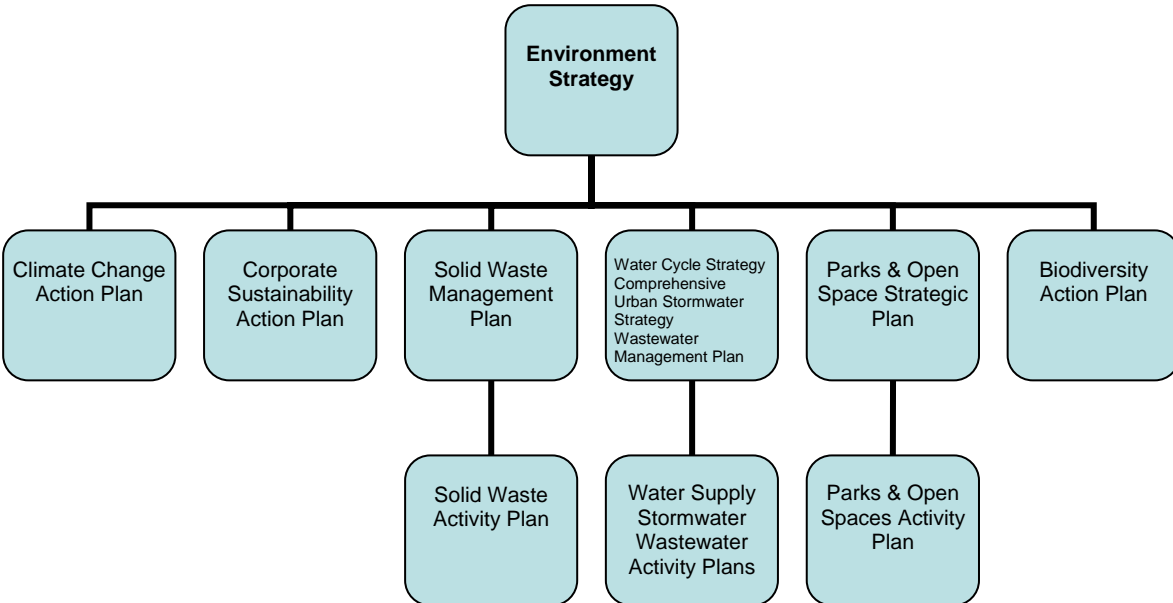
In order to complete resource recycling and achieve ecosystem balance, the city needs to plant more trees to sequester the CO₂ produced, treat and reuse wastewater and recover energy from the methane and solid waste produced. The technologies exist; the political and community will, and ability to pay are required.

The Environment Strategy is in two parts: the Green Network addresses the natural environment of Waitakere in which we live, and the Air, Water, Waste addresses our use of natural resources – air, water and the waste we produce as a result of habitation.

Purpose

The purpose of the Environment Strategy is to establish some high level goals and objectives to ensure that Waitakere City meets the challenge of climate change, manages its natural resources of biodiversity, air and water, and reduces its generation of waste over the next 10-50 years.

Context for delivery of the Environment Strategy



Contribution to Regional Goals

Looking one hundred years ahead, the Auckland Sustainability framework anticipates eight major shifts, including reducing our ecological footprint and building a carbon neutral future. These 'shifts' are required in order to fulfil the regional goals of a unique and outstanding environment and resilient infrastructure.

Waitakere's contribution towards the goal of a unique and outstanding environment is the existence of and accessibility to the Waitakere Ranges. However, the Waitakere Ranges are only a part of Waitakere City, and the Green Network vision is intended bring the Ranges down through the rest of Waitakere, helping to maintain a natural Waitakere environment.

The internal and external influences on Waitakere's environmental quality include the effects of climate change, population growth and immigration, land use changes and urban intensification, plant and animal pests, the increasing diversity of Waitakere's communities and their attitude towards the environment, and national and local economic wealth.

Key Targets

There are key targets that can be drawn from the Environment Strategy as follows:

Green Network:

- **Complete an ecologically continuous network which links the Waitakere Ranges along the stream and open space networks to the coastal areas by 2025.**

Low carbon city:

- **Reduce community greenhouse gas emissions by 40% per capita from the 2001 base by 2021.**
- **Reduce corporate emissions by 50% from the 2001 base by 2021.**

Integrated water management:

- **Decrease in per capita demand for the mains water by 25% by 2025.**
- **Reduce wastewater overflows by 50% by 2025.**

Waste into resources

- **70% of residential waste and 35% of general waste received by the Transfer Station diverted from landfill by 2015.**

STRATEGY FOR THE GREEN NETWORK

The Green Network can be viewed as the Waitakere ecosystem – the natural environment and all that lives in it, including its people. Human interaction with and stewardship of the natural areas of the City is an integral part of the Green Network vision.

The focus of the Council's 20-50 year strategy for the Green Network is on protecting areas of high value such as the Waitakere Ranges and foothills, coastal areas, streams, wetlands and bush remnants throughout the city, and to work with the community to enhance and restore degraded areas. In addition, the Council aims to continue to improve access to the natural environment, and enable people to enjoy that environment, bringing nature into everyday life.

Vision

Native forests full of native birds linking streams full of native fish contributing to a resurgence of the whitebait shoals in the harbours

Goals and Objectives for the Green Network

Goal 1: Maintain, protect and enhance the Green Network while the City continues to develop and change.

Objectives:

- Build a City-wide network of ecological linkages on public and privately owned land to maintain biodiversity.
- Protect as wide a range as possible of natural areas in terms of their biodiversity components.
- Retain or rebuild natural elements of the Green Network within town centres, suburbs and villages.
- Incorporate Green Network elements in all developments.
- Target specific restoration programmes to improve and create linkages between the Waitakere Ranges and Waitakere's coastlines, and to provide for shelter, food sources and pollination.
- Reduce the fragmentation of remaining natural areas.
- Increase opportunities for people to enjoy nature on parks.
- Ensure Waitakere City's image is strongly identified with its City's ecological character.

Strategies, Policies, Plans and Programmes in place

Waitakere Ranges Heritage Act 2008
Waitakere City District Plan 2003
Biodiversity Strategy 2006
Local Biodiversity Action Plan
Green Network Community Assistance Programme
North West Wildlink
Project Twin Streams
Parks Revegetation Programme
Draft Parks & Open Space Strategic Plan

Goal 2: Community embracing stewardship of the Green Network

Objectives:

- The Council's and community's understanding of, and interaction with, the Green Network are continually improving.
- All people have the opportunity to experience and enjoy the Green Network.
- Integration of nature within the urban area celebrated as a point of difference in the City.
- Work in partnership with iwi on management of the Green Network components.
- Actively promote stewardship of the Green Network on public and private land.

- People aware of and connected to the biodiversity of the City.

Strategies, Policies, Plans and Programmes in place

Treaty of Waitangi Strategic Priority
Te Kāwharau a Māki Resource Management Statement
Green Network Community Assistance Programme
West Coast Plan
Project Twin Streams

Goal 3: Efficient and effective pest management to support native biodiversity

Objectives:

- Restore and protect native forest quality by managing plant and animal pests.
- Ensure recovery of kereru and populations of other indicator species populations by managing animal pests.
- Ensure survival of native species re-introduced into Waitakere by managing animal pests.

Strategies, Policies, Plans and Programmes in place

Auckland Regional Pest Management Strategy 2008
Waitakere City Council weed and animal pest management programmes
Ark in the Park project
Waitakere Agrichemical Reduction Policy 2008

Goal 4: Anticipate climate change in the management and maintenance of biodiversity and ecosystem services

Objectives:

- Encourage and actively develop carbon sinks and, where possible, maximise the ecological benefits of these sinks.
- Prepare for extreme weather events, wild fire and new pest incursions.
- Monitor changes in biodiversity richness and range.

Strategies, Policies, Plans and Programmes in place

Biodiversity Monitoring Programme

Role of the Council

The role of the Council in meeting these objectives includes:

- Active management as landowner.
- Leadership, capacity building and support for the community to manage biodiversity within the City.
- Advocacy and education.
- Regulator under sections 5, 6, 7 and 31 of the Resource Management Act 1991 and Resource Management Amendment Act 2003.

- Charged with implementing the provisions of the Waitakere Ranges Heritage Area Act 2008.
- Strategic leadership under the Local Government Act 2002 to facilitate delivery on the Community Outcomes.

Other Partners

- ICLEI (Local Governments for Sustainability)
- Crown research institutes
- Educational institutions
- Central government
- Ministry of Agriculture and Forestry
- Department of Conservation
- Royal Forest & Bird Protection Society, Waitakere Branch and Ark in the Park
- Auckland Regional Council
- Rodney District Council
- New Zealand Landcare Trust
- National conservation trusts and foundations
- Waitakere Ranges Protection Society
- Auckland Botanical Society
- Iwi
- Landowners and volunteer groups

STRATEGY FOR WAITAKERE'S ENVIRONMENTAL RESOURCE USE

The long term strategy for Waitakere's environmental resources is to reduce our ecological footprint through:

- Reducing carbon dioxide emissions by reducing private vehicle use, increasing passenger transport use and using electricity from renewable resource generation. To become a low carbon city, Waitakere will need to explore options for offsetting emissions.
- Conservative and innovative water use which also requires fully integrating management of drinking water, rain water, wastewater, ground water and ecological flows.
- Minimising the waste we generate by:
 - Avoid generating waste in the first instance
 - Reusing products again in their original form
 - Recycling products that cannot be reused in their original form to make new products
 - Resulting in nothing being wasted.

Vision

Clear air, clean water, nothing wasted

Goals and Objectives for Environmental Resource Use

Goal 1: Low carbon city

Objectives:

- Stabilisation and then reduction in greenhouse gas emissions per capita.
- Greater proportion of energy use from renewable energy sources.
- Encourage the development and supply of alternative fuels.
- The District Plan to be reviewed to ensure that it encourages renewable energy generation.
- Undertake and encourage the planting of urban forests to sequester carbon dioxide.
- Explore further opportunities for Waitakere to become carbon neutral.
- Undertake a study to determine the potential effects of predicted climate change for the next 50-100 years on the City's infrastructure in order to plan for the City's ability to adapt.
- Increased patronage for passenger transport.
- Continue to lobby for cleaner burning fuel standards, emission quality, vehicle efficiency standards and improved sustainable transport provision.
- Continue to ensure provision of alternative transport options to the private motor vehicle.
- Encourage more businesses to establish in Waitakere and provide local jobs.
- Encourage new and existing businesses to become more sustainable.

Strategies, Policies, Plans and Programmes in place

Communities for Climate Change Programme
Climate Change Action Plan
Waitakere City Transport Strategy 2006-2016
Walking and Cycling Strategy 2003
Cycleways Programme
School Travel Plans
Walking School Bus
Way to Go Campaign
Fleet Purchasing Policy – vehicle efficiency and hybrid cars
Massey Neighbourhood Project – community sustainability
Biofuels Project
Waitakere Central project
Cleaner Production industry programmes

Goal 2: Integrated water management

Objectives:

- Decrease in per capita demand for the mains water by 25% by 2025.
- Demand remains within the Waitakere reservoirs capacity.
- Identify and implement different ways rain water can be harvested and used.
- Ensure that stormwater is treated to a level that maintains and improves stream and ground water quality to protect natural water resources.
- Ensure continuation of project twin streams principles through the neighbourhood incentives programme.
- Find innovative methods of treating stormwater to remove dissolved contaminants.

- Maintain traditional sites as swimmable.
- Reduce wastewater overflows by 50% by 2025.
- Sustainable long term wastewater management and treatment with reuse of biosolids and the water component.
- Innovative management of on-site wastewater treatment.
- Consider the possibility of a wastewater treatment plant within Waitakere.
- Explore the options to treat wastewater to drinking water standard.

Strategies, Policies, Plans and Programmes in place

Water Cycle Strategy
 Home Sustainability Audits
 Water pressure and leak detection programme.
 Comprehensive Urban Stormwater Strategy 2000
 Integrated Catchment Management Plans
 Project Twin Streams
 Wastewater Plan 2000
 Hauraki Gulf Marine Park Act 2000

Goal 3: Waste into resources

Objectives:

- Raise awareness and advocate for avoidance of imports and purchases that create disposal problems.
- Ensure more effective resource recovery from the waste stream with 70% of residential waste and 35% of general waste received by the Transfer Station diverted from landfill by 2015.
- Pursue options for diverting organic waste from landfill.
- Provide incentives for separation and diversion of commercial construction and demolition waste.
- Seek opportunities to examine resource efficiency in manufacturing processes.
- Foster regional co-operation to achieve greater degree of waste diversion.

Strategies, policies, Plans and Programmes in place

Towards Zero Waste and Waste Management Action Plan 2005
 Waste Minimisation Learning Centre programmes
 Cleaner Production programmes.

Role of the Council

The role of the Council in meeting these objectives includes:

Developing and implementing an action plan to reduce corporate and community greenhouse gas emissions
 Advocating for and facilitating sustainable transport modes
 Responsibility for ensuring the infrastructure assets it provides are maintained and managed wisely
 Purchasing bulk water to supply the City with drinking water
 Managing the quantity and quality of stormwater collected and discharged

Owns and manages the infrastructure that collects wastewater and delivers it to Watercare's trunk sewers
Responsible for collection and disposal of domestic solid waste

Other Partners

ICLEI (Local Governments for Sustainability)
EECA
Central government
Ministry for the Environment
Auckland Regional Council
Watercare Services Limited
Hauraki Gulf Forum

STRATEGIC FIT OF THE GOALS

Goal	Priority	Strategic Platform	Community Outcome
Maintain, protect and enhance the Green Network	Sustainable Development	Green Network	Green Network
Community embracing stewardship of the Green Network	Sustainable Development	Strong Communities	Environmental Protection Working Together
Efficient and effective pest management	Sustainable Development	Green Network	Sustainable Environment
Anticipate climate change	Sustainable Development	Sustainable Energy & Clean Air	Sustainable Environment
Low carbon city	Sustainable Development	Sustainable Energy & Clean Air	Sustainable Environment Working Together Environmental Protection
Integrated water management	Sustainable Development	Three Waters	Sustainable Environment Working Together Environmental Protection
Waste into resources	Sustainable Development	Zero Waste	Sustainable Environment Working Together Environmental Protection

MONITORING AND REVIEW

Goal	Objective	Relevant Activity Area	Measure	How measured
Maintain, protect and enhance the Green Network	Build a city-wide network of ecological linkages on public and privately owned land to maintain biodiversity	Ecowater –Stormwater Project Twin Streams Parks & Open Spaces Strategic Planning	Measure of streams in the City with effective riparian margins Percentage of land area in native vegetation	Ecowater's stream habitat data. Aerials or satellite imaging
	Protect as wide a range as possible of natural areas in terms of their biodiversity components.	Parks & Open Spaces Strategic Planning	As measured against the PNA reports data	Identify unrepresented natural areas Number of area of reserves and covenants
	Retain or rebuild elements of the Green Network within town centres, suburbs and villages	Strategic Planning Consent Services Parks & Open Spaces	Streams retained with riparian margins. Bush patches and trees retained Streetscapes and gardens that reflect natural elements	Record what is retained or lost through resource consents. Mitigation 1:1 for Green Network elements
	Incorporate Green Network elements in all developments	Consent Services	Streams retained with riparian margins. Bush patches and trees retained	Record what is retained or lost through resource consents.

	Target specific restoration programmes to improve linkages between the Waitakere Ranges and the coast	Parks & Open Spaces Project Twin Streams Ecowater – Stormwater	Restoration planting undertaken Removal of barriers to fish passage Reduce weed infestations	Map linkages created through parks acquisition and revegetation. Maintenance of these linkages
	Reduce the fragmentation of remaining natural areas	Parks & Open Spaces Consent Services	New links created	Parks data base
	Increase opportunities for people to enjoy nature on parks	Parks & Open Spaces	Participation in events. Number of park visitors.	Park use survey
	Waitakere City's image strongly identified with its City's ecological character	Public Affairs Strategic Planning	Marketing words/images used.	Survey of residents' perceptions.
Community embracing stewardship of the Green Network	The Council's and community's understanding of the Green Network is continually improving.	Parks & Open Spaces Strategic Planning	Green Network questionnaires	Annual survey of residents' perceptions.
	All people have the opportunity to experience and enjoy the Green Network	Parks & Open Spaces	Distribution of Green Network parks in relation to settlement and access by passenger transport.	Survey of residents' perceptions. Use of parks survey.
	Integration of nature within the urban area celebrated as a point of difference in the City.	Strategic Planning Parks & Open Spaces	Promotion of natural values of Waitakere	Marketing words and images
	Work in partnership with iwi on management of the Green Network components	Parks & Open Spaces Ecowater - Stormwater Strategic Planning	Through the regular fortnightly meetings with iwi and through Te Taumata Runanga.	Iwi management plans developed.

	Actively promote stewardship of the Green Network on public and private land	Parks & Open Spaces Ecowater – Stormwater Project Twin Stream	Number of volunteers participating in events. Level of participation in the Green Network Community Assistance programme. Level of activity by community groups.	Project Twin Stream newsletters and monitoring information. Parks database.
	People aware of and connected to the biodiversity of the City	Parks & Open Spaces Project Twin Streams Strategic Planning	Level of awareness and understanding of biodiversity issues	Annual survey of residents' perceptions.
Efficient and effective pest management	Restore and protect native forest quality by managing plant and animal pests	Parks & Open Spaces	Full complement of food sources available for bird species	Vegetation and phrenology monitoring. Pest animal monitoring
	Ensure recovery of kereru and other indicator species populations by managing animal pests	Strategic Planning Parks & Open Spaces	Evidence of successful breeding.	Research project. Pest animal monitoring
	Ensure survival of species re-introduced into Waitakere by managing animal pests	Parks & Open Spaces Strategic Planning	Successful breeding by species released.	Monitoring of banded birds by Ark in the Park. Pest animal monitoring
Anticipate climate change	Encourage and actively develop carbon sinks	Parks & Open Spaces Strategic Planning	Number and species of trees planted. Other CO ₂ capture.	Calculation of emission credits.
	Prepare for new pest incursions	Strategic Planning	Prepare an incursion action plan.	Adoption of the plan
	Monitor changes in biodiversity richness and range	Strategic Planning	Success of Ark in the Park releases. Maturity of revegetation	Biodiversity monitoring programme.

			programmes. Monitoring key indicator species.	
Low carbon city	Reduction in greenhouse gas emissions	Strategic Planning	Tonnes CO ₂ e per capita	CCP inventory by Council
	Energy from renewable resources	Strategic Planning	Energy source known by provider	Percent of energy used from renewable resource
	Alternative fuels	Strategic Planning	Range and availability of alternatives	Service stations
	Encourage renewable energy generation	Strategic Planning	Distributed household generators	Building consent data
	Planting carbon forests	Parks & Open Spaces	Area of forestry set aside for sequestration	Carbon credits gained
	Explore further opportunities for Waitakere to become carbon neutral	Strategic Planning	Tonnes CO ₂ e accounted for	CCP inventory by Council
	Increased passenger transport patronage	Strategic Planning	Number of passengers by bus and by train per day Passenger kilometres	Surveys of mode of transport use Ticket sales
	Cleaner burning fuels	Strategic Planning	National fuel standards, emission standards and vehicle efficiency standards	Proportion of fleet complying
	Alternative transport modes	Strategic Planning	Kilometres of cycleway Ferry trips per day Bus and train frequencies	Timetables and routes

	More local jobs	Strategic Planning	Number of businesses and staff numbers by business sector	Waitakere City Business and Economy annual report
	Encourage businesses to become more sustainable	Cleaner Production	Number of businesses participating in the cleaner production programme	GRI reporting
Integrated water management	Decrease in per capita demand for mains water	Ecowater - Water supply	Litres per capita used	Water metering
	Demand remains within Waitakere dams capacity	Ecowater - Water supply	Quantity purchased from Watercare	Watercare contract and metering
	Identify and implement ways water can be harvested and used	Ecowater - Water supply	Costs and water quality standard	Level of uptake of alternative supplies
	Improve stream and ground water quality	Ecowater - Stormwater	Stream water quality monitoring	Faecal coliforms BOD, nitrates and phosphates
	Increased retention and use of stormwater	Ecowater - Stormwater	Number of building consents with detention tanks for water reuse in toilets	Building consent data
	Ensure continuation of project twin streams principles	Ecowater – Stormwater Project Twin Streams	Additional length of stream restored Number of volunteers Number of plants planted	Percentage of land area participating
	Innovative methods of treating stormwater	Ecowater - Stormwater	Proportion of contaminants removed	Water quality testing

	Maintain traditional sites as swimmable	Ecowater – Stormwater Ecowater - Wastewater	Water quality testing	Meeting bathing water standards
	Reduce wastewater overflows by 50% by 2025	Ecowater - Wastewater	Maintenance of network	Wastewater modelling Hansard
	Reuse of wastewater	Ecowater - Wastewater	Volume recycled as percentage of wastewater received	Metering
	Innovative management of on-site wastewater treatment	Ecowater - Wastewater	Level of treatment	Efficiency and effectiveness of systems
	Local treatment plant	Ecowater - Wastewater	Within Waitakere or Rodney	Presence or absence
	Wastewater to drinking water	Ecowater - Wastewater	Methodologies and costs	Water quality standard
Waste into resources	Raise awareness and advocate for avoidance of problem waste	Strategic Planning	Product stewardship programmes	Number and category voluntary and number and category mandatory
	Effective recovery of resources from the general waste stream.	Solid Waste	Tonnes of general waste received at the transfer station.	Proportion of tonnage diverted
	Diversion of organic waste from landfill.	Solid Waste	Effective & efficient collection service of organic waste in the city	Presence or absence
	Provide incentives for separation of construction and demolition waste	Solid Waste	Tonnes of C&D diverted from the waste stream	Proportion diverted of total received by the Transfer station
	Resource efficiency in manufacturing processes	Cleaner Production	Business participation in Cleaner production programmes	Reduction in wastes achieved
	Foster regional co-operation	Strategic Planning	Joint plans, programmes and contracts	Total waste diverted in the region