

**Mahere Hukihuki Whakaiti Waro me te
Manawaroa ā-Āhuarangi mō Te Kaunihera o Te
Awa Kairangi**

**Interim Carbon Reduction and Climate
Resilience Plan for Hutt City Council
2021–2031**

Version 1 for the period 1 July 2021— 30 June 2022



Foreword

Stepping up our action on climate change

[Leadership Foreword - PLACEHOLDER MESSAGING]

The COVID-19 pandemic demonstrated the massive impact a global health crisis can have on the world. But, as United Nations Secretary-General António Guterres explained in a major development bank conference in November 2020

‘...the disruption to economies, societies and people caused by COVID-19 will pale in comparison to what the climate crisis holds in store.’

The 2020 Global Risks Report¹ identifies failure to act on climate change as the number one global risk, with biodiversity loss, extreme weather and water identified as the 3rd, 4th and 5th major global risks. The changing climate will have a significant impact on New Zealand, affecting public health, biodiversity, property, infrastructure, communities, the economy and our way of life.

The government has introduced a climate change programme to help New Zealanders reduce their emissions and develop resilient communities that can adapt and mitigate the impacts of climate change.

Councils are facing growing pressure to address issues around coastal hazards and the threat of rising sea levels and erosion, as well as manage council assets and protect the interests of property and business owners.

Our climate leadership starts by getting our own house in order. Hutt City Council has adopted a zero carbon policy and declared a climate emergency. Climate change requires us to make massive shifts – adapting to a disrupted climate, zero waste, zero carbon; connecting communities by plan rather than chance and learning for life.

We need to embed climate change across our entire organisation so that prioritising and delivering climate action becomes instinctively ‘the way we do things’. We must consider not only how we can play our own part better but also how we can work in partnership with others to contribute to our city’s zero carbon future. Hutt City Council is working with mana whenua, businesses and members of the community in responding to the impacts of climate change and building our city’s climate resilience.

Hutt City Council must act as a trusted leader, sharing information about the effects of climate change on our city, facilitating connections, taking concrete action and helping to build momentum across our community to deliver the transformational change we need.

Caring for and protecting our environment is a one of six key priorities outlined in our 10 year plan. This means working with our communities to meet the challenges of climate change and to become carbon zero by 2050.

All of us can make a difference and every individual must play their part. Together, our actions can help to ensure that Lower Hutt is an inclusive, thriving and resilient city – now and in the future. As renowned cultural anthropologist Margaret Mead once stated:

Never doubt that a small group of thoughtful committed citizens can change the world; indeed, it's the only thing that ever has.

This interim plan is the start. Over the next 12 months we will be driving forward with a committed work programme to set up our organisation for leading future climate actions. By June 2022, we will have taken account of the Government’s first three emission budgets out to 2035 based on the

¹ <https://www.weforum.org/reports/the-global-risks-report-2020>

Climate Change Commission's recommendations, and we will be able to incorporate council actions from Lower Hutt's climate action roadmap.

This interim plan sets out 21 concrete and measurable actions that:

- outline our journey to reduce Hutt City Council's corporate emissions to net zero by 2050
- help reduce Lower Hutt's greenhouse gas (GHG) emissions to net zero by 2050
- support our city to achieve climate resilience.

Hutt City Council is investing \$120M in Lower Hutt's walking and cycling network to provide safe alternative pathways for cyclists, micro-mobility, pedestrians and runners and help reduce vehicle trips and thus transport emissions. We are investing \$7M towards phasing out the use of natural gas at council facilities and replacing it with low carbon technologies, which will lead to a 50 percent reduction in emissions at facilities by 2030.

We have already transitioned 21 percent of our vehicle fleet to electric, and the fleet will be fully electric by 2030. Twenty electric vehicle charging stations will be installed across our city by late 2022.

To reduce waste, we've just introduced a new weekly kerbside rubbish and fortnightly recycling collection service using 22 fully electric trucks by 2024 and we are working to establish a new resource recovery park. Hutt City is one of the first councils in New Zealand to set this new standard for the entire fleet.

My confidence in this plan reflects the efforts Hutt City Council has taken to listen to our communities, our team and our partners. Remaining responsive and adaptive, we are working hard to become a carbon zero city without delay. I am excited to support the team through the challenges and opportunities ahead. Setting our path for the future and becoming a leading council on climate action.

Ngā mihi

PLACEHOLDER AUTHOR A

[Aspirational Foreword - PLACEHOLDER MESSAGING]

All of us have been living on this planet as if we could care less about the mess we've left behind, not taking care of our surroundings and kidding ourselves that someone else will tidy up after us. Well they haven't, so let's be the change we need to see and join us in tidying up our planet. We truly are the last generation that can do something about it. Let's all stop being bystanders - let's all get involved and act now as one community – we have a plan.

Our purpose as committee members is to develop, implement, monitor and review strategies, policies, plans and functions associated with environmental and climate change activities as we set forth our Hutt City journey to reach Carbon Zero, including raising awareness of all climate-related issues including ecology, biodiversity and biosecurity matters, waste and recycling.

PLACEHOLDER AUTHOR B

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Executive summary

This document sets out our interim 10-year plan for how Hutt City Council will reduce emissions at an organisational level and facilitate a reduction in city-wide greenhouse gas (GHG) emissions. It also outlines actions to support Lower Hutt in building climate resilience.

Climate change will exacerbate many existing threats to our city

Lower Hutt city is located on the most densely populated flood plain in New Zealand, and as a coastal city, it is vulnerable to sea level rise. We will likely see at least a half a metre of sea level rise this century, and that will put billions of dollars of infrastructure and property at risk, impacting people's lives and their wellbeing. Rising sea levels will push up the water table, making it harder for Te Awa Kairangi / Hutt River to drain the flood waters. If we reach two degrees of warming, major floods could occur three times as often as they do now. While we are uncertain about the pace and scale of future change, we do know that planning for the future means planning for a different climate. Our role is to enable a city that is more resilient, where everyone thrives.

Leading climate action in partnership with our community

Hutt City Council's Climate Change Emergency Declaration recognises the seriousness of the situation for Lower Hutt and formalises our commitment to enhancing our environment and achieving our climate change goals.

Climate change requires all individuals, businesses, communities and government to take prompt action to do their part in limiting global warming. It requires era-scale change that cannot be achieved solely through local government action. For this reason, the council, mana whenua, business and community groups are working together to determine how Lower Hutt should tackle the climate crisis as a community. By the end of 2021, our city will have co-designed a climate action roadmap, setting out concrete actions to reduce our city's emissions and build climate resilience.

As local government, we have an important role in facilitating our city's climate action. We can mobilise others, facilitate connections and raise our community's awareness of the implications of climate change. Through incentives, providing information, regulation and the construction and maintenance of infrastructure such as roads, cycleways and Silverstream landfill, Hutt City Council also influences city-wide emissions.

Our efforts to reduce our organisation's own emissions are an important demonstration of our commitment to carbon zero and role models efforts that we hope other organisations will take to reduce their carbon footprints.

Our first step is to get our house in order

This is an interim plan for the next 12 months, while we set ourselves up for success. The plan will need to be revised over the coming year, as we improve our understanding of emissions associated with the services Hutt City Council delivers and the infrastructure we invest in, take account of new government initiatives and new technologies and respond to community priorities set out in the Lower Hutt climate action roadmap.

Delivering action over the next 10 years

This plan aligns with our draft long-term plan for 2021 through to 2031. It supports our vision for Lower Hutt as being 'A city where everyone thrives'. This plan begins to address a major challenge facing our city – climate change, which is reflected in our priority Tiaki Taiao (caring for and protecting our environment). Under this priority, we are working with our communities to meet the challenges of climate change and our goal to become carbon zero by 2050. Our climate actions also sit across other long-term plan priorities, such as connecting communities and investing in infrastructure to manage the effects of climate change.

At a city-wide level, we are investing significantly in promoting active transport. We've completed cycleway projects such as Te Hikoī Ararewa, the Wainuiomata Hill Shared Path and will be expanding our activities with approximately \$120M in funding for cycling and micro-mobility over the next 10 years.

We are planning to expand our city's long-term carbon sinks, by improving existing native forest on reserve land, accelerating the reforestation of Belmont Regional Park and using funding from carbon credits to set up a carbon reduction acceleration fund.

We're working on capturing more methane emissions from our open and closed landfills and reducing the amount of waste going to Silverstream Landfill. Key actions include establishing a new resource recovery park and investigating a flare at the closed landfill in Wainuiomata.

We are also working to reduce emissions from our own facilities by 50 percent by 2030, by replacing all natural gas heating with alternative low-carbon energy sources (for example, heat pumps). We're switching to a fully electric vehicle fleet by 2030 and embedding climate change considerations across our organisation.

What we aspire to achieve

In carrying out the actions in this plan, our projections show that, by 2030, we will be broadly on track to reduce our organisational target in line with what is required to achieve our net zero emissions target by 2050.

Our efforts will also be targeting a reduction in Lower Hutt's emissions – particularly transport emissions, which make up 56 percent of the city's total emissions. Through Lower Hutt's Community Climate Change Response, we aim to inspire individual and collective actions to make the transformational changes we need to achieve our climate goals.

Our actions will not only have carbon reduction and resilience benefits but broader positive outcomes: active transport not only reduces emissions but also promotes physical and mental wellbeing; planting trees improves carbon sequestration and also has biodiversity and recreational benefits.

Over the next 10 years, we will be building our climate resilience so that our city can manage the effects of climate change and support our vision of Lower Hutt being a place where all people in our city can thrive.

Glossary

Adaptation	Actions that help manage the effects of climate change – such as avoiding building in areas likely to be affected by rising sea levels or the construction of barriers to protect coastal areas from rising sea levels.
Alliance contract	A relatively new approach used in larger projects where the risks of the project are not always fully understood or may change as the project proceeds. In alliance contracts, the contractors acknowledge the project may have risks and collaborate as an integrated team to share the cost of the risks and any gains that they stand to make if the project proceeds better than expected while working towards a set of common goals to meet the client's requirements.
Carbon footprint	The amount of carbon emitted by an individual or organisation in a given period of time, or the amount of carbon emitted during the manufacture of a product.
Carbon neutral	A process where there is no net release of CO ₂ . An individual, company or country can also achieve carbon neutrality through carbon offsetting.
Carbon offsetting	A way of compensating for emissions of CO ₂ by participating in, or funding, efforts to take CO ₂ out of the atmosphere.
Carbon sequestration	The process of storing carbon dioxide. This can happen naturally, as growing trees and other plants turns CO ₂ into biomass stored within the plant. It can also refer to the capture and storage of CO ₂ through technical processes.
Climate Action Roadmap	The Lower Hutt community, with Hutt City Council support are co-designing a city-wide roadmap (path) which sets out concrete actions to reduce our city's emissions to net zero by 2050 and to build Lower Hutt's climate resilience
Climate change	A pattern of change affecting global or regional climate, as measured by factors such as average temperature and rainfall, or an alteration in frequency of extreme weather conditions.
Emissions Trading Scheme (ETS)	A national market-based approach, run by the Environmental Protection Authority, that allows the trading of emission units or 'carbon credits' between participants in the scheme as a way of limiting greenhouse gas emissions.
Fossil fuels	Natural resources, such as coal, oil and natural gas, that contain hydrocarbons. These fuels produce carbon dioxide when burnt.
Global warming	The steady rise in the global average temperature in recent decades, which is largely caused by human-produced greenhouse gas emissions.
Global warming potential (GWP)	A measure of a greenhouse gas's ability to absorb heat and warm the atmosphere over a given time period.
Greenhouse effect	The insulating effect of certain gases (greenhouse gases) in our atmosphere, which results in solar radiation being trapped within the atmosphere and warming the Earth.
Greenhouse gases (GHGs)	Natural and industrial gases that cause the greenhouse effect on Earth. Carbon dioxide and methane are natural GHGs, and hydrofluorocarbons are industrial GHGs.
Gross and net emissions	'Gross emissions' refers to the total amount of GHG emissions produced, while 'net emissions' refers to the total amount of GHG emissions produced minus emissions that have been absorbed (often through carbon offsetting). 'Net zero' means that we are not adding new emissions to the atmosphere.
Kaupapa Māori	Māori principles and ideology - a philosophical doctrine, incorporating the knowledge, skills, attitudes and values of Māori society. These are the bedrock, the foundation of the culture. Growing from within the kaupapa is our tikanga. The tikanga are actions, methods, processes, and policies that are aligned and consistent with the foundation kaupapa. All tikanga purporting to be Māori can find their bases in kaupapa (Winiata, P.,2003, p.5)

Lower Hutt Community Climate Change Response	Hutt City Council, mana whenua, business and community groups are working together to determine how Lower Hutt should tackle climate change as a community. A series of community hui were held in 2021, which are informing the development of a city-wide Climate Action Roadmap.
Net Zero	Net zero means we are not adding new emissions to the atmosphere. Aotearoa and Lower Hutt have a target of net zero carbon emissions by 2050.
Net and Gross emissions	Gross emissions refer to the total amount of GHG emissions produced, while net emissions refer to the total amount of GHG emissions produced minus emissions that have been absorbed (such as through growing forests). Net zero means that we are not adding new emissions to the atmosphere.
Mitigation	Actions that will reduce climate change, such as actions to reduce GHG emissions.
tCO ₂ E	In this document, emissions are expressed as tonnes of carbon dioxide-equivalent (CO ₂ E). This is a standard unit for measuring carbon footprints. It compares emissions from various GHGs based on their global warming potential, converting the various amounts of these different gases to the equivalent amount of carbon dioxide with the same global warming potential.

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An inclusive, thriving, resilient city

Tiaki Taiao – Caring for and protecting our environment

Working with our communities to meet the challenges of climate change and our goal to become carbon zero by 2050

Our goals

1. Reducing Hutt City Council's corporate emissions to net zero by 2050
2. Facilitating a reduction in Lower Hutt's greenhouse gas (GHG) emissions to achieve net zero by 2050
3. Supporting our city to build climate resilience.

Our priority areas

1. Hutt City Council's leadership
2. Transport
3. Energy
4. Waste
5. Land
6. Climate resilience.

The changes we will see by 2030

- Climate impact assessments will be embedded across the organisation. Decisions and projects will consider:
 - (i) what impact they will have on the council's corporate emissions and city-wide emissions
 - (ii) how they will be affected by a changing climate (for example, sea level rise, increased flooding risks).
- Implementing the galvanised actions on the co-designed city-wide climate action roadmap, in partnership with mana whenua, business and community groups.
- Hutt City Council will have a fully electric corporate vehicle fleet.
- Twenty electric vehicle charging stations will be located across our city by late 2022.
- Progression of Lower Hutt's walking and cycling network, including Beltway Cycleway, Eastern Bays Shared Path, Te Ara Tupua and RiverLink Melling interchange and river bridge.
- Natural gas will be phased out at council facilities and replaced with low carbon technologies, leading to a 50 percent reduction in emissions at facilities by 2030.
- All street lighting converted to energy efficient light-emitting diodes (LEDs) by late 2022.
- Carbon reductions will be embedded in the goods and services we buy and build
- A flare gas burn-off and gas collection system will be in place for the closed landfill at Wainuiomata by 2022.
- We will have established a new resource recovery park by 2024.
- The reforestation of Belmont Regional Park will have been accelerated.
- A 'Carbon Reduction Acceleration Fund' will be in place to fund key carbon reduction initiatives.
- Our 'Three Waters' infrastructure will be upgraded to manage flooding and sea-level rise risk.
- The RiverLink flood protection partnership between Hutt City Council, Greater Wellington Regional Council and Waka Kotahi, New Zealand Transport Agency (Waka Kotahi) will be fully developed and functioning.

Our climate change context

We are facing a global climate crisis. According to the latest UN report, 2020 was the hottest year on record, there is a clear rise in flood events, and we know that sea-level rise will impact coastal areas in the future. We cannot afford to delay this important work and our policy response any longer.

The time to take action on reducing our carbon emissions is now.

Lower Hutt Mayor, Campbell Barry, April 2021

Lower Hutt's changing climate

Climate change is already having a major impact on our planet. Earth is now 1.1°C warmer than it was at the start of the Industrial Revolution in the 18th century.

As the effects of climate change grow, intense storms and heavy rainfall will lead to increased risk of flooding, and more frequent dry periods will result in drought. Lower Hutt (Te Awa Kairangi ki Tai) will be particularly exposed to the effects of a changing climate.

While it is clear that the sea level is rising, it is uncertain how quickly and how high the sea level will rise (which depends on global emission reductions and global warming). Based on current projections, we will likely see at least half a metre of sea level rise this century.

Significant sea-level rise means that a number of Lower Hutt coastal properties and roads could be at risk of flooding, and we face an increased likelihood of storms surging inland, damaging seawalls, roads, wharves and public and private properties. Some council infrastructure will be at risk, with some assets situated in low-lying areas. Social, economic, health, cultural and environmental impacts as a result of climate change will also be felt by residents, businesses and visitors.

Climate change commitments

As a world, as a country and as a city, we need to reduce GHG emissions to avoid the worst impacts of global warming.

New Zealand has made climate change commitments under The Paris Agreement ²

New Zealand has committed to reaching net zero emissions of long-lived greenhouse gases by 2050 and to reducing methane emissions to between 24 and 47 percent by 2050 under the Climate Change Response (Zero Carbon) Amendment Act 2019.

This is also the de facto target for Lower Hutt. In June 2018, council set an organisational goal of reducing emissions to zero by 2050.

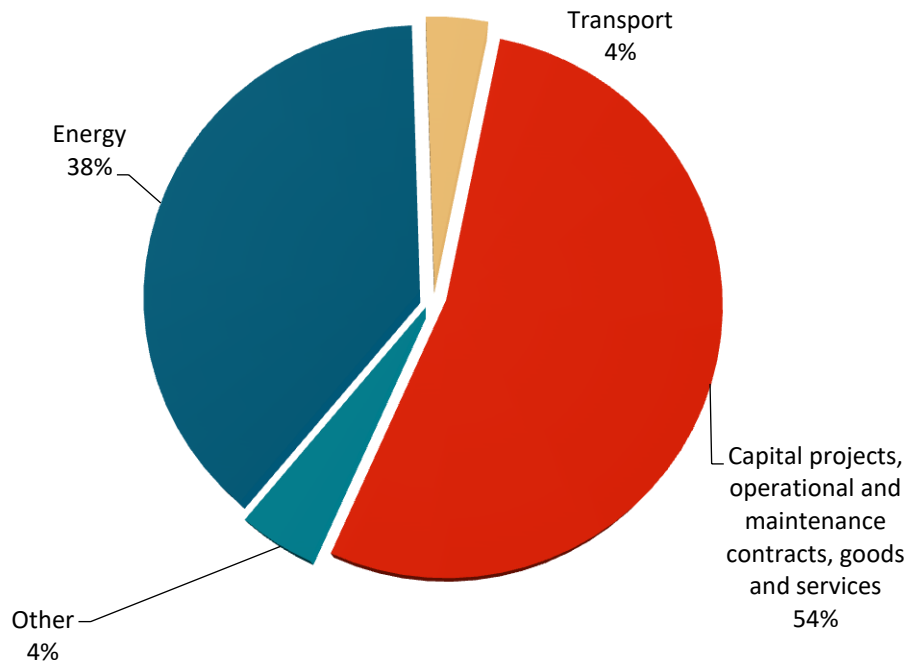
Carbon footprints

The council's own emissions

Hutt City Council as an organisation is responsible for about 7,750 tonnes of GHG emissions per year. This includes the energy council uses, the petrol and diesel used for vehicles, and emissions associated with services, for example from the vehicles delivering our kerbside rubbish collection. In total, these emissions make up about 2 percent of Lower Hutt's total emissions each year.

Figure 3: Sources of Hutt City Council's corporate greenhouse gas emissions

² <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>



(Note: The council's carbon footprint is an estimated figure, as procurement-related emissions are currently based on money spent multiplied by an industry-wide emissions factor. We will be looking to improve the accuracy of this information as one of our priority actions outlined in this plan.)

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Lower Hutt's greenhouse gas emissions

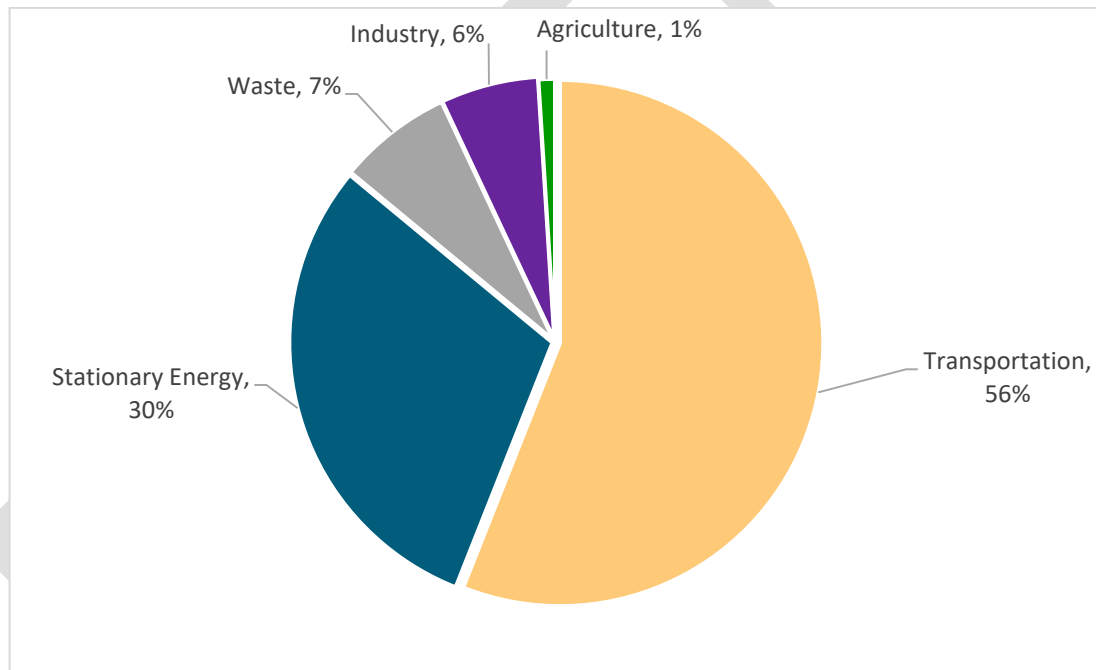
New Zealand has committed to achieving net zero carbon emissions by 2050. Lower Hutt needs to help by reducing our city's emissions to zero as well.

- As at 2019, Lower Hutt's total gross emissions (excluding forestry) were 532,339 tCO₂E.
- As at 2019, Lower Hutt's total net emissions (including forestry) were 480,834 tCO₂E.

Lower Hutt's emissions are heading in the right direction. Net emissions reduced by 9 percent between 2001 and 2019, despite a 10 percent growth in population over the same period. However, the city needs to reduce emissions at a much higher rate, lifting the current level of 0.5 percent in net emissions per year to 3.4 percent per year (around seven times more than the current level of reductions).

Lower Hutt's main source of GHG emissions is transport (56 percent of total emissions in 2018/19), followed by stationary energy (30 percent). Waste, industry and agriculture are smaller sources of emissions (see figure 4).

Figure 4: Sources of Lower Hutt's greenhouse gas emissions



Source: Swithinbank A, Hume A. 2020. Lower Hutt City Greenhouse Gas Inventory. Wellington: AECOM New Zealand Ltd. URL: <http://portal.huttcity.govt.nz/Record/ReadOnly?Tab=3&Uri=5614830> (accessed 6 July 2021).

Our approach

This is an interim plan to 'get our house in order' over the next 12 months. We will need to revise the plan over the coming year as we improve our understanding of emissions associated with the services Council delivers and the infrastructure we invest in, take account of new government initiatives and new technologies and respond to community priorities set out in Lower Hutt's climate action roadmap.

Achieving our target of net zero emissions requires aspirational change, and the sooner we get started, the more time we have to make the fundamental behavioural and operational changes that are needed to achieve this goal.

Our values and Te Ao Māori principles

Hutt City Council's values are central to our work. In everything we do, we demonstrate our values of:

- Manaakitanga. Show you care.
- Te Hononga. Be Connected.
- Kia Kaha. Have Courage.

Working with our Lower Hutt Community Climate Change Response lead group, a set of supporting Te Ao Māori principles ground our climate action and more holistic approach to support our journey to become a unified, trusted and inspiring climate leader.

'As mana whenua and as all people of the valley, our response to climate change is one we must face together. Our challenge is to look at the world from a different perspective.'

'This is about who we are and indeed, for Māori, it is about looking after Papatūānuku, whenua tapu, our taonga'.

Liz Mellish, chair of Te Raukura, Te Wharewaka o Pōneke

Our approach is guided by Te Ao Māori principles and the importance of a just transition to ensure that those most at risk are not further disadvantaged by climate change impacts or the measures taken to address them.

Whakapapa - Genealogy; to lay one thing upon another; descent. The foundation of the Māori world-view. This is the genealogical descent of all living things from Ranginui and Papatūānuku to their children, who became the atua (deities) of the various domains (e.g. the earth, sky, sea, forests), and created the plants and animals within. They are the original kaitiaki (guardians) and their mana or authority to exercise this role is handed down through whakapapa.

Kaitiakitanga - Acting so as to preserve and maintain taonga (treasures); ensuring safety in all activities. The exercise of guardianship by Mana Whenua of an area in accordance with tikanga Māori in relation to natural and physical resources; this includes the ethic of stewardship.

Manaakitanga - Behaving in ways that elevate others; showing respect and consideration toward others; generosity and fulfilling reciprocal obligations.

Māori perceive that innovation and knowledge acquisition is endless. In this regard, the development of Māori knowledge did not end in the face of European settlement in the 19th Century. Rather, Māori continued to adapt and harness newly introduced technologies to their advantage. In parallel, Māori exhibited cultural and social resilience in the face of political, economic and cultural marginalisation by the colonial administration and found innovative ways to foster wellbeing. Māori resilience and adaptation to change continues to the present day, and is an important part of our future survival.

What has come to be known as “kaupapa Māori” has offered a platform for such innovative activities to occur. Kaupapa Māori approaches within environmental planning helps to “identify, explain and clarify the key concepts from Te Ao Māori that underpin Māori perspectives and beliefs towards and about the natural environment.

Intrinsic to the ideals of kaupapa Māori is whakapapa. Because of the shared whakapapa between humankind and gods, Māori customary tradition implies that this physical and spiritual interrelationship is forever present with the natural world.

“Traditional Māori knowledge includes elaborate genealogies about the world. There are various classifications of species of flora and fauna, rocks, fish and so on. These interlink to form a grand fabric, in which all things are interrelated, and all are descended from the children of Ranginui and Papatūānuku. The genealogies form a framework which is ‘clothed’ in a vast array of stories and traditions... Whakapapa allows people to locate themselves in the world, both figuratively and in relation to their human ancestors. It links them to ancestors whose dramas played out on the land and invested it with meaning. By recalling these events people layer meaning and experience into the land (Royal, T.A.C., in Garlick et al, 2010, p.47).”

In order to maintain a balance between human and environmental health, sets of kaupapa (principles) and tikanga (customary actions) were developed. Adherence to these guiding principles and actions over the millennia has ensured cultural survival and a sense of identity.

Whakapapa provides individuals with an identity which binds people and the environment together. It is a way of locating people and their relationships with one another and their physical environment. The natural world is considered kin. People and the environment are inseparable – this is clearly demonstrated through Māori relationships to the landscape. Royal explains the connection between whakapapa and the environment in the following way:

“Whakapapa express our need for kinship with the world, they describe the relationship between human beings and the rest of nature. In one tradition, some tribal groups and the fish of the sea claim descent from Tangaroa. Whakapapa also explain the origins of animals, plants and features of the landscape... Although many of the stories are myths, they also have a practical function. They can pass on knowledge about the natural world... Although science is another way of understanding the natural world, the traditional principle of interconnectedness is still important and meaningful to Māori. For example, the genealogy of fish and sea animals makes clear the kinship to people and other creatures. It also points out values that guide people’s interaction with other species, teaching respect and correct conduct (Royal, T.A.C., in Garlick et al, (Eds), 2010, p. 8.)”

Because of the role of whakapapa, Māori believe there is a duty to care for, and an obligation towards, the environment. This is underpinned by the value of kaitiakitanga.

Underlying this concept is a clear line of accountability to whānau, hapū and iwi. It is a holistic approach in that it provides for restoration of damaged ecological systems, restoration of ecological harmony, increased usefulness of resources, and reduced risk to present and future generations.

Kaitiakitanga is based on the notion that people are descended from Papatūānuku, rather than being ascendant to her (as in the Western worldview). This creates a relationship between people and the environment that is underpinned by notions of reciprocity, as opposed to exploitation. In this sense people do not ‘own’ the earth’s resources but merely have ‘user rights’ and an inherent duty of care.

The ability of Mana Whenua to exercise manaakitanga is closely connected to the health of the environment. For example, the expression of hospitality towards guests always involves the provision of local foods, which is intended to enhance the mana of Mana Whenua at the same time as respecting the visitors. This highlights the importance of maintaining the diversity and health of resources, to ensure that Mana Whenua continue to have access to their traditional mahinga kai or cultivations.

Within our environment we see the footprints of our past, our present and our future. We are shaped by its ebbs, its flows and vibrations of whakapapa.

Te Awa Kairangi is born from our Tupua – Whātaimai and Ngake who sought to break through the land locked lake and out into Te Moana o Raukawakawa. On their journey out, Ngake flicked up his tail and created Te Awa Kairangi. Ngake is the great creator of our Harbour and Te Awa Kairangi, giving life, shape and form to life as we know it.

They gifted life to this world and in that gifting; there is a sense of purpose, a sense of vitality and substance which drives all that is.

As Mana Whenua, our traditional connection with Te Awa Kairangi was one of great respect, wherein our ancestors and descendants (both human and non-human) evolved to mirror Te Awa Kairangi, the environment created and left behind by our Tupua. As time has gone on, we have created beliefs and traditions in order to uphold our connection and maintain our deep sense of responsibility and interdependence. In the times of our tupuna they acted with compassion and connection to what brought them strength and life. This is about living to the principles of mana and mouri.

Today we are at a point of re-generation. Things are not as they were; the birds and the fish that were there are no longer, the connections to our awa are gone and the water and waterways are lacking in the mouri which was once present. The sense of life has changed, and the vibrations of whakapapa have changed and are waning.

This plan provides us an opportunity to correct wrongs, to instil new behaviours, new understandings and new relationships. As Mana Whenua, we actively seek a relationship that recognises, acknowledges and upholds the mana and mouri of what was - with the hope that in time it may return.

Our role and tools to tackle climate change

As local government, we need to consider the effects of a changing climate on our communities and build our city's climate resilience to respond to those effects. We will look to co-design the approach and solutions with the community and partners that will outline and inform our approach to informing future work. Through incentives, providing information, regulation and the construction and maintenance of infrastructure such as roads, cycleways and Silverstream Landfill, Hutt City Council can affect city-wide emissions.

We can support our city's response to climate change through the following council roles and tools.

Leader	City strategy Procurement City leadership
Regulator	Local roading authority – local transport network Building consent authority Resource Management Act District Plan By-laws Long-term plan
Advocate	National and regional government lobbying Local government integration and partnerships
Connector	Relationships – existing and potential new ones Council facilities
Investor	Co-investment in local projects Community funding
Employer	One of the large employers in the city Role modelling how to reduce a carbon footprint
Educator/communicator	Provider of Information Enviroschools
Planner	Planning and delivering transport, infrastructure and urban regeneration

Priority areas

Our priority areas target the main sources of GHG emissions, and our adaptation actions target key climate risks. This Carbon Reduction and Climate Resilience Plan is our interim response to the challenge laid down by the Climate Change Commission in [Ināia Tonu Nei: A low emissions future for Aotearoa](https://ccc-production-media.s3.ap-southeast-2.amazonaws.com/public/Inaia-tonu-nei-a-low-emissions-future-for-Aotearoa.pdf).³

Four of our priority areas align with the Climate Change Commission's recommendations:

- **Transport**
 - Use lower-emissions vehicles – accelerate the council's uptake of electric vehicles and improving the efficiency of vehicles in its fleet
 - Reduce vehicle trips by switching to walking, cycling and public transport and reduce demand for travel, for example, through smart urban development and increased options for working from home.
- **Energy, industry and buildings**
 - Phase out existing fossil gas use in buildings
 - Expand renewable generation options
 - Replace fossil gas use with biomass and electricity.
- **Waste**
 - Divert organic waste from our landfill
 - Improve and extend landfill gas capture.
- **Land**
 - Ramp up establishing new native forests
 - Initially plant new exotic forests, and by the third budget, ramp down planting new exotic forests.

We have two additional priority areas:

- **Council's leadership**
 - Embed climate change considerations across our organisation
 - Reduce emissions through procurement
 - Support our staff to reduce their carbon footprint.
- **Climate resilience**
 - Encourage flexible planning and adaptation in the face of uncertainty.

³ Climate Change Commission. 2021. *Ināia Tonu Nei: A low emissions future for Aotearoa*. Wellington: Climate Change Commission. URL: <https://ccc-production-media.s3.ap-southeast-2.amazonaws.com/public/Inaia-tonu-nei-a-low-emissions-future-for-Aotearoa/Inaia-tonu-nei-a-low-emissions-future-for-Aotearoa.pdf> (accessed 6 July 2021).

Climate actions

This interim plan includes 21 concrete and measurable actions that will start us on the journey of achieving our goals to reduce Hutt City Council's corporate emissions to net zero by 2050, facilitate a reduction in Lower Hutt's GHG emissions to net zero by 2050 and support our city to achieve climate resilience.

Council's leadership

1. Co-design of Lower Hutt's climate action roadmap
2. Measuring procurement-related carbon reductions
3. Embedding carbon reductions through procurement
4. Incorporating sustainability into the rebuild of Naenae Pool
5. Incorporating sustainability into the RiverLink flood protection project
6. Optimising refrigerant use
7. Optimising office space
8. Educating staff on climate change

Transport

9. Changing to 100 percent electric vehicles
10. Decarbonising other travel options
11. Developing Lower Hutt's walking and cycling network
12. Rolling out electric vehicle charging stations

Energy

13. Phasing out natural gas at council facilities
14. Upgrading to 100 percent LED street lighting

Waste

15. Establishing a new resource recovery park
16. Investigating methane destruction via flare burn-off for the closed landfill in Wainuiomata.

Land

17. Accelerating reforestation of Belmont Regional Park
18. Improving the quality of forests on other reserve land
19. Setting up a carbon reduction acceleration fund

Climate resilience

20. Upgrading the Three Waters infrastructure
21. Building RiverLink flood protection.

Council's leadership

Why council's leadership is a priority area

As local government, we play an important role in leading the change we want to see throughout our community.

Our climate leadership starts by getting our own house in order. This plan outlines how we will reduce our organisational emissions to net zero by 2050, through measurable and concrete actions. It is an important demonstration of our commitment to carbon zero, and role models action that we hope other organisations will copy to reduce their carbon footprints.

We need to embed climate change across our entire organisation so that prioritising and delivering climate action becomes something that we take for granted as being simply 'the way we do things'. To achieve this, we need to build awareness and educate our staff about the critical importance of urgent climate action. Every project, every report, every plan and every decision must include climate change considerations, and this will be built into performance reporting.

As an organisation, we can draw on our different roles and tools to influence change – whether as an investor making decisions on what we buy and build, a planner involved in urban regeneration, a connector bringing communities and businesses together or an advocate working as part of regional local government.

Moreover, as a large employer, our people can have a real impact through their individual actions. Our staff are not just council employees but also members of the Lower Hutt community, and they can act as climate change ambassadors within their own whānau and communities. We can mobilise others and help to facilitate actions to reduce emissions and build climate resilience across the wider Lower Hutt community.

What we're already doing

We have several initiatives underway to encourage our staff to use low carbon modes of transport as they travel to and from work. We participate in the public sector e-bike scheme, which provides discounts for staff and their families to purchase e-bikes and bike gear. We also reimburse part of our staff's costs for using public transport.

Under the Resource Management Act 1991 (RMA), local government is required to incorporate climate change into existing frameworks, plans, projects and decision-making procedures. Activities such as flood management, water resources, planning, building regulations and transport must now integrate a climate change perspective.

Our planned actions

We're supporting the Lower Hutt Community Climate Change Response, and the co-design of a climate action roadmap for our city.

As council's procurement of goods and services are estimated to produce 54 percent of our carbon emissions, we will need to have a strong focus on improving our procurement. This includes measuring the carbon footprint of the services and goods procured so that we can assess more accurately whether we are achieving emission reductions. We will also be embedding carbon emission reductions as part of procurement processes, in order to encourage our contractors to reduce emissions over the life of the contract.

Sustainability will be important in the design and construction of major projects such as RiverLink and the rebuild of Naenae Pool. Our office accommodation project will help us realise a reduction in energy use.

We will be rolling out initiatives to raise awareness and provide information to our staff on climate change.

What else could we do?

In every part of our organisation, we aim to identify actions in the activities that staff do that could help reduce their work-related carbon footprints. For example, this could include committing to using low-carbon modes of transport (such as public transport, car sharing, e-bikes, walking, etc.), enabling working from home and reducing printing and minimising waste.

All staff will be asked to incorporate climate change considerations into their everyday business-as-usual functions across all areas of the organisation, including performance reporting, for example, we are planning to embed carbon emissions reductions into our processes for onboarding all new products and services.

The roadmap for climate action that we are helping develop for Lower Hutt will provide further carbon reduction opportunities for council leadership consideration.

ACTIONS

1. Co-designing Lower Hutt's climate action roadmap

Hutt City Council initiated the Lower Hutt Community Climate Change Response in 2019. This project involves the council, mana whenua, business and community groups working together to determine how Lower Hutt should tackle the climate crisis as a community. The programme is being facilitated by structured innovation programme provider Creative HQ.

At the end of 2020, Hutt City Council established a lead group of community representatives to oversee community engagement and support the co-design of a climate change roadmap for Lower Hutt. From April to June 2021, a series of nearly 20 hui took place with different members of the community, including rangatahi, ethnic communities and mana whenua and based in different geographic areas of Lower Hutt. These hui raised awareness, captured existing community actions and provided ideas to feed into a co-design of the roadmap. The roadmap, which is to be finalised by the end of 2021, will influence Hutt City Council's future climate action.

Co-designing Lower Hutt's climate action roadmap	
Cost	\$500,000
Timing	2019–2021
Lead division	Climate and Waste

2. Measuring procurement-related carbon reductions

We need to improve our understanding of the carbon footprint of the goods and services supplied by our contractors, which will help us determine how we can influence emission reductions in all major contracts. The carbon emissions related to procurement are currently measured using the amount of money spent multiplied by an industry-wide emissions factor. This only provides a rough indication of emissions rather than an accurate assessment for specific activities.

To achieve more certainty about the carbon footprint of goods and services that council procures, we need to obtain more information for each specific product or service (for example, through contractors doing their own detailed carbon footprints and enabling them to report those emissions to us). This will enable us to improve the way that we measure emissions associated with purchased goods and services, which can then be used to drive change.

Measuring procurement-related carbon reductions	
Cost	Not yet known
Timing	By 2025
Lead division	Climate and Waste (supported by Procurement as well as particular divisions procuring relevant contracts)

3. Embedding carbon reductions through procurement

We're changing the way that we procure services. All tender documents put out to market will outline our expectations on suppliers to join our carbon reduction effort. Wherever practicable, evaluation criteria will incorporate broader outcomes (such as carbon reduction initiatives), with a weighting that is appropriate for the goods and services being produced.

We will be looking at how contractors might reduce their work emissions over the life of a contract (for example, through the use of electric vehicles or reducing waste). In one tangible example, our new rubbish and recycling kerbside service delivered using electric trucks, developed for implementation by 2022, with a hundred percent servicing by 2024.

Embedding carbon reductions through procurement	
Cost	Not yet known, but likely to be specific to each contract
Timing	Plan in place by 2022
Lead division	Procurement (supported by Climate and Waste)
Emission reductions	Dependent on the type of service or contract, for example, council's new rubbish and recycling kerbside service, which will be delivered by electric trucks from 2024, is expected to reduce emissions by about 822 tCO ₂ E per year.

4. Incorporating sustainability into the rebuild of Naenae Pool

We are looking to achieve a Green Star design and build rating of 5, or equivalent, for Naenae Pool, with all energy coming from either electricity or alternative low-carbon energy sources.

Incorporating sustainability into the rebuild of Naenae Pool	
Cost	Design for the pool is yet to be completed and the cost of sustainability features is not yet clear. Energy and heating systems are estimated at \$6.5 million.
Timing	Completed in 2024
Lead division	Naenae Pool project team (supported by Climate and Waste)
Emission reductions	From 2024, council would see a drop in emissions of up to 400 TCO ₂ E annually, compared with the energy profile of the original gas heated pool. Note: This reduction is already captured in our carbon reduction pathway but will be confirmed before construction starts in 2022.)

5. Incorporating sustainability into the RiverLink flood protection project

We're looking to achieve an Infrastructure Sustainability (IS) rating of excellent for the RiverLink project, with measures also in place to reduce carbon emissions associated with its construction.

The New Zealand Upgrade Programme (NZUP) requires the RiverLink project team to identify step-change initiatives that will improve delivery, health and safety, and social and sustainability outcomes – and conversations about this are already underway between project partners.

As well as setting a financial budget, council would like to set a carbon budget for the RiverLink project. As a first step, we're looking to set a carbon budget based on the existing design, which could potentially be used as a threshold – those bidding on an alliance contract (where all parties involved in a job work collaboratively, sharing the costs of any risks and the gains when a job goes better than expected) would be required to quantify the carbon emissions resulting from their ideas at the tender stage and would be held to account for the targets they set throughout the project.

We will also explore opportunities to calculate the carbon emission savings that the project is expected to generate, with transport mode shift being a key aim of the project.

Incorporating sustainability into the RiverLink flood protection project	
Cost	Currently unknown – but research has shown that carbon savings typically result in financial savings
Timing	Alliance tender documents will be sent to market in early 2022, with completion of the works aimed for 2027
Lead division	RiverLink project team
Emission reductions	Tender submission assessment criteria to be developed

6. Optimising refrigerant use

Refrigerants are potent greenhouse gases that can leak into the atmosphere over time. In future, when council needs to replace equipment that uses refrigerants, we will prefer products that contain refrigerants with the lowest available global warming potential (GWP).

Optimising refrigerant use	
Cost	Dependent on equipment, but increased costs compared to conventional technologies are likely.
Timing	In place by 2022
Lead division	Facilities
Emission reductions	Likely to be less than 10 tCO ₂ E per year

7. Optimising office space

Council is working on various initiatives that will enable a reduction in energy use within the office workspace.

We are moving to a more activity-based work environment. This will enable our people to work in a more agile way, choosing from a variety of work settings according to the nature of the work they are doing at any given time and encouraging them to move between appropriate workspaces throughout the day, including working more from home.

This means that we will no longer need our Market Grove office and will be moving to consolidate into our offices in Laings Road.

This project includes exploring other energy reduction initiatives, for example considering using solar panels and changing lighting to LEDs under a replacement programme. We will also be helping make it easier for our staff to use active transport by adding secure bike storage at our offices.

Optimising office space	
Cost	Net cost savings by moving out of Market Grove offices indicates a payback period of around 3.5 years
Timing	In place early 2022
Lead division	Facilities
Emission reductions	Likely to be at least 10 tCO ₂ E per year, based on likely energy savings from consolidating offices

8. Educating staff on climate change

We are committed to carrying out a range of initiatives to educate all staff about climate change mitigation and adaptation options and encourage and inspire behavioural change. This will include education sessions (workshops, talks, and demonstrations), developing an intranet webpage or portal with useful information for staff (such as examples of best practice and motivational stories) and creating visual documents, posters etc. on ways staff can reduce their carbon footprints. Te Pataka project (a go-digital from anywhere) project will be utilised to provide a future online channel for this work.

Educating staff on climate change	
Cost	Currently unknown
Timing	In place by 2022
Lead division	to be confirmed
Emission reductions	Each opportunity will be worked through with each business unit and the outputs evaluated.

Transport

Why transport is a priority area

Transport is the fastest growing source of GHG emissions in New Zealand and the main source of Lower Hutt's GHG emissions. Transportation accounts for 56 percent of Lower Hutt's total GHG emissions but only 4 percent of Hutt City Council's corporate GHG emissions.

To reduce transport emissions, we need to make fundamental shifts in how we travel – including changing to low-emissions vehicles, using public transport more, reducing vehicle trips using active travel modes, such as biking and walking, or avoiding travel through remote working and meetings.

These are key recommendations from the Climate Change Commission. The Government is introducing initiatives, such as the clean car package, which includes rebates on electric and plug-in hybrids, to increase the uptake of low-emissions vehicles which includes rebates on electric and plug in hybrid vehicles.

Most people in Lower Hutt (66 percent) travel to work in a car, truck or van; 20 percent travel on public transport (bus, train or ferry) and only 5.4 percent travel to work using active modes of travel, including just 1.6 percent on bikes.⁴

There are currently just 700 electric vehicles in Lower Hutt, however, this number is projected to increase significantly in the future. By mid-2024, there could be between 15,000 to 28,000 electric vehicles in the Wellington region.

What we're already doing

District Plan Change 43 came into force in March 2020. This supports the building of medium-density residential areas close to transport, shops and schools, which enables people to travel shorter distances on foot, cycle or scooter to access services, including public transport.

We've also been developing a safe and integrated network of walking and cycling paths across the city. This network not only connects different parts of our city but links Upper Hutt (via the Remutaka Cycle Trail) and will ultimately link to Wellington City (via Te Ara Tupua). From its opening in October 2018 to June 2020, we have had 92,782 pedestrians and cyclists on the Hutt Valley side of the Wainuiomata Hill Shared Path and, from its installation in July 2019 to June 2020, we have had 131,682 pedestrians and cyclists on the Wainuiomata side.

We also support cycling initiatives for Lower Hutt school children, such as Greater Wellington Regional Council's Pedal Ready programme, which provides free cycling skills training for students and adults in the Wellington region.

We have also taken part in the **Knights Road Connection Project**, trialling a new road layout along Knights Road to connect Waterloo Railway Station with the Lower Hutt CBD as part of the Innovating Streets programme of Waka Kotahi. This programme looks at ways to create more people-friendly streets and spaces in our city, providing the resources and support for councils to work with their communities to make streets and public spaces work the best for the people who use them the most. For us, this project involves trialling a new road layout that is safer for all modes of transport.

Our planned actions

We're changing the council's fleet to 100 percent electric vehicles by 2030 and decarbonising other travel options, with a focus on reducing air travel, encouraging electric taxi use and increasing micro-mobility options (that is, small, lightweight vehicles that generally travel at speeds less than 25 km/hr, such as electric scooters, bikes, skateboards, etc). These changes will significantly reduce our

⁴ Stats NZ. 2018 Census data for Lower Hutt City: Transport: Travel to work. URL: www.stats.govt.nz/tools/2018-census-place-summaries/lower-hutt-city#travel-to-work (accessed 7 July 2021).

corporate emissions from transport, demonstrate our commitment to low-emissions vehicles and ideally motivate other Lower Hutt organisations to follow our lead in switching to electric vehicles.

We're also accelerating our community's uptake of low-emissions vehicles by rolling out electric vehicle charging stations around the city.

And finally, we are investing \$120M in further developing Lower Hutt's walking and cycling network, including the Beltway Cycleway, Eastern Bays Shared Path and Te Ara Tupua.

What else could we do?

Council is developing an integrated Transport Strategy, which will consider how all parts of the transport system work well together – from roads through to public transport, and active transport options.

We're looking at a broad range of future activities, including how we can support public transport (with Greater Wellington Regional Council), designing our city to encourage shorter trips on foot/bike, parking strategies and making our roads safer and more attractive for pedestrians and cyclists.

ACTIONS

(Hutt City Council)

9. Changing to 100 percent electric vehicles

Since 2019, Hutt City Council has reduced its total vehicle fleet from 84 to 72 (a 14-percent reduction). We've been able to achieve this reduction by improving vehicle use through making vehicles available in bookable pools. At the same time, we've increased the size of our electric vehicle fleet from 2 in 2019 to 5 in June 2021. This means electric vehicles make up 21 percent of council's fleet. We expect our fleet to comprise 50 percent electric vehicles in 2025 and 100 percent electric vehicles by 2030.

Changing to 100 percent electric vehicles	
Cost	No additional funding needed (following a review in 2019, fleet budgets were changed to allow for electric vehicle roll-out)
Timing	Complete by 2030
Lead division	Fleet manager (supported by Climate and Waste)
Emission reductions	If all vehicles are fully electric by 2030, approximately 200 tCO ₂ E can be avoided per year, compared with a conventional fossil-fuelled fleet.

10. Decarbonising other travel options

We're reducing our transport emissions even more by introducing micro-mobility options, minimising flights, offsetting air travel emissions and implementing a preference for using electric taxis. Where possible, council staff will minimise flights (for example, by meeting remotely instead). If a flight is required, then emissions will be offset at the time of booking. This default approach to air travel will be introduced by 2022. We are introducing a council preference to use taxi companies that operate electric vehicles.

Decarbonising other travel options	
Cost	Likely to be minor
Timing	2022–2023
Lead division	Fleet manager (supported by Finance)
Emission reductions	Less than 40 tCO ₂ E

(City wide)

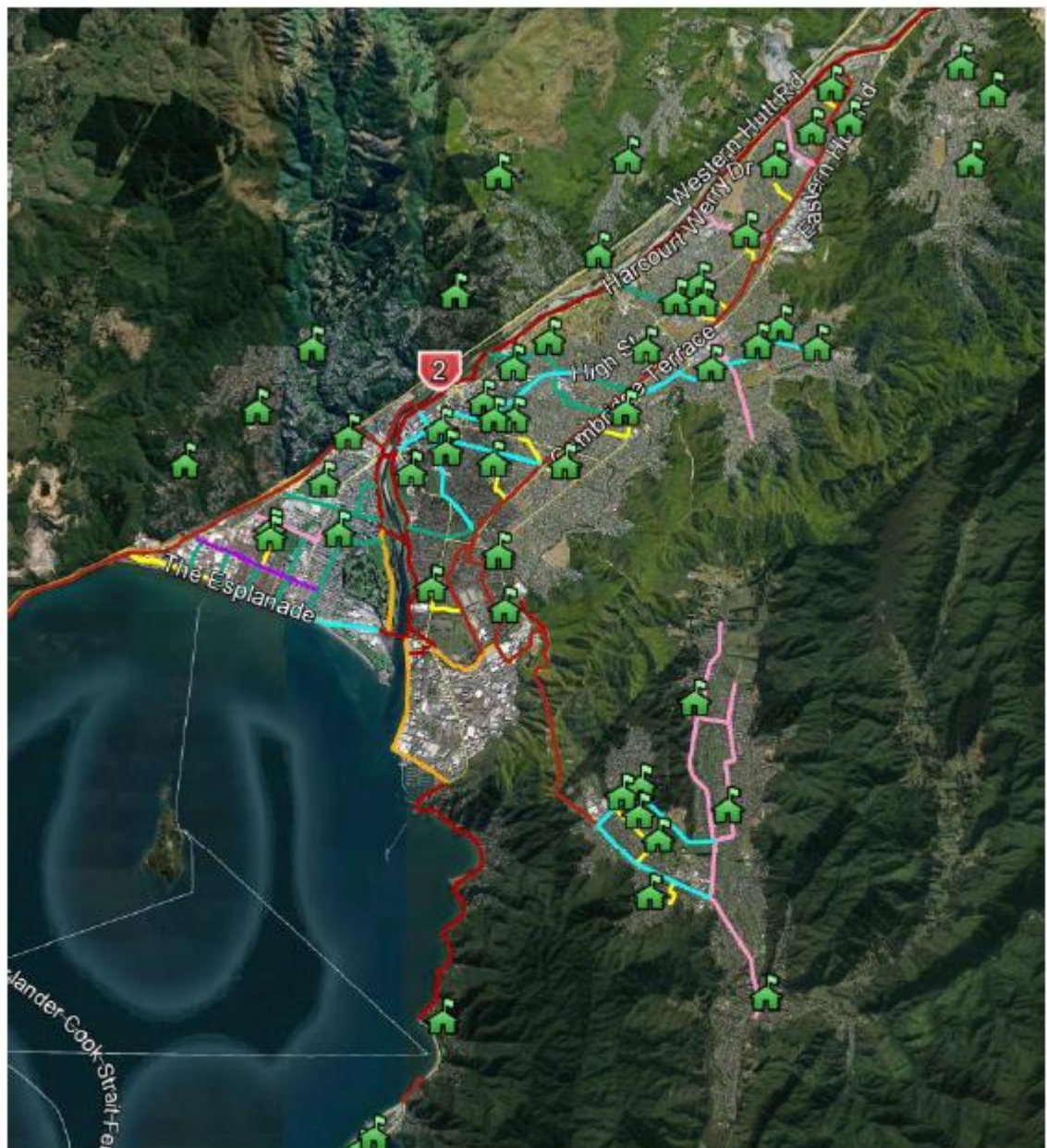
11. Developing Lower Hutt's walking and cycling network

Hutt City Council is developing a safe and integrated network of walking and cycling paths across the city. Our draft long-term plan for 2021 through to 2031 includes approximately \$120M of funding for cycling and micro-mobility options over the next 10 years. Key projects include:

- **Beltway Cycleway** – A 10km route to the east of the city, which when completed will join Seaview in the south with the Hutt River Trail at Taita in the north. The northern and central sections (6.6km) of this route are fully separated, off road and currently under construction, with opening scheduled for mid-2021. Future active mode links to a number of schools, public transport and Hutt Hospital will provide a range of transport options for a number of communities. The \$7M cost is shared between Hutt City Council and Waka Kotahi.
- **Cycling and micro-mobility programme** – A programme of investment to complete a connected active mode network in the city. A total of \$58M has been set aside in the long-term plan for the first 10 years of this programme, and this includes a potential \$30M in subsidies from Waka Kotahi.
- **Eastern Bays Shared Path** – A 4.4km shared path route that will run along two sections of Marine Drive, Eastbourne, – between Point Howard and Days Bay and from Days Bay to Eastbourne township. The shared path will include replacement sea walls for improved protection from storm events. The estimated \$30M cost is shared between the Government's COVID-19 Response and Recovery Fund (approximately \$15M), Waka Kotahi (approximately \$7.5M) and Hutt City Council (approx. \$7.5M).
- **RiverLink** - A partnership project, involving Waka Kotahi, Hutt City Council and Greater Wellington Regional Council working with mana whenua to improve transport connections and flood protection and support urban revitalisation of Lower Hutt's central city. The new pedestrian and cycling bridge along with transport intersection improvements relating to walking and cycling has an estimated cost of \$30M.
- **Te Ara Tupua** – A partnership project involving Waka Kotahi, Wellington City Council, Greater Wellington Regional Council and Hutt City Council to provide a safe and efficient 12km walking and cycling route between Wellington CBD and Melling. It will connect with other walking and cycling facilities, such as Petone esplanade and the Hutt River Trail. The project involves three sections, with funding from Hutt City Council, Waka Kotahi and the government's Urban Cycleways Fund.

Developing Lower Hutt's walking and cycling network	
Cost	\$120M
Timing	By 2031
Lead division	Transport

Figure 5: Lower Hutt's planned walking and cycling network



Legend

- | | |
|--|---|
|  Neighbourhood greenway |  Existing and proposed cycleways |
|  Cycleway, shared path or bike lane |  Off road cycleway |
|  Cycleway or shared path |  Cycleway or shared street |
|  Shared path |  School |

12. Rolling out electric vehicle charging stations

Hutt City Council is rolling out 20 electric vehicle charging stations, with a focus of DC technology, at eight locations across the city. These will be in place by September 2022.

A report commissioned jointly by councils in the Wellington region determined a need for approximately 150 charging stations in the region over the next five years, which will support our communities to transition to electric vehicles.

We are currently working with Wellington City Council to enable the installation and operation of 80 electric vehicle charging stations across our two cities (the 20 in Lower Hutt and 60 in Wellington city).

Rolling out electric vehicle charging stations	
Cost	\$740,000
Timing	2021–2022
Lead division	Climate and Waste

DRAFT

Energy

Why energy is a priority area

A total of 38 percent of corporate emissions are associated with Hutt City Council's energy use. Stationary energy also accounts for around one-third of Lower Hutt's total city-wide emissions. So, reducing energy emissions is a key focus of council's approach in achieving a net zero carbon future.

Our approach is aligned with the Climate Change Commission's recommendation of phasing out existing natural gas use in buildings. Around half of all emissions at our facilities are produced from natural gas, and the largest reductions will come from replacing natural gas heating with alternative low-carbon energy sources.

However, a significant proportion of our energy comes from our electricity consumption. As a result, our energy emissions are affected to a certain extent by the level of renewable electricity sources (for example, hydro, wind, solar) in New Zealand's electricity generation. A higher level of renewables will support a reduction in energy emissions. New Zealand's electricity grid is currently around 80 percent renewable energy, and the Climate Change Commission recommends the country reach 95–98 percent renewable energy by 2030.

Improving energy efficiency through efficient building design, insulation and water heating will not only help to reduce carbon emissions but also has broader health and financial benefits. As cold, damp, mouldy homes can affect health, for example, causing respiratory illnesses, actions to ensure people live in healthy, energy efficient homes can support broader health outcomes for our communities.

What we're already doing

Hutt City Council provides free eco design advice to our communities. During the 2-hour personal consultation, we provide free advice on how to make a home warm, dry, healthy and energy efficient, including providing advice on insulation and heating options and whether solar power would be beneficial.

At a city-wide level, the council-controlled trading organisation (CCTO) Urban Plus Limited can no longer install gas for cooking/heating/water in any of their new developments, and new developments will have to achieve a HomeStar rating of at least 6.

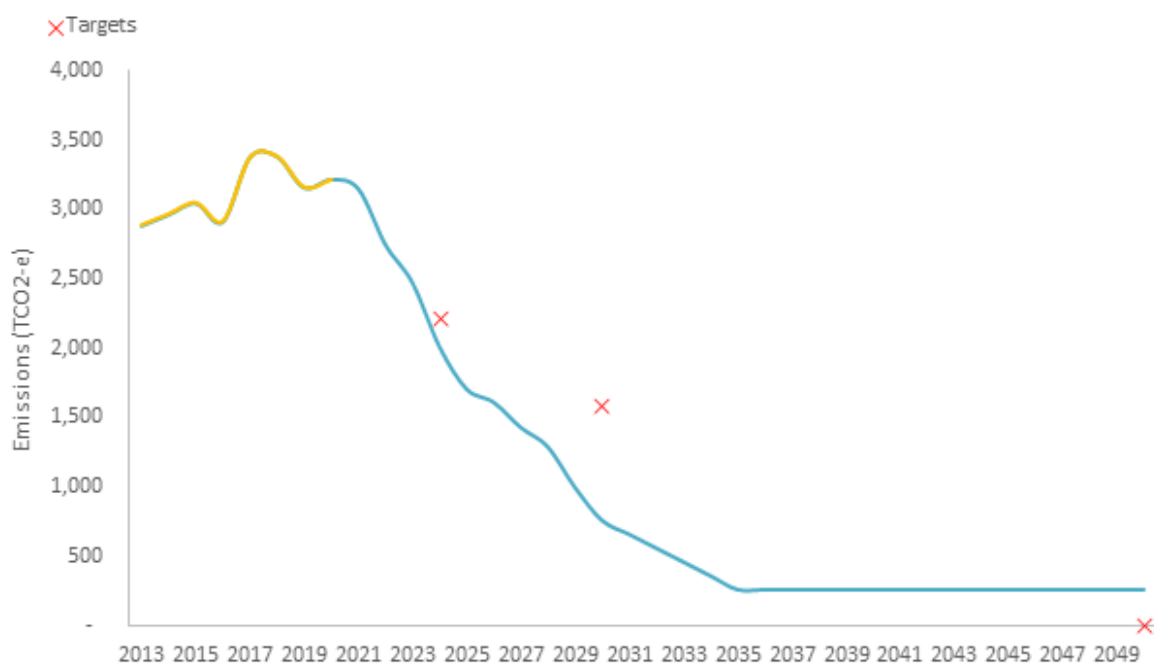
Our planned actions

We're transitioning out of natural gas at our facilities, primarily by changing our heating systems to electricity. We're also upgrading the city's streetlights to LED light bulbs. LED lighting has a number of benefits over traditional incandescent light bulbs, including lasting longer and being more energy efficient.

Once planned actions have been fully implemented, we expect to see a **30 percent reduction in energy emissions from council facilities by 2024** and a **50 percent reduction by 2030**.

A significant share of any further emission reductions will depend on New Zealand's electricity grid – moving from about 85 percent renewable energy currently to 100 percent (or as close to 100 percent) as soon as possible. The following graph shows the drop in our energy emissions to 2050, based on the country's electricity grid moving to near 100 percent renewable energy.

Figure 6: Decline in energy emissions at Hutt City Council facilities, 2013–2050⁵



What else could we do?

In addition to phasing out natural gas, there are opportunities for improving energy efficiency at our facilities. Over the past year, we have carried out energy audits of The Dowse Art Museum, Lower Hutt Events Centre and Ricoh Sports Centre. As a result of these audits, we have initiated changes to improve energy efficiency. We will continue to audit other facilities to identify energy saving opportunities.

We will also consider renewable energy generation at council facilities, for example, at Laings Road, we are looking into the design and feasibility of utilising solar panels.

There can be financial barriers for developers wishing to invest in sustainability features in new developments. We will investigate the possibility of reducing costs for new developments that meet established sustainability certification schemes, such as the Green Star and Homestar building rating tools. Incentivising the move to lower impact developments will ultimately help businesses and residents reduce their carbon footprints.

ACTIONS

13. Phasing out natural gas at council facilities

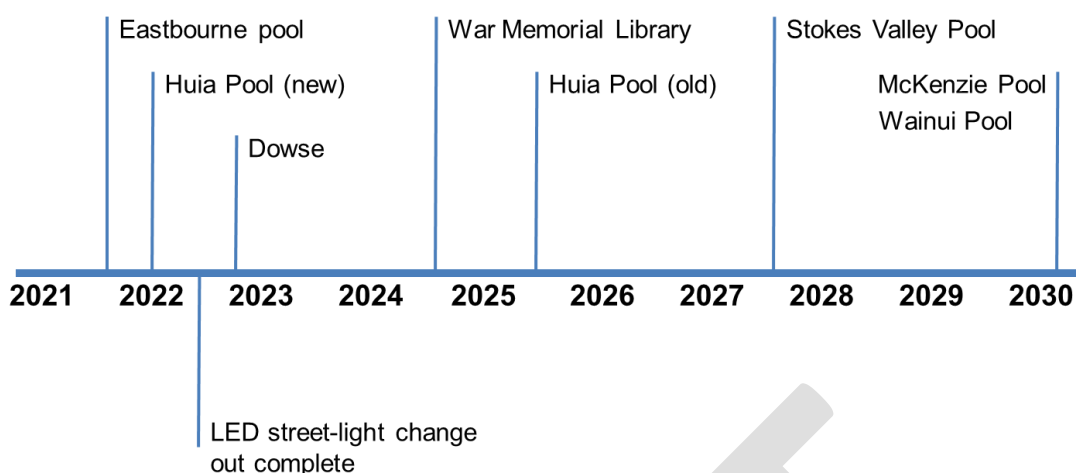
Council has allocated around \$7M to phase out the use of natural gas at all council facilities. We have a plan to achieve a 30 percent reduction in emissions by 2024 and a 50 percent reduction by 2030.

Over the next 12 months, we'll replace the gas boiler at Eastbourne's summer pool, ready for the 2021/22 season and installing a heat pump to heat the new Huia Pool.

We'll continue rolling out low carbon technologies (mainly heat pumps) at our 20 facilities (see figure 7 for a phase-out timeline for key facilities).

⁵ Our emission path takes us below 50 percent by 2030 as we assume that we will reach a 100 percent renewable national electricity grid by 2035, with a linearly declining emissions profile.

Figure 7: Proposed timeline for phasing out natural gas at Hutt City Council facilities, 2021–2030



Phasing out natural gas at council facilities	
Cost	Approximately \$7M to fully transition from fossil fuel energy sources to electricity
Timing	Complete by 2030
Lead division	Facilities (supported by Climate and Waste)
Emission reductions	From 2030, council would save 1,300 tCO ₂ E per year, compared with business as usual. If implemented as scheduled, these changes would avoid approximately 30,000 tCO ₂ E by 2050.

14. Upgrading to 100 percent LED streetlighting

We're upgrading Lower Hutt city's 14,200 streetlights to LED.

We've already switched 5,100 (around 36 percent) of Lower Hutt's streetlights from incandescent to LED light bulbs. We are also considering implementing a central management system for additional energy savings (for example, dimming lights when there is a reduced lighting need). The roll-out of this project has been delayed because of supply chain constraints due to the COVID-19 pandemic, but it is expected to be completed in 2022.

Upgrading to 100 percent LED streetlighting	
Cost	Approximately \$3M, partially funded by Waka Kotahi
Timing	Complete in 2022
Lead division	Transport (supported by Climate and Waste)
Emission reductions	Around 230 tCO ₂ E per year. Based on the estimated time of completion, this change would avoid over 2,000 tCO ₂ E by 2050.

Waste

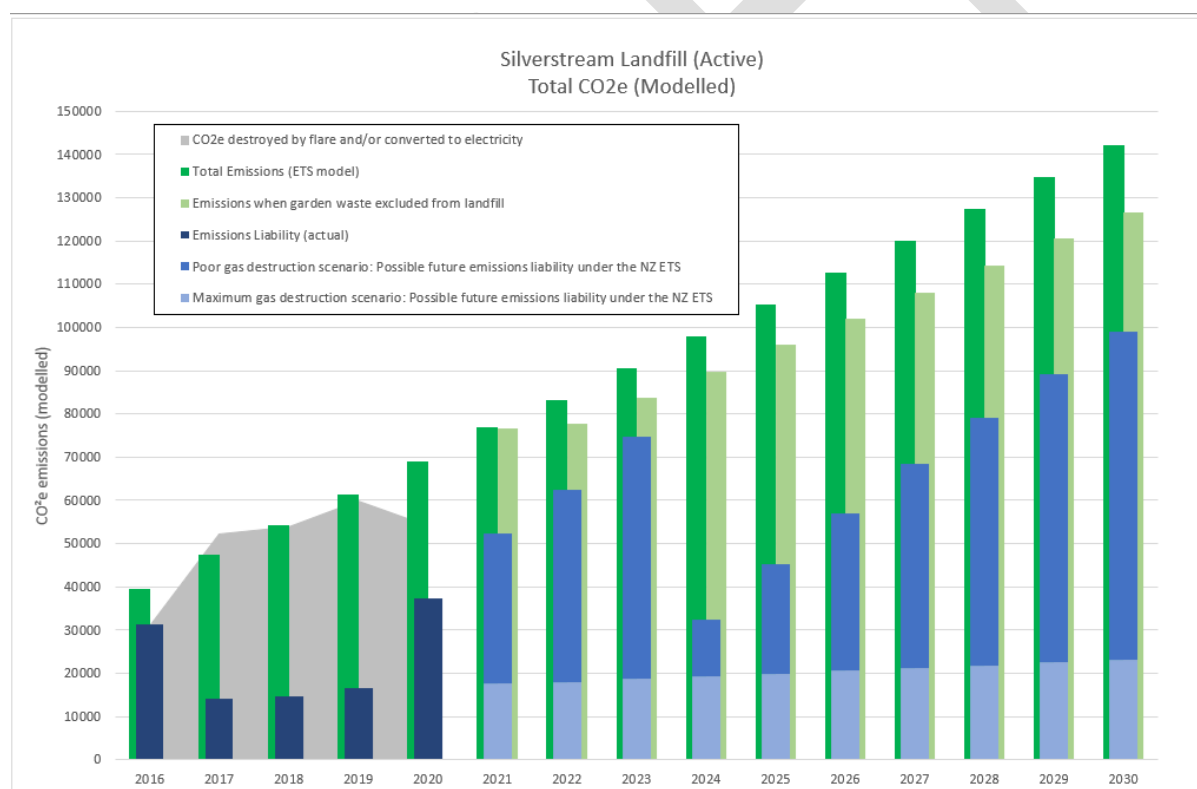
Why waste is a priority area

Hutt City Council owns and operates a municipal landfill at Silverstream and manages several closed landfills. Organic waste deposited in landfills breaks down releasing various gases, including methane. This gas is released long after a landfill has closed, although the amount released declines over time.

The emissions from landfills make up about 7–14 percent of Lower Hutt’s total GHG emissions each year (depending on the methodology used). Emissions from the Silverstream landfill are increasing as more waste is added to the landfill, while emissions from the old Wainuiomata landfill are slowly declining.

The Climate Change Commission recommends diverting organic waste from landfills and improving and extending landfill gas capture methods⁶. These recommendations align with our focused efforts to reduce methane emissions from our landfills and cut the amount of waste going to Silverstream Landfill in the first place. However, our ability to reduce the amount of waste going to the landfill is constrained as Silverstream Landfill also receives waste from Upper Hutt and other areas, which are outside our direct area of influence.

Figure 8: Hutt City Council’s emissions liability at Silverstream Landfill and forecast emissions based on current waste volume assumptions, 2016–2030



What we’re already doing

There are measures in place to reduce the amount of methane produced by Silverstream Landfill. LMS Energy Ltd owns a power plant at Silverstream, which collects and uses large amounts of

⁶ Climate Change Commission. 2021. *Ināia Tonu Nei: A low emissions future for Aotearoa*. Wellington: Climate Change Commission. URL: <https://ccc-production-media.s3.ap-southeast-2.amazonaws.com/public/Inaia-tonu-nei-a-low-emissions-future-for-Aotearoa/Inaia-tonu-nei-a-low-emissions-future-for-Aotearoa.pdf> (accessed 6 July 2021).

methane gas to generate around 13GW of energy per year. LMS Energy installed a supplementary flare in early 2021 to burn off methane before it reaches the atmosphere. The flare enhances the power plant's processing of methane and continues burning off methane even when the power plant is shut down for maintenance.

Council has introduced a new kerbside weekly rubbish and fortnightly recycling collection service. A new green waste collection service is also available for households to take up. These new services will likely collect around 8,000t of kerbside recycling and around 1,100t of green waste per year⁷.

Our planned actions and impact

We will establish a new resource recovery park, either at Silverstream Landfill or another location in Lower Hutt. This would enable the community and businesses to minimise wastage of useful items and divert items that would otherwise end up in the landfill.

We are also investigating introducing a flare to burn off methane at the closed landfill in Wainuiomata, which could reduce methane emissions at the site, potentially by 25–50 percent by 2040.

What else could we do?

Once the new kerbside rubbish and recycling service is embedded, we will investigate improvements, including looking at ways to divert more food waste from the landfill.

ACTIONS

(City wide)

15. Establishing a new resource recovery park

Council has set aside about \$2.5M in the long-term plan to upgrade its transfer station at Silverstream and establish a new resource recovery park. This would improve our ability to separate materials, such as metals and repairable goods, from residual waste. A state of the art resource recovery park would also be able to divert construction and demolition waste (for example, wood, plasterboard, etc).

A business case is being developed to consider whether to locate the resource recovery park at Silverstream or at another location in Lower Hutt. An alternative location would provide an opportunity to establish a more comprehensive facility (such as a covered site with associated shop) and to target the recovery of a wider range of materials, including a dedicated commercial construction and demolition waste processing/recovery facility. Establishing a resource recovery park in line with best practice would require a significant investment of \$10M+, and so we are looking at the potential to partner with a commercial waste service provider.

Establishing a new resource recovery park	
Cost	\$2.5M
Timing	Complete by 2023
Lead division	Climate and Waste
Emission reductions	The potential for emission reductions is still uncertain. Increased diversion of wastes such as wood and plasterboard is expected to reduce the amount of organic waste going to Silverstream Landfill, which would reduce potential future emissions.

⁷ based on the number of properties that have opted-in as at June 2021

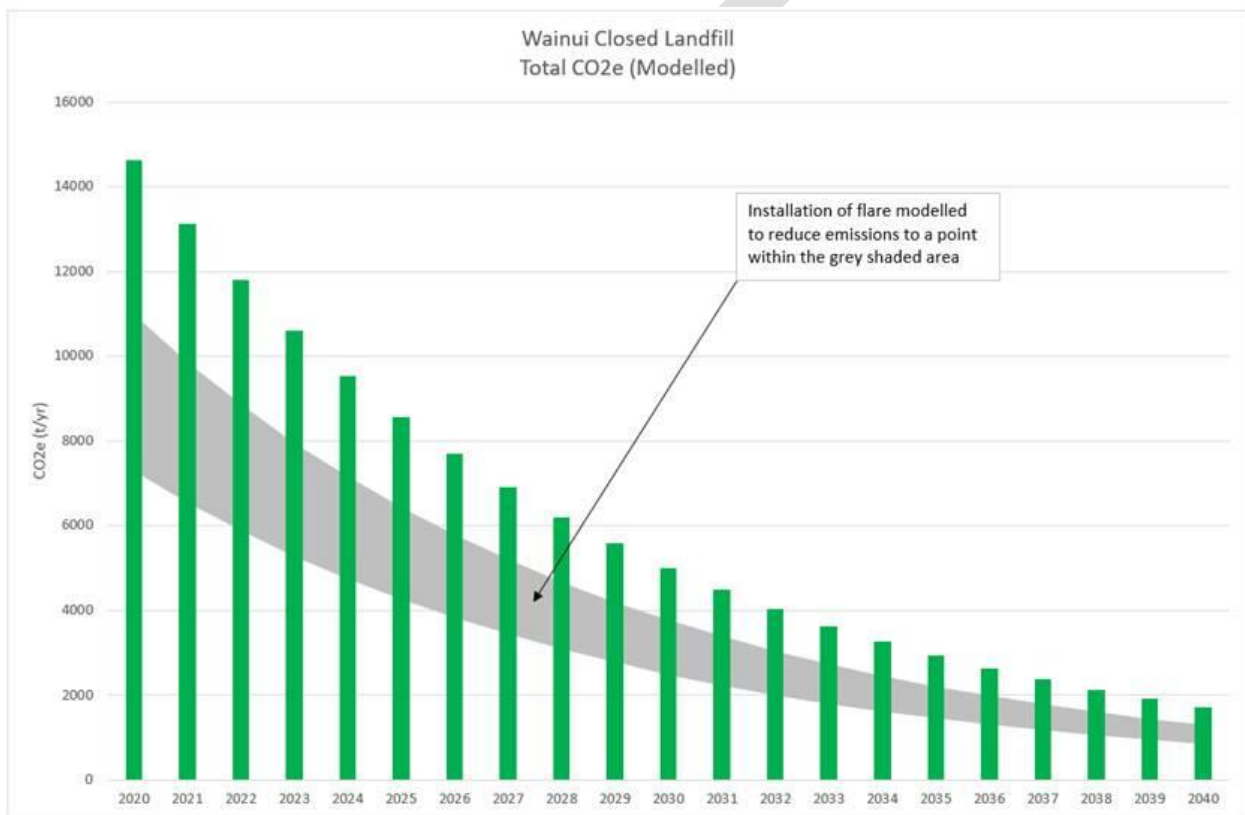
16. Investigating methane destruction via flare burn-off for the closed landfill in Wainuiomata

Over the next year, we will investigate the feasibility of removing methane via a controlled flare burn-off at the closed landfill in Wainuiomata.

There are ten closed landfills in Lower Hutt, and our analysis suggests that the closed landfill in Wainuiomata is still a significant emitter of methane. The landfill in Wainuiomata closed in 2012, and while emissions decline over time, it is estimated that emissions are currently still around 13,000 tCO₂E (2021).

The potential impact of a flare burn-off on emissions is shown in figure 9. The grey shaded area indicates how far the emissions would likely drop if a flare were installed, with emissions potentially reducing by 25–50 percent.

Figure 9: Wainuiomata closed landfill total CO₂E (modelled), 2020–2040



The rough capital cost of installing a flare and gas collection system is currently between \$500,000 and \$800,000, while operational costs are calculated to be around \$90,000 per year.

Investigating methane destruction via flare burn-off for Wainuiomata's closed landfill	
Cost	\$100,000
Timing	2021–2022
Lead division	Climate and Waste
Emission reductions	Potentially around 18,000 tCO ₂ E destroyed by 2030, if a flare was in place by 2022.

Land

Why land is a priority area

Council owns more than 5,300 hectares of land and manages around 3,000 hectares of parks, reserves, bush-clad hills, beaches, walkways, tracks, sports and playgrounds, and around 12,500 street trees. The way that we use this land can support biodiversity, carbon sequestration and recreation.

The Climate Change Commission has recommended that New Zealand forests be managed to provide a long-term carbon sink, including establishing 300,000 hectares of new native forests and 380,000 ha of new exotic forests by 2035. It also advises a reduction in deforestation. The Government has set a goal to plant one billion trees by 2028, made up of both exotic and native tree species.

What we're already doing

Hutt City Council manages a significant amount of land that is at least partially covered in forest, such as on the Eastern Hills. Some of these forests are designated significant natural areas (SNAs).

Under the Emissions Trading Scheme (ETS), forest owners can earn carbon credits in recognition of the carbon sequestered by their trees (1 New Zealand Unit represents 1 tonne of CO₂E). In early 2019, an initial assessment indicated that about 950ha of land owned by Hutt City Council could be eligible for earning carbon credits. Around 130ha of Hutt City Council forest has now been successfully registered under the ETS.

Assessments for the council's remaining post-1989 forests are currently underway.

We are revising all the specifications within the reserves maintenance contract to ensure that sustainability, biodiversity and innovation are considered. This includes no-mow areas, retaining dead / dying trees / reducing chemical use and increasing native habitats amongst others.

Our planned actions

We will be aiming to increase the area of council-owned land that is planted in native trees. This includes the accelerated reforestation of Belmont Regional Park and improving forest cover on other sites. We will aim to register relevant land parcels under the Emissions Trading Scheme (ETS). We are also planning to set up a carbon reduction acceleration programme, which would be funded by our income from the ETS.

What else could we do?

We could look at how our land could provide green infrastructure (such as trees, wetlands, green roofs, gardens) as an adaptation measure to boost resilience against climate change related disasters, such as flooding. For example, rain gardens could offer an alternative stormwater management approach. As well as climate adaptation and carbon sequestration benefits, green infrastructure can deliver wider benefits for wildlife, ecosystems, and physical and mental wellbeing.

ACTIONS

17. Accelerating reforestation of Belmont Regional Park

We have identified around 469ha of Hutt City Council-owned grassland that is located on the hilltops of Belmont Regional Park. Greater Wellington Regional Council is currently using the park as farmland, and we are engaging with the regional council to replant the retired grazing land into forest as quickly as possible.

This project would have both biodiversity and carbon sequestration benefits, particularly if the land were replanted in native forest. If around 80 percent of Belmont Regional Park were planted in native forest by 2025, it would have carbon sequestration benefits of approximately 86,000 tCO₂E by 2050.

Accelerating reforestation of Belmont Regional Park	
Cost	Around \$31,000 to \$66,000 per hectare, including 5 years of weed control
Timing	By 2025
Lead division	Parks and Recreation and Climate and Waste
Emission reductions	Approximately 86,000 tCO ₂ E by 2050 (for 400ha of 25-year-old native forest)

18. Improving the quality of forests on other reserve land

There is potential to increase the area of council land that is planted in native trees. This will complement larger scale initiatives, such as the reforestation of Belmont Regional Park.

Some council land is at least partially covered in forests that is not yet of sufficient quality to register under the ETS. Planting more native trees on council land would support biodiversity and improve carbon sequestration. It also provides an opportunity to work with community groups to support their efforts in improving natural areas (for example, planting initiatives, pest management).

Over the next few months, we will identify suitable council-owned sites that would benefit from revegetation and investigate the use of reserve contributions to improve the quality of our forest land. We will also look at potential external funding sources and partners to support these efforts.

Improving the quality of forests on other reserve land	
Cost	Not yet certain, but potentially \$1M per year
Timing	New activity potentially in place by 2023
Lead division	Parks and Recreation
Emission reductions	Not yet clear, but an improvement to forests would likely increase carbon sequestration

19. Setting up a carbon reduction acceleration fund

In early 2019, an initial assessment indicated that about 950ha of land owned by Hutt City Council could be eligible for earning carbon credits. Around 130ha of council forest land has now been successfully registered under the ETS. Field assessments for the council's remaining post-1989 forests are currently underway.

The amount of carbon sequestered each year will vary in line with the state of maturity of the forest, but a forest plot of about 100 ha planted/revegetated in 2000 would currently sequester over 1,000 tonnes of CO₂ per each year, and more than 12,000 tonnes between now and 2040. At a carbon price of \$45/t CO₂-e, this would equate to over \$500,000⁸.

Council is investigating the establishment of a carbon reduction acceleration fund. By selling emission units, funding could be realised that could then support key carbon reduction initiatives (such as decarbonising large service contracts, accelerating reforestation of Belmont Regional Park, achieving step changes in pest management and improving carbon sequestration efforts throughout Lower Hutt).

⁸ http://infocouncil.huttcity.govt.nz/Open/2020/11/CEC_19112020_AGN_2802_AT.PDF, page 7.

Setting up a carbon reduction acceleration fund	
Cost	Funded from the sale of carbon credits generated by forests on Council-owned land
Timing	Fund structure in place by 2022
Lead division	Climate and Waste
Emission reductions	Emission reductions and/or additional carbon sequestration would depend on the projects funded from the Carbon Reduction Acceleration Fund

Climate resilience

There is no denying that adaptation to the ongoing rise in sea level will be complex and heart-wrenching for coastal dwellers who have a strong attachment to their home and whenua. Dr Rob Bell, 2021⁹

Why building climate resilience is a priority

Lower Hutt is the most densely populated flood plain in New Zealand. With our proximity to the sea, we will also be affected by sea-level rise. The effects of climate change will include more intense storms and heavy rainfall, with an increased risk of flooding, and more frequent dry periods, which could result in drought.

The impact of sea-level rise includes properties could be at increased risk of flooding, as well as a heightened risk of storms surging inland, damaging infrastructure and properties and impacting on people's lives and their sense of wellbeing.

While hazard planning, stopbanks and other engineering initiatives have dramatically improved flood management, the risk remains, aggravated by the projected effects of climate change.

Under the Resource Management Act 1991 (RMA), local government needs to consider the effects of a changing climate on communities. The *New Zealand Coastal Policy Statement 2010*¹⁰ mandates that coastal hazard risks (including climate change) should be assessed out to 'at least 100 years'. It is important that we prepare now for the impacts of climate change. We need to ensure that climate change features in all long-term development planning and that we plan well in advance to avoid unnecessary risks and embed climate resilience in all planning.

What we're already doing

Council staff are involved in regional planning around climate change – including membership on The Wellington Region Climate Change Working Group and being involved in developing the Wellington Regional Natural Hazards Strategy.

Through these regional efforts, we have been building our knowledge about the effects of climate change on our city. We jointly commissioned the 2019 report *Preparing Coastal Communities for*

⁹ Dr Rob Bell, 2021. 'How will our coasts and estuaries change with sea-level rise? Implications for communities and infrastructure.' In H. Clark (ed) *Climate Aotearoa: What's happening & what we can do about it*. Auckland: Allen & Unwin.

¹⁰ DOC. 2010. *New Zealand Coastal Policy Statement 2010*. Wellington: Department of Conservation (DOC). URL: www.doc.govt.nz/globalassets/documents/conservation/marine-and-coastal/coastal-management/nz-coastal-policy-statement-2010.pdf (accessed 8 July 2021).

Climate Change, which identified the coastal areas of Lower Hutt that are most vulnerable to climate change, sea level rise and natural hazards.¹¹

Wellington Water, which provides drinking water, wastewater and stormwater services to the Wellington region on behalf of its councils, is modelling flood hazards across urban Lower Hutt. The resulting flood hazard maps depict the potential flooding consequences for one in 100-year and one in 10-year floods. They show where waterways are most likely to breach their banks, where water is most likely to move across land during flooding and areas of ponding. The work takes into account the projected impacts of climate change out to 2120, including a sea-level rise of 1m and an increase in rainfall intensity and volume of 20 percent.

Our planned actions

We're upgrading our Three Waters infrastructure. The effects of higher rainfall and other climate change effects are incorporated in the design standards and eventual stormwater mitigation solutions. We're also increasing the resilience of our assets that are at risk of inundation due to the impact of sea-level rise.

Hutt City Council, Waka Kotahi and Greater Wellington Regional Council are currently working as partner organisations on the RiverLink project. Part of this project relates to flood protection work, which aims to protect homes, schools and businesses from large flood events.

What else can we do?

As part of the Lower Hutt Community Climate Change Response, we will be working through potential adaptation actions for the future, which will be reflected in a revised version of this interim plan.

The default best-practice approach for adapting to a changing climate is dynamic adaptive policy pathways planning (DAPP). DAPP enables flexible planning and adaptation in the face of uncertainty and changing conditions.

The approach has a strong focus on communities working together to map out sustainable options/pathways for coming decades and generations. DAPP was used for the Hutt River Flood Scheme and will be a useful approach for future adaptation actions for Lower Hutt.

Our district plan (which is currently under review) will need to detail information from flooding maps and sea-level rise modelling to ensure that future developments take account of flood and sea-level rise risks and don't increase the risks to existing properties.

ACTIONS

20. Upgrading the Three Waters infrastructure

The Hutt City Council's Long-Term Plan 2021-2031 includes an investment of \$53M in healthy urban waterways, of which \$16M is for network upgrades to improve the network performance. Stormwater management (for which council is responsible) and management of flood risk for major waterways (primarily the responsibility of Greater Wellington Regional Council) both contribute to protecting our urban areas from flooding.

Hutt City Council collaborates with Greater Wellington Regional Council to develop and implement 'catchment environmental strategies' (currently in place for Te Awa Kairangi / Hutt River) and floodplain management plans (currently in place for Te Awa Kairangi / Hutt River and being developed for Waiwhetu Stream).

¹¹ Mitchell Daysh Ltd. 2019. *Preparing Coastal Communities for Climate Change: Assessing coastal vulnerability to climate change, sea level rise and natural hazards*. Auckland: Mitchell Daysh Ltd. URL: www.gw.govt.nz/assets/Uploads/Wellington-Regional-Coastal-Vulnerability-AssessmentJune-2019Final.pdf (accessed 8 July 2021).

We are experiencing more intense rainfall events that put pressure on our stormwater networks. The higher rainfall and other climate change effects are being incorporated into design standards and eventual stormwater mitigation solutions.

Sea-level rise may also compromise the ability of our stormwater network to drain effectively and further exacerbate the impacts of flooding. Sea-level rise also poses risks of salination, which could threaten the viability of using water from the aquifer. Council is proactively managing the extraction of water from the aquifer to mitigate this salination risk.

We also need to increase the resilience of our assets – Wellington Water’s work on the renewal of the sewer along the Petone esplanade is critical to protecting a vital part of our wastewater infrastructure in an area that is at risk from sea-level rise. Some of Lower Hutt’s key infrastructures, such as the Seaview Wastewater Treatment Plant, are likely to face inundation, which is a threat to the functioning of the wastewater system.

Upgrading the Three Waters infrastructure	
Cost	\$16M
Timing	2021 - 2031
Lead division	Wellington Water Limited

21. Building RiverLink flood protection

Hutt City Council, Waka Kotahi and Greater Wellington Regional Council are currently working as partner organisations on RiverLink. As part of this major project, Greater Wellington Regional Council is working to raise and widen the stopbank on both sides of Te Awa Kairangi / Hutt River parallel to the city centre and to widen the river channel. Waka Kotahi is replacing the Melling Bridge across Te Awa Kairangi / Hutt River, with the new bridge providing additional flood flow capacity.

This flood protection work is expected to safeguard Lower Hutt residents from large flood events that could affect up to 3,000 homes, 5 schools and 600 businesses, potentially causing an estimated \$1.1B in damage.

Building RiverLink flood protection	
Cost	\$
Timing	TBC
Lead division	yet to be determined

Timeline - key actions

Reducing Hutt City Council's corporate greenhouse gas emissions

PROJECT	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	EMISSION REDUCTIONS (per year)
General procurement		Embedding carbon reductions in procurement		Measuring carbon footprint relating to procurement						Dependent on the service or contract
Major contracts			Rubbish / Recycling 100% electric trucks	New Naenae Pool						822 tCO₂E (Electric trucks)
Council facilities	Eastbourne Huia Pool (new)	Dowse Art Museum		War Memorial Library	Huia Pool and fitness facility		Stokes Valley Pool		Wainuiomata McKenzie Pool	1,300 tCO₂E
LED streetlights		Upgrading streetlights to LED								230 tCO₂E
EVs		20% EVs			50% EVs				100% EVs	200 tCO₂E
Other transport projects		Air travel Taxi use	Micro-mobility options							Less than 40 tCO₂E
Refrigerant use		Refrigerant use								Less than 10 tCO₂E

Facilitating a reduction in city-wide emissions and building Lower Hutt's climate resilience

PROJECT	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30
Lower Hutt climate action	Lower Hutt climate action roadmap								
Walking and cycling network	Beltway Cycleway			Eastern Bays Shared Path					
	Te Ara Tupua: Pito-one to Melling section								
EV charging stations		20 EV charging stations							
Methane flare	Silverstream Landfill (in place)	Wainuiomata landfill (feasibility)							
Reducing waste	Recycling and green waste collection service		Resource recovery park						
Forestry projects		Carbon acceleration fund			Accelerate reforestation of Belmont Regional Park				

Success measures [to align with Council's outcomes - frequency to be agreed]

Goal 1: Reducing Hutt City Council's corporate greenhouse gas emissions to net zero by 2050

Deliverables (KPIs ?)
30% emission reductions at council facilities by 2025; 50% emission reductions by 2030 (<i>Percentage of council facilities with natural gas converted to electricity / amount of emission reductions</i>)
100% LED streetlights by 2022 (<i>Percentage of LED streetlights installed</i>)
100% electric vehicles in rubbish and recycling kerbside collection by 2024 (<i>Number of EV vehicles / percentage of fleet EVs</i>)
50% of fleet vehicles electric by 2025; 100% by 2030 (<i>Number of EV vehicles / percentage of fleet EVs</i>)
Carbon reduction potential evaluated for all procurement over \$10,000

Goal 2: Facilitating a reduction in Lower Hutt's greenhouse gas emissions to achieve net zero by 2050

Deliverables (KPIs?)
20 EV charging stations in 2022 (<i>Number of EV charging stations</i>)
GHG emissions from Silverstream Landfill (and closed landfills)
Number of hectares of Hutt City Council forest land registered under the ETS
Number of hectares of Belmont Regional Park planted in trees

Note: The measures associated with each impact or any link or measures to the outcomes are being developed, and will evolve over subsequent versions to align to the Council's planning and performance framework.