Climate Change Action Plan

This plan sets out the actions Council will take to respond to and prepare for the impacts of climate change.

Climate change

Changes to the climate we might see:

The likely changes to the climate for the Bay of Plenty are:

- increased temperatures – up to 1.0 degree celsius increase by 2040's
- more hot days (over 25 degrees celsius) and extreme hot days (over 30 degrees celsius)
- changing rainfall patterns – declines in spring and summer rainfall, increases in autumn and winter rainfall
- higher rainfall intensity (more rain falling in a shorter period of time) and more heavy rainfall events
- fewer wet days
- fewer cold nights
- fewer windy days.

Assumption

As a result of climate change the Western Bay of Plenty can expect to see:

- more hot days (temperatures 25 degrees celsius or more)
- milder autumns and winters
- wetter winters
- decreasing summer rainfall with heavier downpours
- fewer cold nights and frosts
- rising sea levels (0.52m above Moturiki Datum 1953 at 2070).

Overall there will be more extreme weather and storm events (potentially three times more frequent) and increased risk from natural hazards such as coastal erosion and inundation.

Council will plan using RCP8.5, however individual projects will undertake their own modelling as appropriate.

This will have social, economic and environmental consequences that are difficult to predict and plan for. The Zero Carbon Act and new regulations will require reporting on the actions Council is taking to move towards zero carbon by 2050.

If these changes occur, will lead to:

- more droughts
- more extreme weather and storm events
- increased risk of coastal erosion
- inundation of marshland and previously dry land
- fewer frosts
- increasing sea water temperatures.

What might happen as a result of the climate changing

- Saltwater incursion into rivers and groundwater aquifers. This would have impacts on water supplies and wastewater treatment plants.
- Increased coastal flooding may impact on roading networks and community infrastructure such as coastal parks and walkways.
- Coastal erosion impacting on areas with high cultural values. Matakana Island and Maketu have been identified as having a high sensitivity to erosion.
- Establishment of new pest animals, weeds and diseases that are currently prevented by NZ's climate. This could have significant impacts on indigenous ecosystems, as well as on primary production systems. More ants, wasps and sub-tropical fruit flies, also impacting on indigenous ecosystems and primary production systems.
- Increased susceptibility to aquatic diseases, and establishment of sub-tropical and tropical species.
- Expansion of existing pests such as koi carp, goldfish, tench rudd and catfish.
- Impacts on pasture grass, legumes and maize.
- Impacts on fruit growing, in particular kiwifruit which needs 'winter chilling' and early season rainfall.
- More slips and soil erosion.
- Impacts on water availability.
- Increased fire risks for forestry.

There could also be positive impacts, such as increased crop diversity and the ability to grow things that currently don't grow here.

We know these changes will have significant social, economic, environmental and cultural consequences. But when and how these changes will affect us is difficult to predict and plan for. We want to work with communities to build understanding and knowledge and decide together how to respond. We also want to build community resilience, so that the community is in a better position to adapt and manage the impacts of any changes.

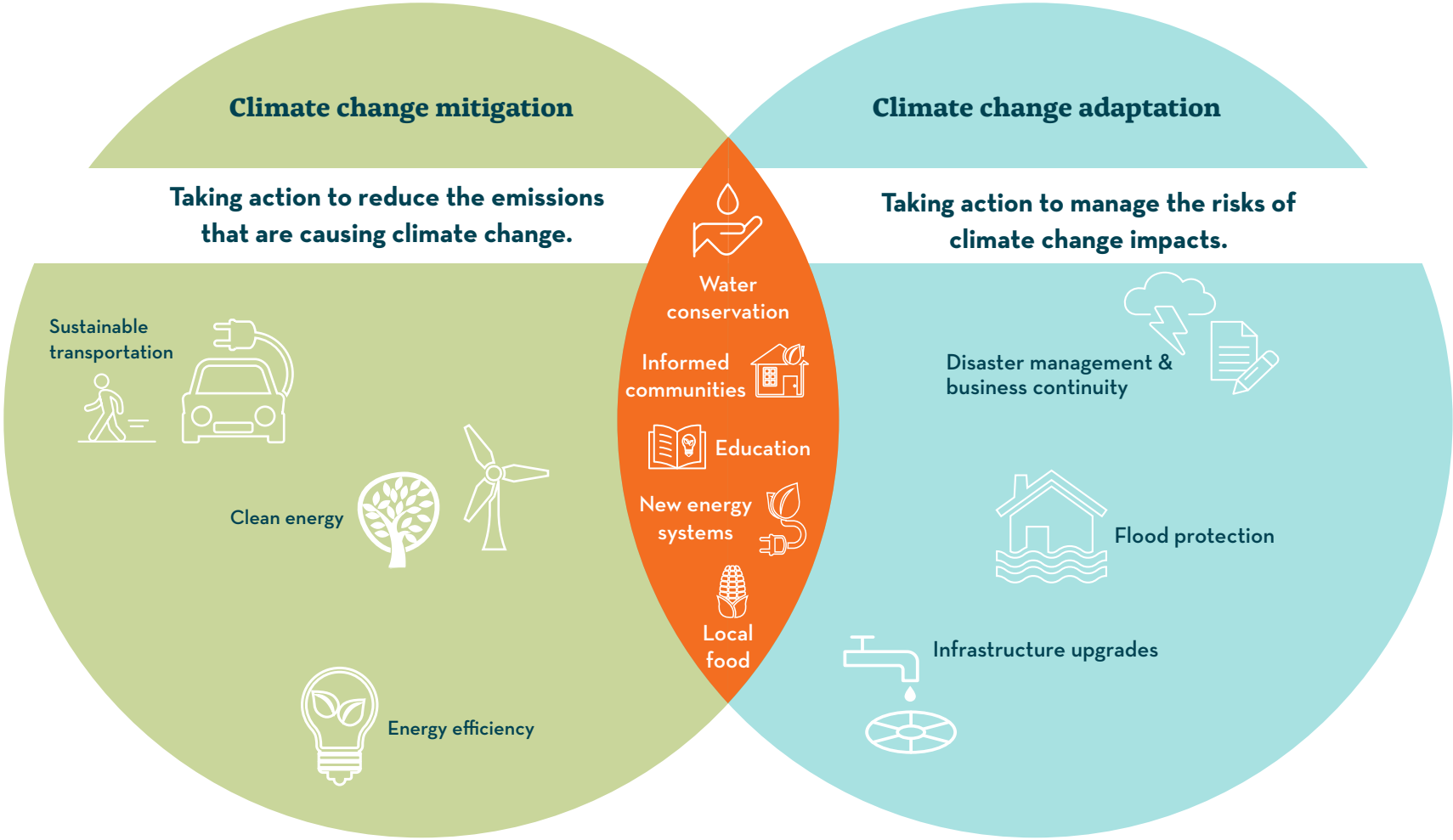
The possible responses to a changing climate

Some possible responses are:

- Land use planning that takes into account more frequent and more extreme weather events – and stricter regulations on where and how to build.
- A different built environment that can respond to this.
- Built infrastructure that is responsive to changing landforms.
- Distributed power generation (local generation, more resilient).
- Distributed internet connectivity.
- Working and learning from home.
- Higher building standards and urban design that caters for extremes in heat, rainfall and wind.
- Local monitoring systems and emergency responses.
- Some community relocation away from high risk locations.
- Regulations and legislative requirements to reduce, limit or stop emissions.
- All businesses and public sector organisations required to monitor emissions and reduce or stop emissions through changing the way they deliver.
- New infrastructure required to have low emissions (e.g. new buildings, transport systems).
- Households and communities tracking their emissions and working to reduce them.
- 'Green infrastructure' and afforestation.

Council's Response

There are two categories of actions:



Climate change mitigation

Taking action to reduce the emissions that are causing climate change.

As a large organisation in the District, Council produces a level of emissions through its activities. We need to consider what can be done to reduce emissions from those activities.

We need good data on how much we're emitting and what changes we can make. The key area for Council is energy use. We've already completed an energy audit so we know where most of the energy is being used and what savings can be made. We are entering into a partnership with EECA (Energy Efficiency Conservation Authority) to set up an energy management programme, which will lead to energy reductions and savings for Council's operations.

The next steps

To understand our wider emissions and develop a plan for reducing emissions. We will do this by joining a carbon reduction certification programme.

We have included this work in our Corporate Plan, so that it becomes a part of the way we operate our business (and not just a separate 'add on' or 'nice to have').

How to reduce emissions across our District

Council can control and reduce emissions from our activities. We can also deliver services in a way that enable people and businesses to make choices that reduce emissions. For example, we can provide park and ride facilities, walkways and cycleways that enable people to use other modes of transport, that have less emissions than private motor vehicles.

To support emissions reductions across the District we will:

- Continue our investment in walkways and cycleways.
- Implement the Urban Form and Transport Initiative (UFTI) so that we develop in areas that have less risk from natural hazards and can be serviced by an efficient transport system that means people can be less reliant on cars.
- Continue to fund the Healthy Housing programme, so that households can be warmer, drier and healthier and also more energy efficient.
- Upgrade street lighting to LED lighting, which uses a lot less energy.
- Support the uptake of electric vehicles, including e-bikes, by investing in the necessary charging infrastructure.
- Roll out the rates-funded kerbside rubbish, recycling and organic waste collection service.
- Invest into community re-use centres, to provide opportunities for re-purposing and re-developing products.
- Continue our waste reduction education programmes so that less waste is created.

Monitoring how we're doing

We've already joined an energy management programme which sets targets for reducing energy use and has a monitoring programme.

Once we've joined an emissions reduction accreditation scheme we will be monitored regularly to ensure we're meeting emissions reduction targets.

Climate change adaptation

Managing the risks of climate change impacts.

To manage the risks, we need to think about:

- where we build
- how we build
- what can be done with existing infrastructure to protect it, or make it more resilient through upgrades.

It's hard to know when changes may need to be made and what needs to happen first. But a step-by-step guide is:

Understand the science and the hazards. We already have a lot of this information.

Understand what's at risk, and how important that is. This is done through completing risk assessments on assets, and working with communities to identify what's most critical for them.

Identify adaptation actions.

Develop and implement a plan (build it into other future plans, like infrastructure plans and community plans.)

Review over time.

For the next three years, Council will focus on Step 2 - Understanding what's at risk and what's most important.

We've set funding aside to carry out risk assessments on Council and community assets. These consider the potential changes to our climate, the impacts of those changes, and what that does to assets (such as roads, water supply systems, stormwater networks, parks, beaches and cultural heritage sites). We'll look at what's the most important and is at the highest risk. We'll then use this information to move into Step 3 – identifying adaptation actions.

We are budgeting $200,000 a year for the next three years to do this work.

What else are we doing?

To do this work well we need to work closely with Tauranga City Council and Bay of Plenty Regional Council. We'll continue sub-regional collaboration through our agreed Natural Hazards Programme, which includes looking at different scenarios for climate changes and impacts and how they will affect natural hazards (e.g. flooding, coastal erosion). We will use this work for land-use planning purposes, so that as we're looking to address existing risk we're also not adding to that risk by putting more infrastructure, housing and development into high-risk areas.

We are also working on a regional climate change risk assessment. This will let us know what's most at risk and what's most important at a regional level.

We are working hard to improve the way we deliver our stormwater network, so that we can move towards being a water sensitive District that is more resilient to flooding. We are ensuring we manage water and wastewater responsibly, as our water supply and wastewater treatment systems could be severely impacted by climate change.