


OUR CLIMATE CHANGE PRINCIPLES

NGĀ MĀTĀPONO HURINGA ĀHUARANGI





Whakataukī
Proverb

Whatungarongaro te tangata, toitū te whenua
As man disappears from sight, the land remains



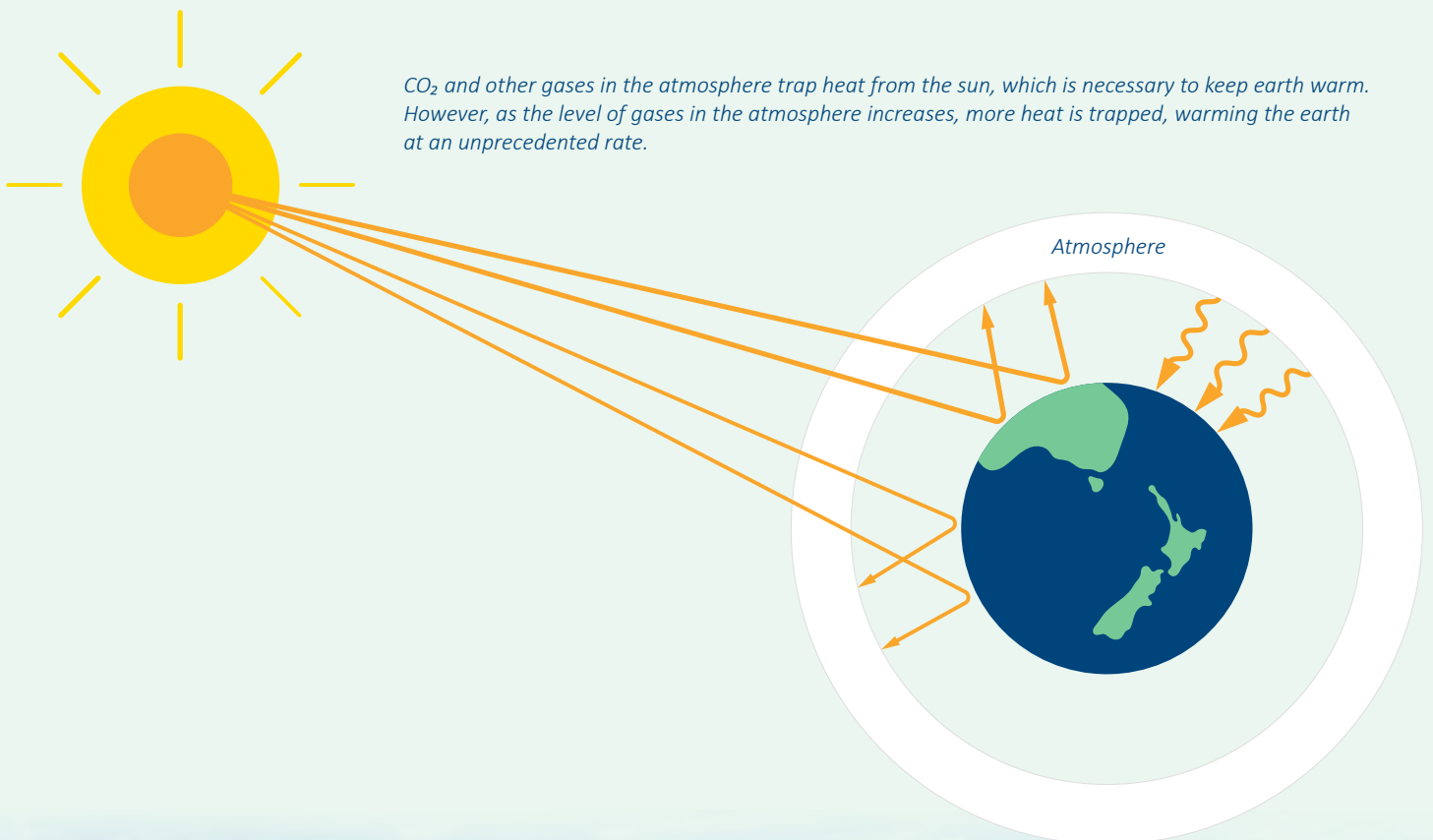
OUR CLIMATE IS CHANGING

Kei te panoni te āhuarangi

Earth's atmosphere is made up of oxygen, a large amount of nitrogen and a small percentage of greenhouse gases, such as carbon dioxide (CO₂) and methane.

Greenhouse gases act like a blanket around the Earth. They trap warmth from the sun and make life on Earth possible. Without them, too much heat would escape and the surface of the planet would freeze. However, increasing the concentration of greenhouse gases in the atmosphere causes the Earth to heat more and the climate to change.

This process is often called global warming, but it is better to think of it as climate change. This is because it is changing other aspects of climate as well as temperature. Changes in weather patterns are also occurring, and the frequency and intensity of extreme weather events, such as heavy rain, heatwaves and droughts, are changing in many regions.¹



In 2017, the Whakatāne District experienced widespread damage to homes, property, business, farms and infrastructure as a result of extreme weather generated by ex-Cyclone Debbie and ex-Cyclone Cook. This image of Edgecumbe shows the devastation that such events can cause. In the Bay of Plenty, it is likely that climate change will result in stronger ex-tropical cyclones and bring heavy rainfall. This brings home the importance of being prepared for the impacts of climate change on our infrastructure and communities.

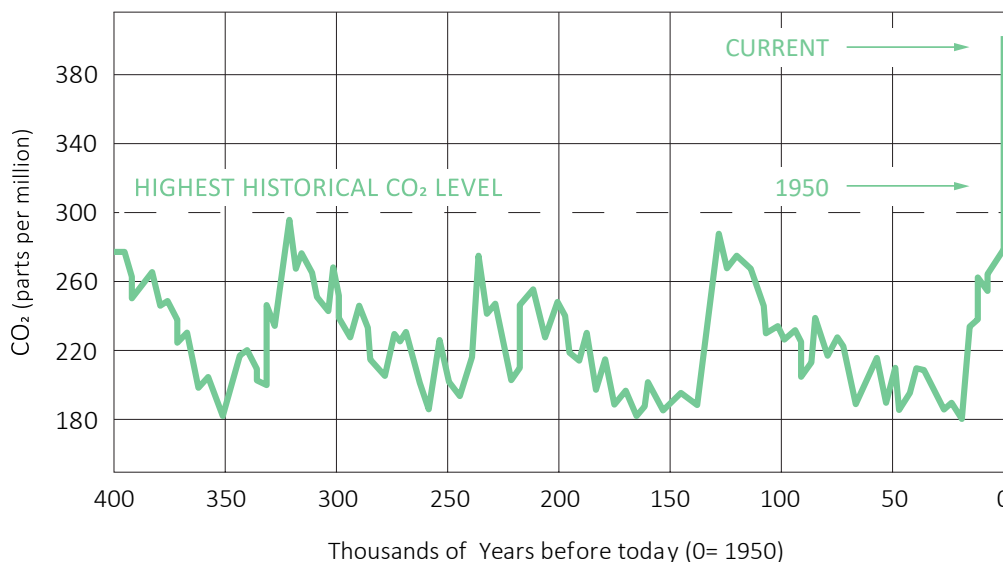
¹ Ministry for the Environment. "Evidence for climate change." <https://www.mfe.govt.nz/node/16597> (accessed 17 July 2019)

CARBON DIOXIDE IN OUR ATMOSPHERE

Hauhā i te rangi

The following graph² shows global CO₂ levels during the last three glacial cycles, using data from ice cores. Ice cores are cylinders of ice drilled from ice sheets and glaciers.³ Never before has the human race experienced the CO₂ levels present today.

Figure 1: Levels of global CO₂

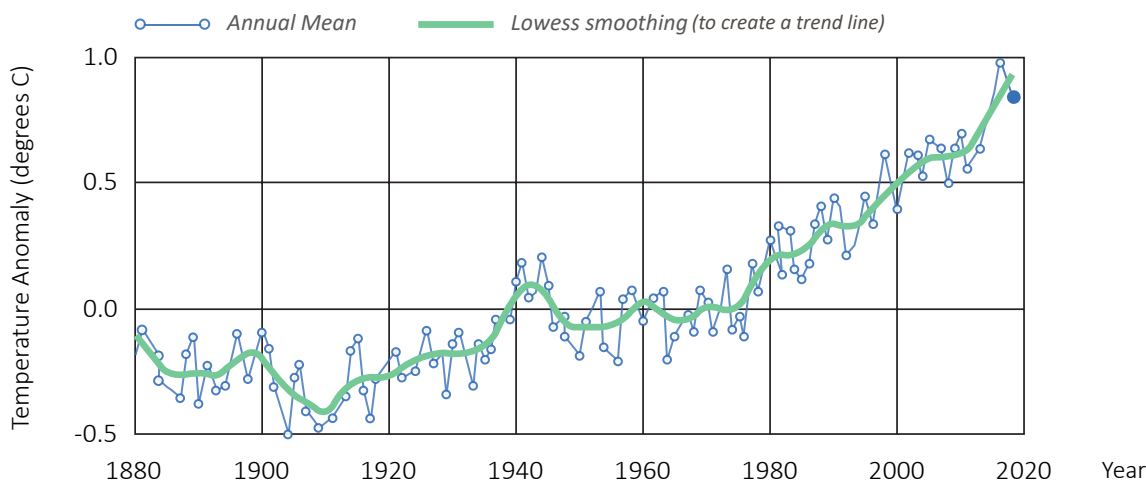


GLOBAL WARMING

Whakamahana o te ao

The climate has changed throughout history. However, the planet is experiencing a warming trend that is significant because it is extremely likely to be the result of human activity since the mid-20th century. The warming is happening at a rate that is unprecedented over decades to millennia.⁴ The graph below⁵ shows the change in global surface temperature compared to 1951-1980 average temperature.

Figure 2: Changes in global surface temperature



Climate change is already affecting Aotearoa New Zealand. The changing climate will impact our agriculture and economy, our native ecosystems, infrastructure, health and biosecurity, as well as having broader social and economic impacts.

Aotearoa New Zealand can expect to see changes in wind and sea current patterns, storm tracks and intensity, the occurrence of droughts and frosts and the frequency of heavy rainfall events, as well as rising temperatures. The impacts of climate change in New Zealand will become more pronounced as time goes on, and will differ region to region.

² NASA. "Climate Change: How Do We Know?" <https://climate.nasa.gov/evidence/> (accessed 17 July 2019)

³ "About Ice Cores." <https://icecores.org/about-ice-cores> (accessed 17 July 2019)

⁴ NASA. "Climate Change: How Do We Know?" <https://climate.nasa.gov/evidence/> (accessed 17 July 2019)

⁵ NASA. "Global Temperature." <https://climate.nasa.gov/vital-signs/global-temperature/> (accessed 17 July 2019)

LIKELY IMPACTS OF CLIMATE CHANGE FOR THE BAY OF PLENTY⁶

Ngā putanga o ngā take Huringa Āhuarangi i te Waiariki

Temperature



Up to 1.0°C increase by 2040s*

1.0°C to 3.5°C warmer by 2090s depending on the level of greenhouse gas concentration in the atmosphere



More hot days above 25°C

Autumn and winter warm slightly more than spring and summer



Frosts rare by 2090s

**an average for 2031-2050, compared to 1986-2005 average*

Rainfall



Rainfall will vary locally within the region

Little change in mean annual rainfall, but change in season pattern:

- Drier spring
- More variable rain in summer/ autumn



Ex-tropical cyclones will likely be stronger and bring heavy rainfall

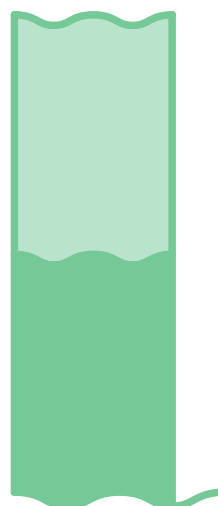


Increased flooding risks

Planning for sea level rise



Increased coastal erosion and flooding



Up to 1.6m by 2130

Up to 0.7m by 2070

Bay of Plenty Moturiki 1953 sea level datum

Projection based on the 'potential' sea-level in the 2017 NIWA report "Tauranga Harbour extreme sea level analysis"

The Whakatāne District is already vulnerable to natural hazards including slips, flooding, coastal erosion and inundation. Climate change is likely to exacerbate the consequences of these hazards. Locally and globally, community awareness and concern for this issue is growing. Whakatāne Ki Mua⁷ feedback, protests and public movements, alongside political prioritisation is showing us that people across our District are concerned about climate change and associated impacts on the place we call home, and people want to see action. A recent study⁸ lead by LGNZ and Tonkin and Taylor found that in the Whakatāne District alone, almost \$130 million of Council owned assets are exposed to risks from sea-level rise by the end of this century.



When it comes to climate change we are in the beautiful position of knowing what our choices are. We can feel a real sense of opportunity about the future - what role our science can play, and how people can contribute.⁹

– Dr Sam Dean, Principal Scientist, Climate, Atmosphere and Hazards, NIWA



However, while we know things are going to change, our biggest risks exist from an inability to effect change fast enough. By taking action now, we can reduce risks for future communities, foster climate resilience and work towards a new, low carbon economy. Tackling the climate crisis needs local action. This will require leadership, courage and ‘good old kiwi ingenuity’. Our ability to change and respond to the challenges ahead present some real opportunities. As a community we can show the country and the world that it’s possible to adapt to a changing climate, a changing economy and a changing lifestyle, and this needs to be done justly, with fairness and equity in mind.

⁷ Whakatāne Ki Mua is a Community Visioning project that, in 2017, gathered the views of nearly 3,000 people, raising 18,000 comments about the Whakatāne District.

⁸ Tom Simonson and Grace Hall, LGNZ. Vulnerable: The quantum of local government infrastructure exposed to sea level rise (2019)

⁹ NIWA. “Climate Change” <https://www.niwa.co.nz/climate-change> (accessed 17 July 2019)

¹⁰ New Zealand Herald. 23 January 2019. “PM to global forum: There is no greater threat than climate change” https://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=12194657

¹¹ United Nations. “Climate Change” <https://www.un.org/en/sections/issues-depth/climate-change/> (accessed 17 July 2019)



What greater threat to our wellbeing is there than the current threat of climate change?¹⁰

– Jacinda Ardern, Prime Minister of New Zealand



Climate Change is the defining issue of our time and we are at a defining moment. From shifting weather patterns that threaten food production, to rising sea levels that increase the risk of catastrophic flooding, the impacts of climate change are global in scope and unprecedented in scale. Without drastic action today, adapting to these impacts in the future will be more difficult and costly.¹¹

– United Nations



RESPONDING TO CLIMATE CHANGE - MITIGATION

E urupare ana ki ngā take Huringa Āhuarangi – Whakamaurutanga



I think it would be great if Whakatāne District developed a zero carbon plan so we can do our part in reversing global warming

– Local respondent to Whakatāne Ki Mua



Mitigation is reducing or preventing the emission of greenhouse gases. Although a certain level of climate change is “locked in” due to greenhouse gases that have already been emitted, we can reduce emissions now so that future impacts from climate change are reduced. The target in the Paris agreement is to limit temperature increase to between 1.5 and 2 °C (above pre-industrial levels). It is important to note that global temperatures are already between 0.8-1.0 °C above pre-industrial times so the window to respond is narrowing rapidly.

With this in mind, the Government is currently in the process of setting national targets for reducing greenhouse gas emissions. Each individual, household, and organisation will need to make changes to meet these targets.

CARBON EMISSIONS OF THE WHAKATĀNE DISTRICT

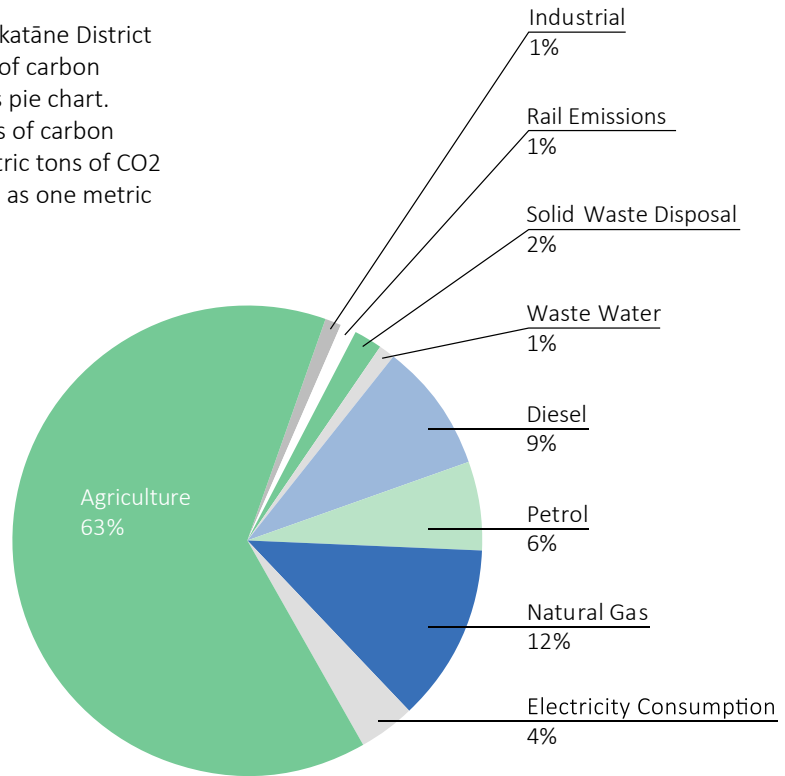
Tukunga Waro o te rohe o Whakatāne

During 2015/16, the carbon footprint for the Whakatāne District was calculated. This identified the largest sources of carbon emissions for the District. These are shown on this pie chart. Carbon footprints are measured in tCO₂e – tonnes of carbon dioxide equivalent. This means the number of metric tons of CO₂ emissions with the same global warming potential as one metric ton of another greenhouse gas.

**GROSS
CARBON
FOOTPRINT**
1,000,227
tCO₂e



There are many things that each one of us can do to reduce the impact of the way we live. Some examples can be found at mfe.govt.nz/climate-change/we-all-have-role-play/what-you-can-do-about-climate-change



CARBON EMISSIONS OF THE WHAKATĀNE DISTRICT COUNCIL

Tukunga Waro o te Kaunihera o Whakatāne

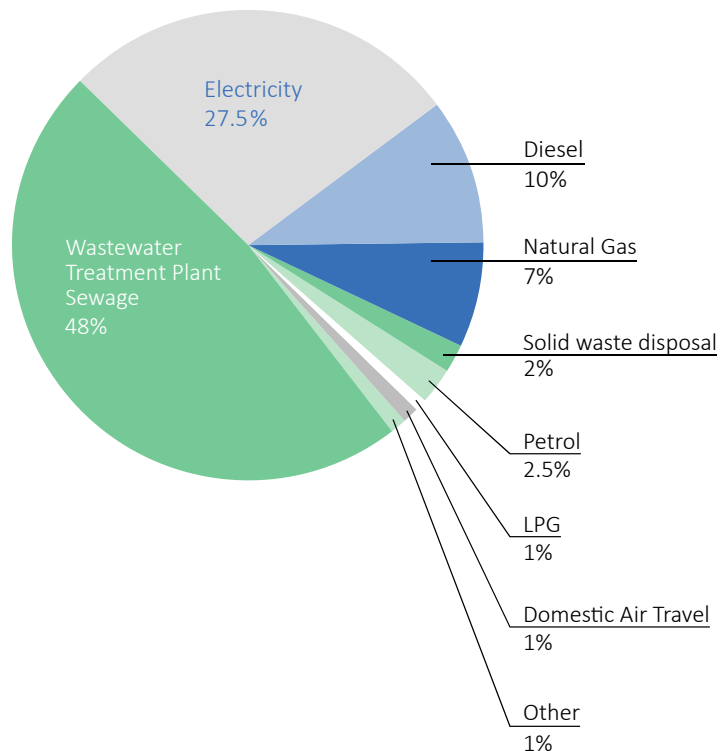
In July 2019, the Council was certified under the CEMARS (Certified Emissions Measurement And Reduction Scheme) programme by Enviro-Mark Solutions Limited. This means that we have measured and assessed our greenhouse gas emissions, and are working to reduce them. The top ten sources of our emissions are shown on the chart below.

**GROSS
CARBON
FOOTPRINT**
3,292.37
tCO₂e



As shown by the chart, the largest source of emissions for the Council come from wastewater treatment plants. This reflects the fact that the Council is accounting for the wastewater emissions from all reticulated households in the Whakatāne District. Similarly, while Council offices use electricity and natural gas, a large portion of these emissions come from community facilities which are used by many of us across the Whakatāne District.

The work undertaken to understand our energy use and carbon emissions has also identified opportunities to reduce these emissions going forward. A climate change mitigation action plan will be developed to support this work.





In 2017, the Whakatāne District experienced widespread damage to homes, property, business, farms and infrastructure as a result of extreme weather generated by ex-Cyclone Debbie and ex-Cyclone Cook. This image of Edgecumbe shows the devastation that such events can cause. In the Bay of Plenty, it is likely that climate change will result in stronger ex-tropical cyclones and bring heavy rainfall. This highlights the importance of being prepared for, and adapting to, impacts of climate change on our infrastructure and communities.

RESPONDING TO CLIMATE CHANGE - ADAPTION

E urupare ana ki ngā take Huringa Āhuarangi

- Urutaunga

In this context, *adaptation* is modifying the way we live and do things to reduce the impacts of climate change. While there is still an element of uncertainty about exactly how the effects of climate change will play out for our community, one thing that is certain is that things will change and that change has already begun.

How we are able to plan, respond, adapt and change will affect the level to which climate change poses a risk or an opportunity for our communities.

The climate affects so many aspects of how we live our lives, from our jobs and industry, to our food sources, transport options, housing choices, health risks, cultural practices and recreational opportunities. Some of these things will be hard for us to think about and respond to, but they also provide opportunities if we are able to respond proactively and collaboratively.

While mitigating carbon emissions to reduce future climate change impacts is important, adaptation to the impacts we are already experiencing needs to be just as much of a focus.

WHAKATĀNE DISTRICT COUNCIL'S ROLE

Te mahi a te Kaunihera o Whakatāne



Climate change is not a one-person or a one-sector issue. It cannot be solved by one country or by one level of government; it requires everyone to work together.¹²

- Christiana Figueres, Executive Secretary of the United Nations Convention Framework on Climate Change



Whakatāne District Council has a responsibility to consider the impacts of climate change in decision-making, and to promote the social, economic, environmental, and cultural well-being of communities in the present and for the future. These responsibilities help to outline the part we play in responding to this complex issue.

We acknowledge and are committed to our part in responding to climate change. This is a key priority for Council, and we have heard very clearly that this is an important issue to residents across our District.

Many Council activities and guiding documents already consider climate change, including our Infrastructure Strategy, District Plan, and a range of specific projects and work streams. More information about some of this work is available at whakatane.govt.nz/climate-change.



Undoubtedly the biggest challenge facing our community is global warming.

- Local respondent to Whakatāne Ki Mua



Looking over the Whakatāne town centre, Whakatāne 2017.

¹² The Climate Group. 24 September 2014. Press release: New Compact of States and Regions launched at UN Climate Summit. <https://www.theclimategroup.org/news/new-compact-states-and-regions-help-tackle-climate-change-launched-un-summit>

OUR CLIMATE CHANGE PRINCIPLES

NGĀ MĀTĀPONO HURINGA ĀHUARANGI



WHERE OUR PRINCIPLES CAME FROM

I puta mai ēnei Mātāpono i hea?

In 2017, the Council signed the New Zealand Local Government Leaders' Climate Change Declaration. That Declaration sets out seven Principles to guide future decision-making, and it has been signed by almost 70 other councils.

We knew we needed a set of Climate Change Principles for the Council, to help integrate work already underway, and to guide future projects and decisions. We developed a draft set of Climate Change Principles based on the seven set out in the Declaration, to align with a national response.

Under each Principle, we drafted specific statements about what it meant to us. The statements were based on things such as our legislative responsibilities and feedback we had already heard about climate change, for example through the Youth Strike for Climate in April 2019. In August 2019, we asked the community what they thought about the draft Principles. We have made changes to our Principles based on feedback we received.

WHERE OUR PRINCIPLES WILL GO

Mā te aha ēnei Mātāpono?

A strategy and action plans will be developed based on these Principles. These documents will set out our mitigation and adaptation targets, and the actions which will help us work towards the targets. They will also help to embed these Principles in the organisation culture. Feedback received from the community through engagement on these Principles, a Climate Change survey, the Youth Strikes for Climate, and Envirohub's Sustainable Backyards month will feed into the action plans.

Climate change is a challenging issue because, although we know that the climate is changing, we don't know exactly what to expect and when. As we learn more about how climate change will impact us as an organisation and a community, these Principles will provide the framework for the part Council plays in responding.

As we continue on this journey a key focus will be to work alongside the community and other stakeholders. In particular, we wish to develop closer partnerships with iwi, particularly around engagement, matauranga Māori, and applying a tikanga lens to the issue of climate change. We also aim to work more closely with rangatahi (youth) in the District, recognizing that climate change is a key issue impacting youth now, which will continue into their future.



Student Strike for Climate Change, Wharaurangi, Whakatāne 2019.



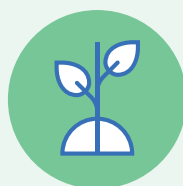
Harvesting Kiwifruit Whakatāne 2014.

¹³ We use the word 'mātou' because we are committing to these Principles for our organisation.

Our Climate Change Principles, based on those set out in The Local Government New Zealand Leader's Climate Change Declaration, are set out below, and discussed in more detail on the following pages. As a Council we are committed to these Principles.



We will act now
Ka mahi mātou¹³ ināianei



We will care for and protect the environment
Ka manaaki, ka tiaki mātou i te taiao



We will acknowledge those most affected
Ka mihi mātou ki a rātou kua pā mārika i ngā take Huringa Āhuarangi



We will think and act long term
Ka whakaaro pae tawhiti, ka mahi pae tawhiti mātou



We will learn
Ka ako mātou



We will be part of the solution
Ka āwhina mātou ki te whakatika i ngā raru



We will build capacity to recover from difficulties
Ka whakakaha mātou i a tātou



1. We will act now *Ka mahi mātou ināianei*

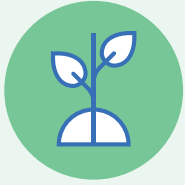
Precaution

Whakatūpato

There is clear and compelling evidence for the need to act now on climate change and to adopt a precautionary approach because of the irreversible nature and scale of risks involved. Together with the global community, we must eliminate the possibility of planetary warming beyond two degrees from pre-industrial levels. This could potentially threaten life on Earth (Article 2 of the UNFCCC). Actions need to be based on sound scientific and matauranga Māori evidence and resourced to deliver the necessary advances. Acting now will reduce future risks and costs associated with climate change.

Whakatāne District Council:

- Commits to monitoring and reducing our organisational carbon emissions with a view to carbon neutrality
- Will develop emissions reduction targets to incorporate into current operations and future decision making
- Will investigate offsetting emissions as a temporary measure where options for reduction are impractical
- Will show climate change leadership, including by facilitating and supporting¹³ emissions reduction across the Whakatāne District
- Recognises that there is a fundamental need to change the way we do things in order to mitigate and adapt to climate change, while ensuring we continue to meet our mandated requirements as a local authority
- Will properly resource our part in mitigating and adapting to climate change to meet our moral and legal obligations and the aspirations of our communities, while recognising that all of society has responsibilities to respond
- Will ensure that our organisation culture, key documents, and decisions reflect and align with these Climate Change Principles
- Will celebrate success and achievements related to climate change



2. We will care for and protect the environment
Ka manaaki, ka tiaki mātou i te taiao

Stewardship

Kaitiakitanga

Each person and organisation has a duty of care to safeguard the life-supporting capacity of the environment on which we all depend, and to care for each other. Broad-based climate policies should enable all organisations and individuals to do all they feasibly can to reduce emissions and enhance resilience. Policies should be flexible to allow for locally and culturally appropriate responses.

Whakatāne District Council:

- Will advocate for the wellbeing of our environment, our Pacific neighbourhood, and the planet
- Will consider the impacts of climate change on the District’s biodiversity, and what this means for preserving, protecting, or conserving vulnerable ecosystems
- Will work to improve resource efficiency and healthy homes, businesses and infrastructure in our district, recognising that efficiency alone is not a complete solution
- Will support¹⁴ the use of renewable energy including the uptake of solar power and electric vehicles where appropriate
- Will drive impact through a procurement process which maximises delivery of our climate change objectives, to achieve best value for money, encompassing economic, social and environmental outcomes
- Will ensure that decisions take into account whole of life emissions and the circular economy¹⁵
- Acknowledges that our response to climate change must be flexible, and respond to developments in data, science, and central government direction while being locally and culturally appropriate
- Will prioritise walking, cycling, public transport, electric vehicles and other low carbon transport options, recognising that transport represents a large portion of the District’s emissions



3. We will acknowledge those most affected
Ka mihi mātou ki a rātou kua pā mārika i ngā take Huringa Āhuarangi

Equity/Justice

Manatika

It is a fundamental human right to inherit a habitable planet and live in a just society. The most vulnerable in our community are often disproportionately affected by a range of factors including climate change and natural hazards. Approaches need to consider those most affected and without a voice, including vulnerable members in our community, our Pacific neighbours and future generations.

Whakatāne District Council:

- Will advocate for the wellbeing of our communities, noting that we will all be impacted by climate change
- Acknowledges that mitigating and adapting to climate change is the right thing to do not only for people but also for the health of the planet
- Recognises that for some mana whenua, threats from climate change may present a threat to identity, lands and culture
- Aspires for all people to have access to transparent and timely information about climate change and its implications to enable informed decision-making
- Will support¹⁴ the community to mitigate and adapt to climate change, recognising that capacity to do so is dependent on physical, social, economic and political factors
- Will strive for a ‘just transition’ towards a low-emissions future – that is, a transition that is fair, equitable, and inclusive
- Recognises that necessary changes to mitigate and adapt to climate change will vary across the District, which will affect the nature of support required
- Recognises that those who experience socio-economic and other disadvantages are likely to be disproportionately impacted by climate change
- When making decisions through a climate-change lens, will seek opportunities to address inequalities or disadvantages
- Will continue to build a strong understanding about the District’s communities, environment, and landscape, and how climate change will create equity and justice considerations

¹⁴ By ‘supporting,’ we mean that we will be enabling through our policies and procedures.

¹⁵ A circular economy is an alternative to the traditional linear economy, in which we keep resources in use for as long as possible, extract the maximum value from them whilst in use, then recover and regenerate products and materials at the end of each service life.



4. We will think and act long-term *Ka whakaaro pae tawhiti, ka mahi pae tawhiti mātou*

Anticipation

Tirohanga whakamua

Long-term thinking, policies and actions are needed to ensure the reasonably foreseeable needs of current and future generations are met. A clear and consistent pathway toward a low carbon and resilient future needs to provide certainty for successive governments, businesses and communities to enable transformative decisions and investments to be made over time.

Whakatāne District Council:

- Recognises that allocating funding to climate change mitigation and adaptation now is an investment for the future, will save money in the long-term, and is necessary to ensure future generations are not unfairly burdened with the financial, cultural, social, and environmental costs of climate change
- Recognises that funding for climate change mitigation and adaptation needs to be made at all levels of government, and will advocate for regional and central government investment
- Will incorporate climate change implications into infrastructure, urban development, and land-use decisions
- Will take a long-term approach to waste management and energy use, including transport infrastructure
- Will, in decision-making, assess natural hazards over a time period appropriate to the life of the decision being made, taking into account the provisions of the Bay of Plenty Regional Policy Statement
- Will build internal capacity and understanding with a view to using the DAPP (Dynamic Adaptive Pathways Planning) method in decision-making, as recommended by the Ministry for the Environment





5. We will learn *Ka ako mātou*

Understanding *Māramatanga*

Sound knowledge is the basis of informed decision-making and participatory democracy. Using the best available information in education, community consultation, planning and decision-making is vital. Growing understanding about the potential impacts of climate change, the need to respond, and ways to respond, along with understanding the costs and benefits for acting, will be crucial to gain community support for the transformational approaches needed.

Whakatāne District Council:

- Will incorporate a range of information sources in decision-making, including science, local knowledge, and mātauranga Māori
- Will build organisational knowledge about climate change and mitigation and adaptation opportunities through internal education initiatives
- Will explore and encourage opportunities to build community knowledge about climate change and its impacts at a local level
- Will monitor international, national, and regional developments in climate change science, with an aim of using the best possible data and evidence consistently across the organisation
- Will be future-focused, but remain mindful of past decisions and current assets, and how these might be impacted by climate change
- Will work to remain abreast of national and international examples and practices in response to climate change



6. We will be part of the solution *Ka āwhina mātou ki te whakatika i ngā raru*

Co-operation *Mahi tahi*

The nature and scale of climate change requires a global response and human solidarity. We have a shared responsibility and cannot effectively respond alone. Building strong relationships between countries and across communities, organisations and scientific disciplines will be vital to share knowledge, drive innovation, and support social and economic progress in addressing climate change.

Whakatāne District Council:

- Will work to identify the local knowledge, skills, and observations present in the community, and will value this knowledge
- Acknowledges that action on climate change requires coherent and consistent governance across central and local government, as well as commitments from private industry and the community
- Will collaborate with key partners regionally and nationally to ensure actions align across organisational boundaries
- Will work with central government to deliver on national emission reduction targets and support resilience in our communities.
- Will take a leadership role to work with our communities and key stakeholders to understand, prepare for and respond to the multi-dimensional impacts of climate change in this place we share



7. We will build capacity to recover from difficulties *Ka whakakaha mātou i a tātou*

Resilience

Manawaroa

Some of the impacts of climate change are now unavoidable. Enhancing the resilience and readiness of communities and businesses is needed so they can thrive in the face of changes. Protecting the safety of people and property is supported by sound planning and a good understanding of the risks and potential responses to avoid and mitigate risk.

Whakatāne District Council:

- Will become a more resilient¹⁶ organisation embedded within more resilient communities, recognising that building resilience is an ongoing process with no end-point
- Will use effective risk assessment, asset and project planning to increase the robustness and resilience of all our built and social infrastructure
- Will factor in the impacts of climate change on our key infrastructure and the ability of our communities and businesses to continue to function following a disruptive event
- Will factor in the predicted impacts of climate change on planning, constructing and renewal of key infrastructure to improve community resilience
- Will support initiatives that foster community cohesion and build social capital¹⁷ as key components of building resilience
- Will adopt and promote low carbon, climate-resilient planning as a key tenet of sustainable socio-economic development, and land-use decisions
- Will accept that some parts of our district may require retreat and removal of infrastructure to adequately manage risks
- Will take an all-hazard approach to managing risks, recognising that climate change might create new hazards which are currently not known to us
- Will explore opportunities to build awareness of risk and encourage community-led steps to increase preparedness and resilience



Matatā Camping ground, Matatā 2016.

¹⁶ By 'resilient,' we mean the ability to anticipate, minimise, absorb, respond to, adapt to, and recover from disruptive events.

¹⁷ 'Social capital' is defined by the Organisation for Economic Co-operation and Development as 'networks together with shared norms, values and understandings that facilitate co-operation within or among groups.'

If you would like to learn more
about our Climate Change Project,
Please visit whakatane.govt.nz/climate-change





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