

# The Proposed Auckland Unitary Plan (notified 30 September 2013)

## 1 Issues of regional significance - Ngā take matua ā-rohe

### Introduction

The Unitary Plan identifies eight issues of regional significance for resource management in Auckland. Each issue also links to the outcomes, priorities and associated strategic directions in the Auckland Plan.

- Issue 1 – enabling quality urban growth
- Issue 2 – enabling economic well-being
- Issue 3 – protecting our historic heritage, special character and natural heritage
- Issue 4 – addressing issues of significance to Mana Whenua
- Issue 5 – sustainably managing our natural resources
- Issue 6 – sustainably managing our coastal environment
- Issue 7 – sustainably managing our rural environment
- Issue 8 – responding to climate change

Table 1:

<b>Auckland Plan outcomes (by 2040)</b>	<b>Issue 1</b>	<b>Issue 2</b>	<b>Issue 3</b>	<b>Issue 4</b>	<b>Issue 5</b>	<b>Issue 6</b>	<b>Issue 7</b>	<b>Issue 8</b>
A fair, safe and healthy Auckland	√	√		√	√		√	√
A green Auckland	√		√	√	√	√	√	√
An Auckland of prosperity and opportunity	√	√		√		√	√	√
A well connected and accessible Auckland	√	√				√	√	
A beautiful Auckland that is loved by its people	√		√	√	√	√	√	
A culturally rich and creative Auckland	√		√	√			√	
A Māori identity that is Auckland's point of difference in the world	√	√	√	√	√	√	√	

# The Proposed Auckland Unitary Plan (notified 30 September 2013)

## 1.1 Enabling quality urban growth

### Unitary Plan issue

**Our growing population increases demand for housing, employment, business, infrastructure, and services. This means we must manage our growth in a way that:**

- **enhances quality of life for individuals and communities**
- **optimises the efficient use of our existing urban area**
- **optimises the efficient use of existing and new infrastructure, particularly significant infrastructure**
- **maintains and enhances the quality of our environment, both natural and built**
- **maintains Māori communities, culture and values.**

### Explanation

Auckland is the place in New Zealand where more and more people want to live and work. While this drives economic growth, enhances regional GDP, and encourages development of a world-class city, nearly all our resource management issues stem from the impacts growth could have on our natural and physical resources.

### Our sense of place

Our sense of place and belonging comes from Auckland's rich diversity. Our urban fabric includes historic buildings and places, as well as special character areas such as Ponsonby and Devonport. We also have many distinctive towns, local centres and places of interest such as Warkworth and Clevedon. Our challenge is to retain this sense of place while providing for growth and development.

The Mana Whenua of Tāmaki Makaurau narrative provides a unique and vibrant tūrangawaewae which is the special point of difference which distinguishes Auckland from any other place in the South Pacific.

Changing demographics and the desire of many to live close to work, transport links or areas of high amenity, has created demand for quality medium to high density housing within our existing urban area. Meeting Auckland's needs means we need more choices and options around how and where we live.

We need to consider urban form and design, and sustainability outcomes to maximise economic opportunity and well-being, social well-being, cultural diversity and environmental health. These disciplines are critical in ensuring developments provide:

- high quality urban living experiences with sufficient amenities
- a range of housing to accommodate a diverse population
- mixed use, vibrant and coherent high density centres
- visibility of Auckland's cultural diversity in urban design
- increased travel choices and a reduction in reliance on private vehicles.

### Social Well-being

Aucklanders' quality of life and their social well-being is influenced by the affordability of housing, access to quality public open space and access to social and community infrastructure.

Access to warm, dry and affordable housing is a basic human need. Auckland's popularity and continued growth in recent years has meant that housing is becoming increasingly unaffordable and out of reach for a large majority of first time home buyers. The issue is complex and influenced by a range of factors which

## The Proposed Auckland Unitary Plan (notified 30 September 2013)

include:

- land availability
- the availability and costs of infrastructure
- the location of new housing areas in relation to public transport
- employment
- social and community infrastructure
- the sequence and timing of land release.

Collectively Auckland's public open spaces perform a range of functions that provide opportunities for a variety of recreational activities such as sports, exercising, relaxing and socialising, providing public access to the coastline, providing amenity and protecting and enhancing our natural and cultural heritage. As the city grows and intensifies, additional quality public open spaces and recreation facilities will be required.

Social and community infrastructure relates to public and private facilities and networks, which provide for Aucklanders' quality of life and socio-economic outcomes. Social and community infrastructure is an important asset to society as it provides:

- opportunities to learn
- facilities for the prevention and treatment of illness and injury
- facilities to support the justice system
- places where the community can come together to discuss issues, to participate in recreation activities or to socialise.

Auckland's continuing growth will necessitate a high quality network of accessible social and community infrastructure that meets Aucklanders' needs both locally, sub-regionally and regionally. This will need to be delivered by a range of providers including central government, local government and private organisations or individuals.

### **Supply of land in appropriate locations**

Opportunities for growth around all edges of the urban area are limited. Auckland's geography limits our supply of suitable greenfield land. The coastline and significant park areas in the Waitākere and Hunua ranges constrain the expansion of the existing metropolitan area in a number of areas. Development must also optimise the investment of infrastructure and utilities, and not cause the need for ineffective or less cost effective forms of development.

Auckland's significant infrastructure such as:

- the transport network
- electricity
- water and wastewater
- the telecommunication network
- the Port of Auckland
- Auckland Airport

needs substantial investment to meet increasing demand caused by growth and higher environmental standards, particularly in relation to water quality. The timing, location and funding of new upgrades to services and amenities, such as water, wastewater disposal, transport and schools, will influence where and when new

## The Proposed Auckland Unitary Plan (notified 30 September 2013)

communities are established and whether or when existing communities can grow.

Auckland faces many challenges in accommodating growth. Development must optimise the benefits of transport integrated with land use, while providing high quality urban living, lifestyle choices, a healthy environment and protection of Mana Whenua interests. A compact well-designed urban form is the primary approach to achieving this balance.

### Link to Auckland Plan

#### **Auckland Plan strategic directions and priorities**

Strategic direction 10: Create a stunning city centre, with well-connected quality towns, villages and neighbourhoods.

- Realise quality, compact urban environments
- Demand good design in all development
- Create enduring neighbourhoods, centres and business areas.

Strategic direction 11: House all Aucklanders in secure, healthy homes they can afford.

- Increase housing supply to meet demand
- Increase housing choice to meet diverse preferences and needs
- Improve the quality of existing and new housing
- Improve housing affordability and the supply of affordable housing.

Strategic direction 12: Plan, deliver and maintain quality infrastructure to make Auckland liveable and resilient

- Protect, enable, align, integrate and provide social and community infrastructure for present and future generations
- Optimise, integrate and align network utility provisions and planning.

Strategic direction 13: Create better connections and accessibility within Auckland, across New Zealand and to the world.

- Integrate transport planning and investment with land use development.

# The Proposed Auckland Unitary Plan (notified 30 September 2013)

## 1.2 Enabling economic well-being

### Unitary Plan issue

**Auckland plays a crucial role in New Zealand's economy as the major wealth creator for the country. Choices on the location and supply of land, particularly business land, the use of rural land for primary production, the management of existing and future infrastructure, the security of energy supply and the use of natural resources, such as minerals, will affect our economic strength, prosperity and contribution to the national economy.**

### Explanation

Auckland is New Zealand's only city of international scale. We are home to over 132,000 businesses, which is a third of all businesses in New Zealand and a critical mass of business activity. The settlement of Treaty claims for Mana Whenua in Tāmaki Makaurau will not only assist Mana Whenua in achieving their economic aspirations but will bring many benefits to Auckland's economy.

Tourism also contributes significantly to the economic well-being of Auckland and New Zealand. A point of difference for Auckland is its quality of life, which reinforces its uniqueness and attracts business investment and skilled migrants. However, we have to address a number of areas if we are to realise our economic potential. These include:

- land supply for economic productive activities
- inefficient use of land
- incompatible land uses
- traffic congestion which adds to costs and delays business
- infrastructure nearing its capacity
- limited supply of some natural resources
- security of energy supply
- the costs associated with implementation of the RMA.

The Unitary Plan does not directly address economic issues such as skills shortages and business investment; rather it provides a resource management framework that delivers certainty to Aucklanders and businesses, provides lower compliance costs and enables investment and growth.

### Urban form

Compact cities can play an important role in economic growth. Areas which are densely populated are often more productive and innovative, and attract more people, capital and activity. A sprawling urban form may supply additional land but will have cost implications:

- infrastructure costs rise
- land use is inefficient
- traffic congestion increases
- people in outlying areas spend more of their household income on travel
- capacity constraints on servicing new communities
- loss of rural productivity.

At current growth rates, we face a shortage of business-zoned land, which is a problem for land-extensive

## The Proposed Auckland Unitary Plan (notified 30 September 2013)

industries, such as manufacturing, transport and storage, construction, and wholesale trade. These activities face pressure from higher value activities including retail, service sectors and, in some places, residential growth. If Auckland is to continue to benefit from employment and GDP associated with land-extensive industry, then we need to provide for the future growth of these activities and support them with a transport infrastructure delivering efficient movement of freight.

### **Rural and coastal economy**

Rural production in Auckland spans a wide range of activities and is strongly influenced by its proximity to the urban area. There is significant horticultural activity, particularly in the south, while the north and northwest contain large areas of livestock farming and dairying. Commercial forestry also contributes to Auckland's economy. Coastal activities include aquaculture, fishing and marine industries, mineral extraction, tourism, the ports and marine transport, which are all significant contributors to Auckland's economic well-being.

These activities face pressure from residential spread and urban development. In order to supply the Auckland market with produce and support the export economy we need to provide for these site-dependent activities.

Rural areas contain most of the region's freshwater resources, the largest remaining biodiversity in the region and places of cultural heritage values significant to Mana Whenua.

### **Transport and land use**

Transport and land use are closely interrelated and should be mutually supportive. The road network is the main interface of Auckland's transport system with land use. The impacts of land use on the operation and management of the road should be considered as part of delivering an efficient transport system. Well-designed transport systems service growth and development, and reinforce urban development patterns.

A key challenge for Auckland is the increase in traffic that will be caused by population growth and, historically, decades of underinvestment in public and active mode transport networks (such as buses, trains, ferries, cycling and walking).

Our current pattern of low density urban development and dependence on cars makes it difficult to provide more sustainable transport options such as public transport, walking and cycling. Low density development does not support an efficient public transport system. Segregated land use, where people live in one area and work or play in another, results in more and longer trips and restricts alternative transport choices like walking and cycling.

Improving public transport options and connections along key transport corridors will encourage commuters to use public transport. Such a shift will help reduce congestion, and free up the roads for freight transport and other essential travel.

Delivering an efficient public transport system and providing sustainable transport options across Auckland requires careful management of competing activities in the road through both regulatory and non-regulatory methods.

A resilient transport network must be able to respond to changing transport requirements in the context of increased pressure from Auckland's growing population while being maintained in a way to ensure it delivers the right levels of service.

Building a resilient transport network, around a more compact urban form, will contribute to our success as an international city that attracts migrants, businesses, international trade and tourists.

### **Physical infrastructure**

Decisions we make on physical infrastructure will have significant impacts, not just on Auckland but also on the

## The Proposed Auckland Unitary Plan (notified 30 September 2013)

well-being of neighbouring regions and on the country as a whole. Auckland's future economic performance and general quality of life will rely on delivering high quality and cost effective physical infrastructure in a timely manner.

We now face several development thresholds where we need to make crucial decisions around infrastructure investment, location and form. Our major utility services, such as wastewater and electricity transmission lines, and part of our transport network, are nearing capacity. At the same time, public attitudes to environmental quality are becoming more demanding; for example, the effects of contaminated overflows from our ageing combined stormwater and wastewater network.

Auckland has invested heavily in areas such as Auckland Airport and the ports, together with supporting infrastructure such as public transport, energy supply and broadband. To provide for ongoing economic growth we need to ensure that freight can move across and through Auckland. We must continue to invest in our significant infrastructure assets, including adequate and reliable bulk water supply, wastewater reticulation and associated works, stormwater management, and transport networks to keep pace with our growth.

We need to make significant investment to upgrade these networks to meet expectations of service reliability and quality, to adequately manage any adverse environmental effects, or meet new standards. We also need to manage the effects of more sensitive land uses (reverse sensitivity effects) on the operation and capacity of infrastructure as Auckland grows.

### **Energy**

Nearly all the energy we use comes from outside Auckland. All our electricity and transport fuels come in along a small number of supply lines with no replacement routes in the event of disruption. This is not just an issue for Auckland, but also for Northland, which relies on electricity transmission through Auckland.

Our supply chain is vulnerable to disruption from a range of influences including:

- rising fossil fuel prices
- natural disasters
- changing climatic conditions
- failure of the national grid.

To sustainably manage our energy resources we will focus primarily on land use and development challenges, including:

- managing the land use and reverse sensitivity effects of development
- enabling the upgrading, maintenance and operation of new and existing energy supply infrastructure to improve physical security and resilience of supply, in particular the location of sensitive activities near electricity generation and transmission facilities
- enabling new facilities for generating electricity from renewable resources at a range of scales
- enabling small-scale energy generation such as solar panels.

### **Minerals**

Our economically valuable minerals are primarily aggregates used by the construction industry, and are sourced from both land and the coast.

Regardless of the cyclic nature of the construction industry, we will need new quarries to meet future demand due to population growth and increased infrastructure. However, the expansion of existing quarries and supply of land-based aggregate in Auckland is constrained by the encroachment of development and reverse sensitivity

## The Proposed Auckland Unitary Plan (notified 30 September 2013)

effects. These constraints have resulted in more aggregate being sourced from outside Auckland, causing increased transport costs and associated environmental effects. The protection of Auckland's existing aggregate infrastructure is therefore important.

To provide for growth and development, and foster Auckland's economy, we need to provide for mineral extraction and ensure that existing and future quarries can operate efficiently within Auckland's boundaries.

### **Link to Auckland Plan**

#### **Auckland Plan strategic directions and priorities**

Strategic direction 6: Develop an economy that delivers opportunity and prosperity for all Aucklanders and New Zealand.

- Grow a business friendly and well-functioning city
- Develop a creative, vibrant international city.

Strategic direction 12: Plan, deliver and maintain quality infrastructure to make Auckland liveable and resilient.

- Protect, enable, align, integrate and provide social and community infrastructure for present and future generations
- Optimise, integrate and align network utility provisions and planning.

Strategic direction 13: Create better connections and accessibility within Auckland, across New Zealand and to the world.

- Manage Auckland's transport as a single system
- Integrate transport planning and investment with land use development
- Prioritise and optimise investment across transport modes.



# The Proposed Auckland Unitary Plan (notified 30 September 2013)

## 1.3 Protecting our historic heritage, historic character and natural heritage

### Unitary Plan issue

**Our distinctive historic and natural heritage is integral to our identity. It is also important for economic, social, and cultural well-being. We need active stewardship to protect it for the future.**

### Explanation

Protecting our historic and natural heritage contributes to our aspiration to be a world-class city. Integrating our heritage with growth and development positively and authentically will contribute to attracting the visitors and investors on which our economic success depends.

### Historic heritage

Auckland has a rich historic heritage. Historic heritage places are part of our identity and create an important link to the past. They are unique, non-renewable resources that require protection for present and future generations.

Historic heritage can range in size from individual structures to large sites with multiple features. Auckland's historic heritage includes:

- buildings and structures
- archaeological sites
- wāhi tapu and sites and places of significance to Mana Whenua
- cultural landscapes
- landscapes and features, such as gardens
- trees and vegetation
- maunga.

Growth and development in urban, rural and coastal areas has altered or destroyed much of Auckland's historic heritage and places of cultural importance. Further growth places pressure on our ability to protect historic heritage. Lack of knowledge on places also limits our efforts to protect our historic heritage.

Our challenge is to ensure we protect our historic heritage while enabling growth and appropriate use and enjoyment of these places for future generations.

### Special character

Towns and villages have amalgamated to create Auckland, each bringing with them their own unique character and identity. Within Auckland, areas of special character have been retained and continue to be valued. Special character areas may include neighbourhoods, business districts, or parts of them. The historic character of these residential and business areas contribute to the vibrancy of the city and makes Auckland an attractive and interesting place to live and visit. These areas reinforce our sense of the past and place, and help define what is unique and distinctive about Auckland.

### Natural character, landscape and features

Natural character, landscapes and natural features can be commonplace while others are iconic. For example, Rangitoto, Piha and the urban volcanic cones are considered iconic.

Most of Auckland's landscapes experience ongoing physical and visual change through:

- changes in primary production, from pastoral farming to horticulture and viticulture

## The Proposed Auckland Unitary Plan (notified 30 September 2013)

- more intensive use of rural areas for a range of non-production activities, particularly countryside living
- transformation from rural to urban uses at the urban edge
- redevelopment and intensification within urban areas
- development along the coastline and the islands' coastlines
- maintaining, upgrading existing or developing new significant infrastructure.

Protecting outstanding natural features and natural landscapes requires consideration of a number of matters:

- many outstanding natural landscapes and features are working rural areas, or used for private residential, commercial, and industrial purpose and landowners want to continue using their land for these purposes
- there is pressure to accommodate increasing levels of subdivision, use, and development. The cumulative effects these activities have on the naturalness, quality and values of outstanding natural features and landscapes need to be considered
- balancing the need for significant infrastructure against the national importance of outstanding natural features and landscapes
- Mana Whenua desire to protect remaining natural landscapes as a part of retaining and passing on identity and sense of place.

### **Indigenous biodiversity**

Maintaining indigenous biodiversity requires us to protect existing habitats, and enhance indigenous ecosystems.

We have protected as much as 50 per cent of our remaining indigenous terrestrial vegetation by making it public land. We have five marine reserves, one marine park and one marine mammal sanctuary. Over 53,000ha is actively managed by community and landowner groups which are important as over half of Auckland's rare and threatened plant species are located on private property.

Auckland contributes significantly to New Zealand's biodiversity, but development has resulted in loss of habitats and a reduction in biodiversity. Key challenges for the region are:

- Auckland has proportionally more threatened plant species than any other region
- many of the most threatened plant species are herbs and shrubs adapted to disturbed, wetland or shrubland environments. They are often found in areas that appear degraded with little evident biodiversity value, and particularly vulnerable to loss through development
- many of our terrestrial ecosystems are largely contained in small, isolated patches, making them vulnerable to edge effects such as weed invasion and wind damage
- each year an estimated 9km of permanent stream length are lost through consented development. Further significant lengths of both permanent and non-permanent stream (intermittent and ephemeral) are also lost through development occurring as permitted activities. This loss reduces habitat, degrades ecological values and contributes to the decline in native fish populations
- some ecosystem types, even if still relatively abundant, are commonly in poor ecological health
- sedimentation has fundamentally changed the nature of coastal ecosystems in some areas and resulted in loss of coastal habitat diversity
- coastal and marine habitats are vulnerable to invasion by exotic organisms, and a number of marine pests are well-established in Auckland

## The Proposed Auckland Unitary Plan (notified 30 September 2013)

- wetlands remain vulnerable to exotic plant invasion, stock trampling, and other adverse effects. Those under 1ha are particularly vulnerable to loss through drainage
- biodiversity is still declining in the Hauraki Gulf Marine Park
- enabling Mana Whenua participation and decision-making in regard to indigenous biodiversity.

Declining shellfish numbers indicate a decline in marine fauna particularly in sub-tidal habitats close to our urban areas and where there is a low-energy wave environment. The main contributor to this decline is the discharge of sediment and heavy metal contaminants.

To preserve and enhance our coastal and marine ecosystems, and indigenous biodiversity, we need to manage the adverse effects generated from the land use and restore ecological features and functions where they have been compromised.

### **The Waitākere Ranges Heritage Area Act 2008**

This Act recognises the national, regional and local significance of the area and promotes its protection and enhancement for present and future generations. It aims to preserve the unique character and natural and cultural heritage of the local areas and communities that make up the Waitākere Ranges from Whatipu, along the coast of the Manukau Harbour to Titirangi, from Orātia and Waiatarua over the eastern foothills to Swanson and Anzac Valley, from Bethells Beach/Te Henga south along the west coast to Piha and Karekare.

The Act also recognises the importance of the regional park area, which comprise approximately 60 per cent of the ranges, as a public place with significant natural, historical, cultural and recreational resources. It also recognises that people live and work within this area and that many have contributed to shaping the landscapes that we see today and have helped protect its natural environment and cultural heritage. It seeks to set a benchmark for the ranges' residents' goals and hopes for their communities and environment in 10, 50 and 100 years. It aims to protect and enhance the area's significant historic heritage features and the special character of each community in the ranges, and to provide a rural transition from the city's urban areas to bush and coastal areas further west in the ranges. The extent of the Waitākere Ranges Heritage Area is shown on the Unitary Plan GIS viewer.

Specific planning guidance is necessary to respond to the varied issues which face the Waitākere Ranges Heritage Area, particularly in relation to:

- managing the pressure to accommodate further development in the Waitākere ranges and their foothills
- managing the cumulative and precedent effects of development on the landscape, the desired future character and amenity of the Waitākere Ranges Heritage Area, and its natural environment
- providing for the social and economic well-being of the Waitākere Ranges Heritage Area local communities.

### **Link to Auckland Plan**

#### **Auckland Plan strategic directions and priorities**

Strategic direction 4: Protect and conserve Auckland's historic heritage for the benefit and enjoyment of present and future generations.

- Understand, value and share our historic heritage
- Invest in our historic heritage
- Empower collective stewardship of our historic heritage.

## The Proposed Auckland Unitary Plan (notified 30 September 2013)

Strategic direction 7: Acknowledge that nature and people are inseparable.

- Value our natural heritage.

# The Proposed Auckland Unitary Plan (notified 30 September 2013)

## 1.4 Addressing issues of significance to Mana Whenua

### Unitary Plan issue

**Māori have a special relationship with natural and physical resources through whakapapa. Inherent in this relationship is kaitiakitanga which seeks to maintain the mauri of these resources, while allowing their use for social, cultural and economic well-being. The development of Māori land and Treaty settlement land needs to be enabled to ensure that these lands and resources contribute to significantly lifting Māori social, cultural and economic well-being.**

**Development and expansion of Auckland has negatively impacted on Mana Whenua taonga, on customary rights and practices of Mana Whenua within their ancestral rohe. Further deterioration of taonga, sites and places of significance, and the values associated with cultural landscapes must be avoided. Degraded taonga and customary rights must be actively enhanced in order to restore the well-being and mana of those taonga, sites and places – and therefore the mana of the people. Mana Whenua participation in resource management decision-making, and the integration of mātauranga Māori and tikanga in resource management is of paramount importance to ensure a sustainable future for Mana Whenua and for Auckland as a whole.**

### Explanation

The council delivers its commitment to the Treaty through its Māori Responsiveness Framework and relationship with the Independent Māori Statutory Board (IMSB), and the Unitary Plan.

This issue focuses on Mana Whenua, represented by iwi authorities. In 2012, the council consulted with iwi authorities to identify issues of significance to Māori, which included:

- recognising the Treaty and enabling the outcomes that Treaty settlement redress is intended to achieve
- protecting Mana Whenua culture, landscapes and historic heritage
- enabling Mana Whenua economic, social and cultural development on Māori land and Treaty settlement land recognition of the interests and values of Mana Whenua, in the sustainable management of natural and physical resources including integration of mātauranga and tikanga in resource management processes, and customary rights
- increasing opportunities for Mana Whenua to play a role in decision-making, environmental governance, partnerships and participation
- enhancing the relationship between Mana Whenua and Auckland's natural environment, including customary uses.

### Recognition of the Treaty and the outcomes of Treaty settlements

The RMA requires the council to take into account the principles of the Treaty when exercising functions and powers in relation to managing the use, development, and protection of natural and physical resources. The principles of the Treaty are described in Chapter A, [section 2.2](#) of the Unitary Plan which outlines legislative requirements. In particular, it is important for the council to be proactive in taking into account the principles of active protection and redress in resource management processes. Taking into account these principles includes recognising and providing for Treaty settlement outcomes, where this is within the council's power.

Treaty settlements are significant events in the relationship between Mana Whenua and the Crown. Treaty settlements also change the relationship between Mana Whenua and the council. Treaty settlements are important to the future of Mana Whenua, the region and New Zealand. Mana Whenua see Treaty settlements as a positive turning point that also provides an opportunity for the council to assist in restoring the place and identity of Mana Whenua in Auckland and within their ancestral rohe.

## The Proposed Auckland Unitary Plan (notified 30 September 2013)

In accordance with the principle of active protection, the Unitary Plan takes into account the following factors:

- the Crown has an obligation to actively protect Māori interests
- the establishment of Māori institutions can advance Māori culture and the principles of the Treaty
- active protection may also require applicants to investigate alternative options which do not affect Māori relationships with resources.

Resource management processes must also take account of statutory acknowledgement areas determined by Treaty Settlement legislation.

In accordance with the principle of redress, the Unitary Plan takes into account the aims of redress as stated by the Office of Treaty Settlements:

- cultural redress is intended to meet the cultural interests of the Mana Whenua group
- cultural redress aims to protect wāhi tapu (sites of spiritual significance) and wāhi whakahirahira (other sites and places of significance), possibly through tribal ownership or guardianship
- cultural redress recognises the special and traditional relationship of claimant groups with the natural environment, especially rivers, lakes, mountains, forests and wetlands
- cultural redress gives claimant groups greater ability to participate in resource management, and to make decision-makers more responsible for being aware of their relationship with resources
- cultural redress provides visible recognition of the claimant group within their area of interest
- commercial redress is intended to contribute to the economic and social development of Mana Whenua.
- commercial redress recognises that where claims for loss of land and/or resources are established, the Crown's breaches of the principles of the Treaty will usually have held back the potential economic development of the claimant group
- commercial redress does not provide full compensation based on a calculation of total loss to Mana Whenua as this is not considered practicable or generally acceptable to the New Zealand public.

Cultural and commercial redress includes:

- transfer of Crown assets to the claimant group to help meet their economic interests
- transfer of Crown assets to the claimant group to help meet their cultural interests
- recognition of claimant groups' interests in other ways – for instance, involvement in decision-making about resources of cultural significance, or the creation of statutory instruments.

Parcels of Crown land transferred to Mana Whenua ownership as cultural redress include open space reserves. In many cases, Mana Whenua have agreed to receive and retain open space for the access and enjoyment of all Aucklanders. Any existing third party rights over Crown land (such as easements, leases and licenses) are also protected even if the land is transferred to Mana Whenua ownership.

A number of claims have recently been settled in Auckland, while other claims are still in the process of negotiation. Therefore there is a need to develop a consistent approach to recognising and providing for cultural and commercial redress components of Treaty settlements. The principles of active protection and redress guide the approach in the Unitary Plan to recognise Mana Whenua interests and values and to enable Mana Whenua to achieve the outcomes intended through the settlement of historical Treaty claims.

## The Proposed Auckland Unitary Plan (notified 30 September 2013)

### **Protection of Mana Whenua culture, landscapes and historic heritage**

Wāhi tapu, sites or places of cultural significance, taonga, Māori cultural landscapes and customary resources are integral to the identity, well-being and cultural integrity of Mana Whenua. Many sites and places within Auckland can be traced back to the aristocratic tūpuna who journeyed from Hawaiiki and who define the mana, identity and tikanga of Mana Whenua. These sites and places are imbued with mauri and wairua which bind the current generations through mana, tapu and whakapapa to these sites and places and associated tūpuna. Mana Whenua have an obligation to preserve the values associated with cultural landscapes and heritage. These sites and places are non-renewable resources that should be protected where possible, and ultimately enhanced or restored in order to revitalise the well-being and cultural integrity of Mana Whenua.

Auckland's growth and development has contributed to the loss and degradation of many ancestral taonga, the degradation of Mana Whenua culture and historic heritage, and the compromise of Mana Whenua interests and values. Infrastructure and development has destroyed numerous areas, sites and places of significance to Mana Whenua. Mana Whenua taonga are still at risk. A particular concern is the quality of, and access to, mahinga kai and natural resources which Mana Whenua rely on for customary social, cultural and economic purposes.

Mana Whenua values and associations with a site and place have not always been appropriately acknowledged. The management of significant sites and places has not always enabled Mana Whenua aspirations. As a consequence, Mana Whenua have been hesitant to provide information to support scheduling of sites and places for protection in Auckland's legacy regional and district plans.

The protection of Mana Whenua sites and places must be improved to reflect the understanding that Māori identity is Auckland's point of difference. There is an urgency to identify and develop a method to enhance, protect and manage the values associated with cultural landscapes. Cultural landscapes provide the context for specific sites and places of significance to Mana Whenua, and articulate the narrative behind historical settlement patterns in Auckland. The volcanic maunga, moana and water tributaries are significant areas within these cultural landscapes. The use of place names which refer to Mana Whenua narratives is an example of how these resources can be recognised.

### **Māori economic, social and cultural development**

Mana Whenua continue to express a desire to occupy and use land within their ancestral rohe to develop social, economic and cultural activities. A small proportion of Auckland is Māori land, owned by Mana Whenua. Through the settlement of claims under the Treaty, Mana Whenua are acquiring further land and interests in resources in Auckland. The development of the Māori land resource is a priority for Mana Whenua, as is the development of land acquired through Treaty settlements.

Many Mana Whenua aim to re-establish marae and papakāinga within their ancestral rohe. Marae are a focal point for social, economic, and cultural development. Papakāinga is a form of communal development that encourages community identity and participation. Potential sites for marae and papakāinga include locations with access to customary resources or connections to sites and places of significance to Mana Whenua. Providing for marae and papakāinga in these locations provides for the relationship of Mana Whenua with their taonga. Marae and papakāinga may be established in urban or rural areas, on Māori land or on general land, in accordance with tikanga Māori. Marae and other Māori cultural institutions are also important facilities for mataawaka, and the wider community. Papakāinga-style development is a concept that could provide affordable housing and community infrastructure for mataawaka and the wider community.

### **Mana Whenua mātauranga and tikanga in sustainable management**

Kaitiakitanga denotes the practice of 'guardianship' in accordance with tikanga Māori and describes the Mana Whenua world view in environmental management. As kaitiaki, Mana Whenua have responsibilities to maintain and enhance the mauri of resources on both public and private land throughout Auckland. Mana Whenua are experts in tikanga and mātauranga which apply to the region's resources. For example, mātauranga indicators and monitoring frameworks have been developed by Mana Whenua. These indicators and monitoring

## The Proposed Auckland Unitary Plan (notified 30 September 2013)

frameworks can be used in conjunction with Western science to help achieve positive environmental outcomes.

Kaitiakitanga is not concerned only with the protection of the mauri from damage, destruction or modification. Mana Whenua have the responsibility of ensuring that the spiritual and cultural aspects of resources are maintained for future generations.

Mana Whenua perspectives on other resource management matters are addressed in relevant issues. For example, concerns about water quality are included in 'Sustainably Managing our Natural Resources'. This approach reflects the importance of integrating Mana Whenua interests and values across the spectrum of resource management issues.

### **Decision-making, environmental governance, partnerships and participation**

Mana Whenua often find they are not engaged early enough to participate in the design of plans and policies, and not involved in decision-making which can affect their interests, values, and customary rights. This lack of engagement limits Mana Whenua in their role as kaitiaki. It also minimises the opportunity for the Mana Whenua values associated with specific resources to be understood and addressed through resource management processes.

Mana Whenua expect to be actively involved in resource management processes, and require greater participation in resource management decision-making. Mana Whenua have requested joint management arrangements under s. 36b of the RMA to create shared decision-making bodies. Mana Whenua have also requested the full transfer of powers in accordance with s.33 of the RMA for particular resource management activities, for example, the consideration of resource consent applications for activities on Māori land.

It is important to build stable and equal partnerships which enable Mana Whenua to actively and meaningfully participate in the management of natural resources. For example, the council could contribute to Mana Whenua capacity to respond to requests to engage on resource management issues.

### **Mana Whenua relationship to Auckland's natural environment**

Mana Whenua maintain an unbroken cultural and spiritual connection with the whenua and resources of Auckland as kaitiaki. Kaitiakitanga is irrespective of 'ownership' in a contemporary sense. In many parts of Auckland, industrial, commercial, residential and rural development has destroyed, damaged, or polluted resources and degraded the mauri of the natural environment. This degradation has obstructed the ability of Mana Whenua to maintain their relationship with natural resources, and to sustainably manage resources in accordance with mātauranga and tikanga. Mana Whenua have an obligation to look after and preserve our environment for future generations. As kaitiaki, Mana Whenua emphasise the need to enhance and restore, or where not possible, to maintain and enhance the mauri of Auckland's biodiversity and natural resources.

Mana Whenua also maintain customary use of indigenous flora and fauna. Many plant species and animal products are valued for use in activities such as weaving, rongoā and kai. Mana Whenua value the ability to access, harvest and use ancestral taonga for customary, social, cultural and economic purposes. Public open space, areas of ecological significance and the coastal environment provide opportunities to facilitate customary use and cultural activities to revitalise the mātauranga and tikanga of Mana Whenua.

The waiora of water relates to water's spiritual essence to cleanse. The physical quality of waterways is essential to Māori spiritual well-being. Any diversion, modification or discharge that mixes water bodies has an impact on the mauri of water. The degradation of mauri and water quality affects the capacity of Mana Whenua to extend manaakitanga. Mana Whenua cannot manaaki when there is no more plentiful food to harvest or water levels are too low to sustain food resources. The well-being of people relies on water remaining a natural asset – a taonga – for generations to come.



## The Proposed Auckland Unitary Plan (notified 30 September 2013)

### **Mana Whenua relationship to Auckland's coastal environment**

The coast is of utmost importance to Mana Whenua. The ongoing disturbance and development of the coastline causes great concern. Pollution continues to impact on the mauri of waterways and harbours. These concerns relate to the adverse effects of development on the mauri of harbours and coastal waters, and on sites and places of significance in coastal areas.

The integrated management of the marine environment is a priority for Mana Whenua. Integrated management is expected to enable greater participation and decision-making by Mana Whenua over coastal areas so that they may actively engage as kaitiaki in the protection and sustainable management of these important areas.

Sites and places of significance to Mana Whenua are concentrated in coastal areas. These sites and places include ancestral papakāinga, pā, mahinga kai, mātaimai, wāhi pakanga, urupā and wāhi tapu, tauranga waka, and areas of cultivation. These sites are at risk of destruction unless a precautionary approach is taken to protecting Mana Whenua cultural heritage.

### **Link to Auckland Plan**

#### **Auckland Plan strategic direction and priorities**

Strategic direction 2: Enable Māori aspirations through recognition of Te Tiriti o Waitangi and customary rights.

- Establish papakāinga in Auckland
- Enable Māori aspirations for thriving and self-sustaining marae
- Enable Mana Whenua to participate in co-management of natural resources
- Explore partnerships with Mana Whenua to protect, identify and manage wāhi tapu.

# The Proposed Auckland Unitary Plan (notified 30 September 2013)

## 1.5 Sustainably managing our natural resources

### Unitary Plan issue

**We expect natural resources to be available on demand and to use our coastal resources for a wide variety of purposes. However, the combination of decades of urban expansion, high private vehicle usage, and other factors such as poor land and water management practices, have placed increasing pressure on our land and water, reduced air quality, and increased risks from flooding and land instability.**

**We need to sustainably manage the multiple values and pressures on our natural resources not only for Auckland's environmental well-being but also for our social, economic and cultural well-being.**

### Explanation

Maintaining, restoring and enhancing a high quality natural environment is important for our economic prosperity, tourism, and for making Auckland an attractive place to live and invest.

Economic development brings particular challenges for resource management in terms of addressing the environmental impacts of development. We need to make provision for development, significant infrastructure, wastewater disposal, stormwater and discharges to air. We have to manage natural resources such as water, aggregates, soil, and coastal resources in ways that minimise the impact on the environment and communities.

### Freshwater systems

Auckland's natural freshwater systems are susceptible to adverse effects from urban and rural land use and development. Many of our rivers, streams, wetlands and their margins have been permanently lost or fragmented through infilling and piping, or degraded as a result of land use and development practices. This has led to a loss of biodiversity and the important community, cultural and natural values that freshwater systems provide.

Development needs to be appropriately managed so that these important natural and community resources are not lost or further degraded.

### Water quality

The quality of Auckland's fresh and coastal waters can be degraded by urban and rural land uses. Unless appropriately managed, future development may increase existing effects and degradation.

Stormwater runoff is a significant cause of degraded fresh and coastal water and sediment quality in urban areas. Contaminants like sediment, metals and hydrocarbons from buildings, roads, carparks and other hard surfaces are carried in stormwater to groundwater, rivers, streams, estuaries and harbours where they affect aquatic life. Pollutants from industrial sites, or even everyday activities like painting or house washing, can also affect water quality.

Parts of central Auckland are still serviced by a combined stormwater/wastewater sewer system which is designed to discharge a mix of stormwater and wastewater. Intensification, ageing infrastructure and poor wastewater connections can also increase the frequency and volume of wastewater overflows which can degrade water quality in our harbours and city beaches to levels that can affect human health, use and enjoyment of these areas.

In rural areas, nutrients from livestock wastewater systems, pasture and fertiliser application can runoff directly into estuaries, tidal inlets, streams and lakes or leach into groundwater. Sediment from land and stream bank erosion, particularly where riparian margins are not present, also degrades fresh and coastal water quality.

Point source discharges are the easiest source of nutrients to control as flows are concentrated and managed. However, diffuse runoff from rural land contributes significantly to sediment and nutrient loads and is more

## The Proposed Auckland Unitary Plan (notified 30 September 2013)

difficult to manage, generally requiring a change in farming and land use practices.

### **Water allocation**

As Auckland grows we will need more water. Growth and constraints on water supply will impact on water supply costs, the resilience of the network and the environment.

The public water supply accounts for 85 per cent of the water take in Auckland. This comes primarily from the Waitākere and Hunua ranges catchment areas, with additional water imported from the Waikato River to meet demand.

Potential availability and suitability of water for specific uses can be reduced by climatic and land use factors. Discharges into fresh water (surface and groundwater) can degrade water quality and affect the amount available for specific purposes. Increases in the frequency and duration of low flows can also reduce the amount of water available, reduce contaminant assimilation capacity, and affect water quality and in-stream biotic health. The long-term effect of climate change on water availability is uncertain.

Taking, using, damming, and diverting water from surface water bodies is required for activities like rural production, however these activities can have negative flow-on effects. They can change flow regimes in rivers and streams, and the water levels in lakes, wetlands, and dam reservoirs. Taking groundwater can result in changed water levels and flows, leading to reductions in spring and stream-base flow, loss of recharge to adjacent aquifers, and salt water intrusion. Damming surface water can create barriers to fish passage.

Due to the long time lag between nutrients from land activities entering the groundwater and being discharged, the nutrient levels in groundwater are likely to increase before we achieve any decrease. This could lead to production problems and a change in availability of water.

High use or removal of water can threaten stream values and create permanent low flows, leading to reduced habitat quality, increased water temperatures and algal growth, and reduced dilution of contaminants.

### **Soil**

The natural forces of erosion, including rain and high winds, can cause slumping and slips that affect both the integrity of soil and water quality as it is the greatest sedimentation contributor.

Land use and lack of protective vegetation can deplete soil as a resource and result in reduced soil productivity, capability and versatility through accelerated erosion and sediment generation.

### **Hazardous substances and contaminated land**

Auckland contains the largest quantities of hazardous substances of any region in New Zealand. In many instances, these are located close to residential areas and valued environmental areas such as the groundwater aquifer system, and the Waitemata and Manukau harbours.

If hazardous substances are not stored, handled, located or transported with proper care they can affect the health and safety of people working and living in these areas and the natural environment. Contamination of soil or groundwater can also affect people's health and safety, limit land use, reduce land value, and degrade ecosystems. We need to identify, assess and manage land disturbing activities on contaminated land to prevent the release of contaminants.

### **Genetically modified organisms**

The outdoor use of genetically modified organisms could adversely affect our environment, economy and social and cultural resources and values. There is a lack of information, including scientific uncertainty, concerning the effects of GMOs in the environment and risks of irreversible adverse effects which could be substantial. We need to adopt a precautionary approach to managing the risks associated with the outdoor use of GMOs.

## The Proposed Auckland Unitary Plan (notified 30 September 2013)

### Natural hazards

Auckland's growth will increase pressure to develop areas more susceptible to natural hazards. There may be conflict between where people want to live and where they can live safely, for example the north-eastern coastline, adjacent to streams and exposed ridgelines. Some existing development, including infrastructure, is already located on land that may be subject to natural hazards. This needs managing to ensure that the risk is not increased.

The most frequent natural hazards in Auckland are:

- flooding from river inundation and overland flows
- storm surge
- coastal erosion
- land instability.

Natural hazards require spatial and emergency planning to manage potentially harmful events. We need to locate and design new development and infrastructure to address the effects of natural hazards and impacts of climate change.

Flooding has significant effects on people, property and the environment across Auckland, in both rural and urban catchments. Flood hazards include flooding of river and stream valleys, overland flow of stormwater and inundation in areas where the drainage system can become blocked during storm events (flood prone areas). Flood peaks can be heightened by an increase in impermeable surfaces in urban catchments. Risk associated with these hazards is often exacerbated by the inappropriate location of buildings and infrastructure.

Auckland's geology is a key contributor to land instability hazards. Some of the region is comprised of soft, weak, and poorly consolidated rock that is prone to failure through rainfall or earthquake events. Residential properties and physical infrastructure such as water and wastewater mains are most vulnerable to damage from land instability. They can also cause land instability if constructed inappropriately.

Within Auckland, coastal hazards arise from the erosion of beaches and cliffs, or inundation of low-lying areas from storm surges and tsunamis. Future rises in sea levels have the potential to worsen all coastal hazards. These natural hazards may occur individually, or in combination to create a more significant hazard. Managing land use and development in a way that takes account of these factors can reduce risk to people.

### Air quality

Clean air is fundamental to our health, well-being and environment. Auckland, compared to many cities in the world, has good air quality. However, air quality sometimes fails to meet the government's national environmental standards for air quality or Auckland Ambient Air Quality standards (AAAQS). Emissions to air can result in elevated levels of particulate matter, nitrogen dioxide and other pollutants which are linked to negative health effects.

The social and economic cost from particulate emissions in Auckland is significant.

The main contributors to air pollution are domestic fires, transport (predominantly motor vehicle emissions), and to a lesser extent, industry. Reduction in emissions from transport has occurred because of better fuel, new vehicle technology and tighter emissions standards. However, these improvements are offset by increases in vehicle numbers, distance travelled, and an ageing vehicle fleet.

Over the years emissions from industry have reduced due to more efficient production methods, better control technology and change to cleaner burning fuels. However, while industry contributions to regional air pollution have reduced, industry emissions can still impact on local air quality.

## The Proposed Auckland Unitary Plan (notified 30 September 2013)

Adverse effects from air quality can be exacerbated by land use. Population growth in Auckland is intensifying pressure on competing and incompatible land uses. The inappropriate location of activities that discharge pollutants to air or activities sensitive to air discharges can aggravate any adverse effects from air discharges.

Our focus on a compact urban form and improvements through the provision of alternative transport options supported by operating the transport system in an integrated manner can contribute to lowering air discharges and improving air quality.

### **Link to Auckland Plan**

#### **Auckland Plan strategic direction and priorities**

Strategic direction 7: Acknowledge that nature and people are inseparable.

- Value our natural heritage
- Sustainably manage natural resources
- Build resilience to natural hazards

## The Proposed Auckland Unitary Plan (notified 30 September 2013)

### 1.6 Sustainably managing our coastal environment

#### Unitary Plan issue

**Our coastal environment is a fundamental part of Auckland's identity. It has high natural, social and cultural values, and economic uses. It is one of the most desirable places in New Zealand for living and recreation.**

**Subdivision, use and development within the coastal environment needs to be in an appropriate location and of an appropriate form. Some forms of subdivision, use and development are dependent on the natural and physical resources of the coastal environment for their operation, and provision needs to be made for these in appropriate locations.**

#### Explanation

The coast provides significant amenity value to Auckland's community, with public access and use of the coastal environment providing important elements of our social, economic and cultural well-being. This includes the iconic islands and beaches of the Hauraki Gulf/Te Moana Nui o Toi/Tikapa Moana and east coast, the wild beaches of the west coast, and the highly valued and ecologically important harbours and estuaries.

Some activities that generate significant benefits to the national and regional economy are dependent on a coastal location for their operation, including the commercial port, international airport, marine industry and aquaculture. The coastal environment also plays a significant role in the delivery of passenger transport services in Auckland.

The Hauraki Gulf Marine Park Act 2000 recognises the regional and national importance of the gulf and its islands and catchments.

#### Subdivision, use and development

Subdivision, use and development of the coast for marine-related and other activities, including significant infrastructure such as ports, airport and maritime transport, contributes to our social and economic well-being. There is a need to provide for the efficient use and development of significant infrastructure within the coastal environment to enable the Auckland community to provide for its social, economic, and cultural well-being. However, these activities need to be accommodated in a way that will result in the sustainable management of the natural and physical resources of the coastal environment.

The coast is a desirable place to live and competition for land has the potential to displace or limit marine-related and other activities relying on a strategic coastal location, if this is not carefully managed. Coastal land owned by Mana Whenua provides important locations for papakāinga, marae, and related activities. In some cases, coastal land has been returned through Treaty settlement as cultural or commercial redress.

Coastal subdivision and development often results in changes to landform and a proliferation of buildings. This can result in a loss of, or detract from, natural values. Catchment development can result in discharge of contaminants, from stormwater or treated wastewater and soil erosion. Contaminants, particularly sediment, have adverse effects on water quality, biodiversity, and the life-supporting capacity of the CMA. The coast is also the end point for litter that finds its way into drains and waterways. Not only does pollution affect human health and the natural environment, it also has implications for commercial activities such as aquaculture and fishing that rely on a healthy ecosystem and clean water.

Our coastal environment is a finite resource and we must balance natural values while meeting the needs of current and future generations.

## The Proposed Auckland Unitary Plan (notified 30 September 2013)

### Link to Auckland Plan

#### **Auckland Plan strategic direction and priority**

Strategic direction 7: Acknowledge that nature and people are inseparable.

- Sustainably manage our natural resources
- Treasure our coastline, harbours, islands and marine areas
- Build resilience to natural hazards.

# The Proposed Auckland Unitary Plan (notified 30 September 2013)

## 1.7 Sustainably managing our rural environment

### Unitary Plan issue

**The rural environment is a large part of Auckland. It is important for its primary production; natural and physical resource base; significant indigenous biodiversity and natural landscapes; social, economic and cultural value to Mana Whenua; amenity values and rural character.**

**Subdivision, use, and development of rural land are greatly influenced by its proximity to the metropolitan area. The interrelationship between urban and rural Auckland needs to be recognised and managed, to provide for existing and future generations.**

### Explanation

Rural production, from livestock to viticulture, is a key contributor to our economy. Rural land also offers places for recreation, tourism and important open space. Rural amenity values and character complement and support the metropolitan environment. Much of our coastline adjoins rural areas. All these factors mean that Auckland's rural areas are important places where people and communities want to live, work and play.

Managing the competing nature of activities on rural land, the impact of urban growth and the desire to live in rural areas creates challenges for how our rural areas function.

### Rural production

We want to enable the production of primary produce for export and local consumption to continue and expand in terms of its contribution to the regional and national economy. However, our rural areas are also under pressure to accommodate a wide range of different activities. Land use and discharge controls can affect rural production activities. Rural production can also conflict with the expectations of those wanting a rural residential lifestyle, creating reserve sensitivity issues.

Some rural land with high productive potential is compromised by activities that don't rely on the quality of the soil. This can permanently remove the land's productive potential. This reduces the availability of productive land and the flexibility to produce food easily and efficiently, which is important for Auckland's sustainable future.

Accommodating all activities that want a rural location could undermine urban growth containment, reduce rural character values and adversely affect significant natural values. To support a compact city form, and retain the values of our rural areas, we need to distinguish between activities that must have a rural location, those that will have a negative effect on rural values and those with more location flexibility.

### Rural subdivision

The pressure to accommodate our future population growth affects the use of both existing lots and the demand for new lots. Further rural subdivision can result in loss of rural character and increased demand for new or upgraded physical and social infrastructure services such as stormwater, wastewater or public transport. This may lead to ad-hoc and unintended growth of new rural settlements. However, rural land owned by Mana Whenua provides important locations for papakāinga, marae, and related activities. In some cases, rural land has been returned through Treaty settlement as cultural or commercial redress.

We need to direct the type of activities that occur in rural areas to manage the cumulative effects of subdivision in rural areas.

### Link to Auckland Plan

#### Auckland Plan strategic direction and priorities

Strategic direction 9: Keep rural Auckland productive, protected and environmentally sound.

- Create a sustainable balance between environmental protection, rural production and activities



## The Proposed Auckland Unitary Plan (notified 30 September 2013)

connected to the rural environment

- Support rural settlements, living and communities.

# The Proposed Auckland Unitary Plan (notified 30 September 2013)

## 1.8 Responding to climate change

### Unitary Plan issue

**Our climate is changing, in both the short- and long-term, and this creates significant risks, uncertainties and challenges for Auckland. How we manage land use in response to climate change will determine the resilience of our economy, environment, and communities in the future.**

### Explanation

Climate change is now widely accepted and has evident effects, leading to two fundamental challenges:

- greenhouse gas emissions need to reduce or the earth's temperature will continue to rise and could reach a tipping point where the earth's natural buffering systems are overcome and catastrophic climate change occurs
- even if we stop all greenhouse gas emissions now, experts estimate the earth would still need to adapt to at least 100 years of irreversible climate change.

### Challenges for Auckland

- Drier springs and wetter summers, with more frequent storms and heavy rain increasing the potential for flash flooding.
- Droughts will become more common, placing increased pressure on our water resources.
- Sea levels may rise gradually, increasing exposure to storm surges, flooding and erosion in low-lying coastal land.
- Decline and changes in biodiversity and ecosystems, including shifting habitats in coastal areas as a result of sea level rise.

The council's response to climate change involves both reducing greenhouse gas emissions (mitigation) and dealing with the impacts of a more variable climate (adaptation). How we locate and manage land use, and its integration with transport will be the main way we respond to climate change. Responding now will help to minimise the risks and maximise the opportunities for our health and well-being, economy, and the environment.

### Mitigation

Auckland's emissions profile is unique when compared to similar cities in Australia and North America. While renewable energy sources for electricity dominate, transport uses approximately 56 per cent of all energy use in the region, making it a greater source of emissions than the electricity we use.

Electricity dominates non-transport energy use, with approximately 70 per cent of non-transport energy used by industry and commerce and only 30 per cent by households. Without significant gains in energy efficiency, our energy demand is expected to increase by 65 per cent by 2031.

Auckland sources nearly all its energy, including liquid fuels, natural gas, LPG, coal and electricity, from outside the region. Two electricity generators in south Auckland both use natural gas sourced from Taranaki. An exception is wood for domestic fireplaces and wood burners, much of which is sourced locally.

There is potential for greater uptake of electricity generated from renewable resources including from the Awhitu Peninsula, the South Head and eastern edge of Kaipara Harbour. However, this is reliant on emerging technologies and we have to balance the benefits of new technology against environmental effects. Auckland has potential for additional wind capacity and micro or mini hydropower generation, but there is limited potential for tidal, geothermal and biomass generation. There is also potential for a substantial increase in the uptake of solar thermal (hot water) generation, and small-scale applications for solar photovoltaic methods and systems.

## The Proposed Auckland Unitary Plan (notified 30 September 2013)

Renewable generation will also be important for Auckland's rural communities, improving their energy resilience and making opportunities of currently unused energy sources.

### **Adaptation**

Experts expect future climate variability to have a profound effect on the environmental processes that cause natural hazard events. Climate change will affect the location of new development and infrastructure and how we manage risks in existing locations. Designing resilient physical infrastructure will also be important.

Auckland's challenge is to move from a fossil-fuel dependent, high-energy using, and waste-producing society to one that uses a greater proportion of renewable energy, conserves energy and resources and minimises waste.

### **Link to Auckland Plan**

#### **Auckland Plan strategic direction and priorities**

Strategic direction 8: Contribute to tackling climate change and increasing energy resilience.

- Mitigate climate change
- Improve energy efficiency, security and resilience
- Adapt to a changing climate.

## The Proposed Auckland Unitary Plan (notified 30 September 2013)