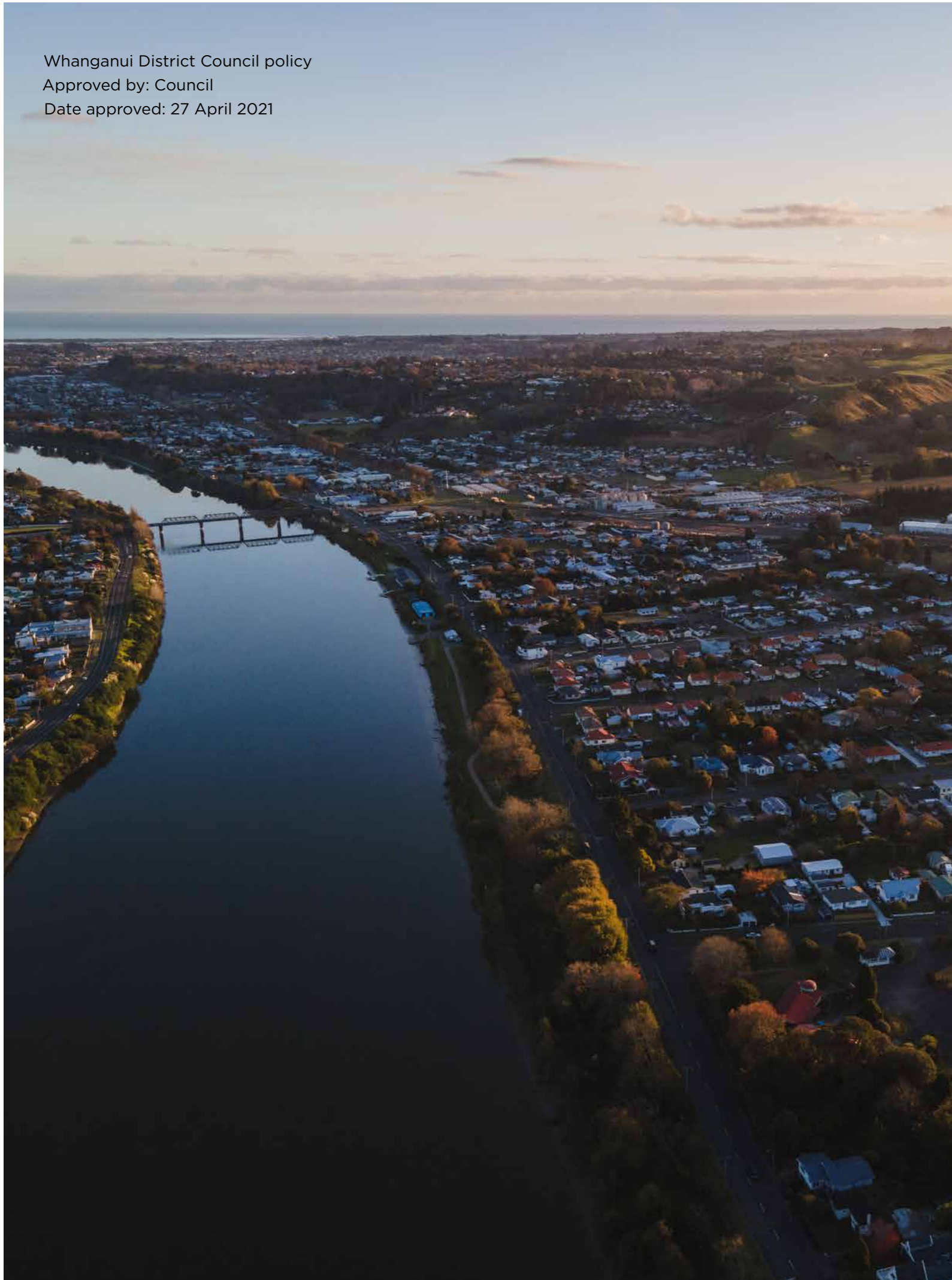


**Te Rautaki
Huringa
Āhuarangi**

**Climate
Change
Strategy**



**WHANGANUI
DISTRICT COUNCIL**
Te Kaunihera a Rohe o Whanganui



Contents

He tūwheratana kōrero.....	Introduction.....	4
Te kaupapa.....	Strategy purpose	5
Te wawata.....	Vision	7
Te aronga.....	Mission.....	7
Ngā kaupapa	Values.....	8
Ngā mātāpono	Principles.....	10
Te horopaki	Strategic context.....	11
Eke panuku, eke tangaroa.....	Climate change targets	17
Ngā pou.....	Strategic priorities	18
Ngā whāinga	Goals	21
Ngā whāinga	Objectives	22
Aroturukitanga.....	Monitoring.....	24
.....	Appendix 1: The Mauri model.....	25

Glossary of acronyms

EV.....	Electric Vehicles
GHG.....	Greenhouse Gas
IPPU.....	Industrial Processes and Product Use
NAP.....	National Adaptation Plan
CCRA.....	National Climate Change Response Assessment
PACT.....	Property Assessed Climate Transformation
RMA.....	Resource Management Act
UNFCCC.....	United Nations Framework Convention on Climate Change

This strategy tells a story of the New Zealand European and Māori (te ao Māori) world views coming together to address climate change in a uniquely Whanganui way.

The need for an iwi Māori perspective to be seen and heard in the political sphere is increasingly important. However, understanding this perspective can be difficult as it is often viewed through a western lens and/or through the modern conservation movement, both of which have different foundations, ethics and understandings. Iwi Māori worldview contributes to the development and practice of a unique environmental ethic that holds those areas as intensely sacred or special places and spaces for us as Whanganui. This ethic does not instruct preservation; rather, it centres on sustainable use, and guardianship. Iwi Māori relate to nature in a meaningful way because they live it as tāngata whenua on their marae, as hapū and iwi, and their kawa and tikanga practices are embedded in the natural environment.

This strategy is about human activity and changing the way we think and live to reduce our impact on our planet. As such, this strategy traverses the environmental, cultural, social and economic realms.

Long-term formal, robust and evolving relationship agreements have been developed between the Whanganui District Council and Te Runanga o Tamaupoko and Te Runanga o Tupoho. These runanga are a collective of marae within their respective tupuna rohe, and as whānau/hapū are the authority holders over their culture and traditions with their ancestral lands, water, sites, waahi tapu and other taonga.

From a statutory Whanganui Iwi perspective, interconnectivity with our environs is evident within traditional narratives and innate values, recognised in law through the Te Awa Tupua

Settlement Act 2017. Those innate values – Tupua Te Kawa – guide the way in which decisions are made to protect and enhance the health and well-being of the environment, Te Awa Tupua and our people. Tupua Te Kawa establishes four kawa or values that underpin an indigenous natural law and value system, binding people to place. In the context of climate change, these kawa might be expressed or understood as follows:

Ko te Awa te mātāpuna o te ora

Our Awa and environs sustains us with life and natural resources, and these must be protected from the impacts of climate change so that current and future generations may be nourished.

E rere kau mai te Awa nui, mai i te Kāhui Maunga ki Tangaroa

Our Awa and environs, including physical and spiritual elements, are indivisible, and climate change responses must be cognisant of the holistic impact on all realms of wellbeing.

Ko au te Awa, ko te Awa ko au

There is an inalienable connection between people, the Awa and the environment, and we have a responsibility to change the way we live to reinforce and strengthen this connection.

Ngā manga iti, ngā manga nui, e honohono kauanā, ka tupu hei Awa Tupua

Co-ordinated effort on climate change is required across all communities and authorities, given that our Awa and environs are integral to our worldview and lives.

The purpose of this strategy is to plot a course for action to both mitigate and adapt to climate change, and to provide a framework for collaboration across the Whanganui District and beyond among tangata whenua, iwi, neighbouring councils, central government, non-government organisations, private industry, education, our communities and people.

This strategy is about human activity and changing the way we think and live to reduce our impact on our planet. As such, this strategy has the health and well-being of the environment at its core, followed by the health and well-being of people, and the social and economic well-being of people and communities, now and in the future.



What is climate change?

The sun's shortwave energy received by the Earth is converted and returned to the atmosphere as longwave (heat) radiation where it is absorbed by 'greenhouse gases' (carbon dioxide, methane, nitrous oxide, water vapour). This process heats the atmosphere. Human activities are continually producing these greenhouse gases, adding them to the atmosphere, which results in it warming beyond its ability to lose this extra heat to space. This is anthropogenic global warming, or human induced global warming. The climate has always changed, but it is the continuing rapid acceleration in anthropogenic warming that threatens us.

Mitigation

is about reducing the amount of change to our climate that we will experience in the future, through minimising or preventing the emission of greenhouse gases. Although a certain level of climate change is "locked in" due to greenhouse gases that have already been emitted, we can reduce emissions now so that future impacts from climate change are reduced. The government has set national targets for reducing greenhouse gas emissions. See page 12 for information about the targets.

Adaptation

is modifying the way we live and do things in order to to reduce the impacts of climate change. While there is uncertainty about exactly how the effects of climate change will play out, it is certain that things will change and that change has already begun. How we are able to plan, respond, adapt and change will affect the level to which climate change poses a risk or an opportunity for our communities.



Te wawata

**Ko au te taiao,
ko te taiao ko au**

Vision

**We live in harmony
with the environment
to ensure quality of life
for all living things**



Te aronga

**Ka wānanga, ka whakarite,
ā, ka huri ngā mahi, i runga
i te manawanui ki te taiao**

Mission

**We will take appropriate
action to adapt activity to
withstand the impacts of
our changing climate and
play our part in reaching
greenhouse gas emission
reduction targets**

All whakataukī / whakatauākī are underpinned by features of Whanganui nature and our environment.

Kia mahi tahi
Working together

We will work collectively on climate change solutions

Pūpūngia te kākaho kia mangungu, e kore e whati

One kākaho reed is easily snapped, but bound tightly many kākaho reeds will possess unyielding strength

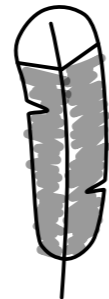


Kia toi te mana
Leadership

We will enable leadership at all levels on climate change and will lead by example

Kia whakapurua ki te remu o te huia (nā Te Māreikura Hori Enoka)

Hold fast to the tail feather of the huia, the symbol of a leader

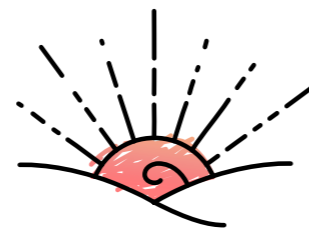


Kia titiro whānui
Responsibility

We will have the environment and future generations at heart in our decision-making

He ao āpōpō, he ao tea (nā Dr Whakaari Rangitākūkū Metekīngi)

Tomorrow holds a bright future

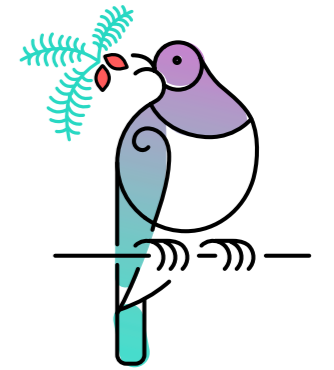


Kia mātau
Education

We are committed to learning and sharing our knowledge with others

Ko te manu e kai ana i te miro, nōna te ngahere; ko te manu e kai ana i te mātauranga, nōna te ao (nā Te Kere Ngātaierua)

The bird who eats from the miro tree owns the forest; the bird who eats of the tree of knowledge owns the world

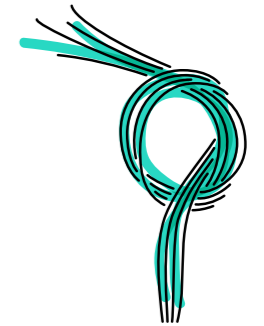


Kia torokaha
Positive connection

We will build positive connections throughout our community and look for opportunities

Whiria te taunoka (nā Hōri Kīngi Te Anaua)

Tie peace to this shrub



Kia manawa nui
Resilience

We will be agile and build capacity to recover from difficulties

Kei te hunga ririki kei te huti te toko o ēnei rangi (nā Te Ope Whanarere)

The young are to pull and push the bargepole of today's vessel

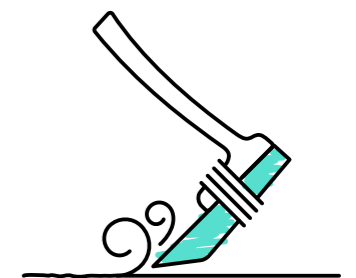


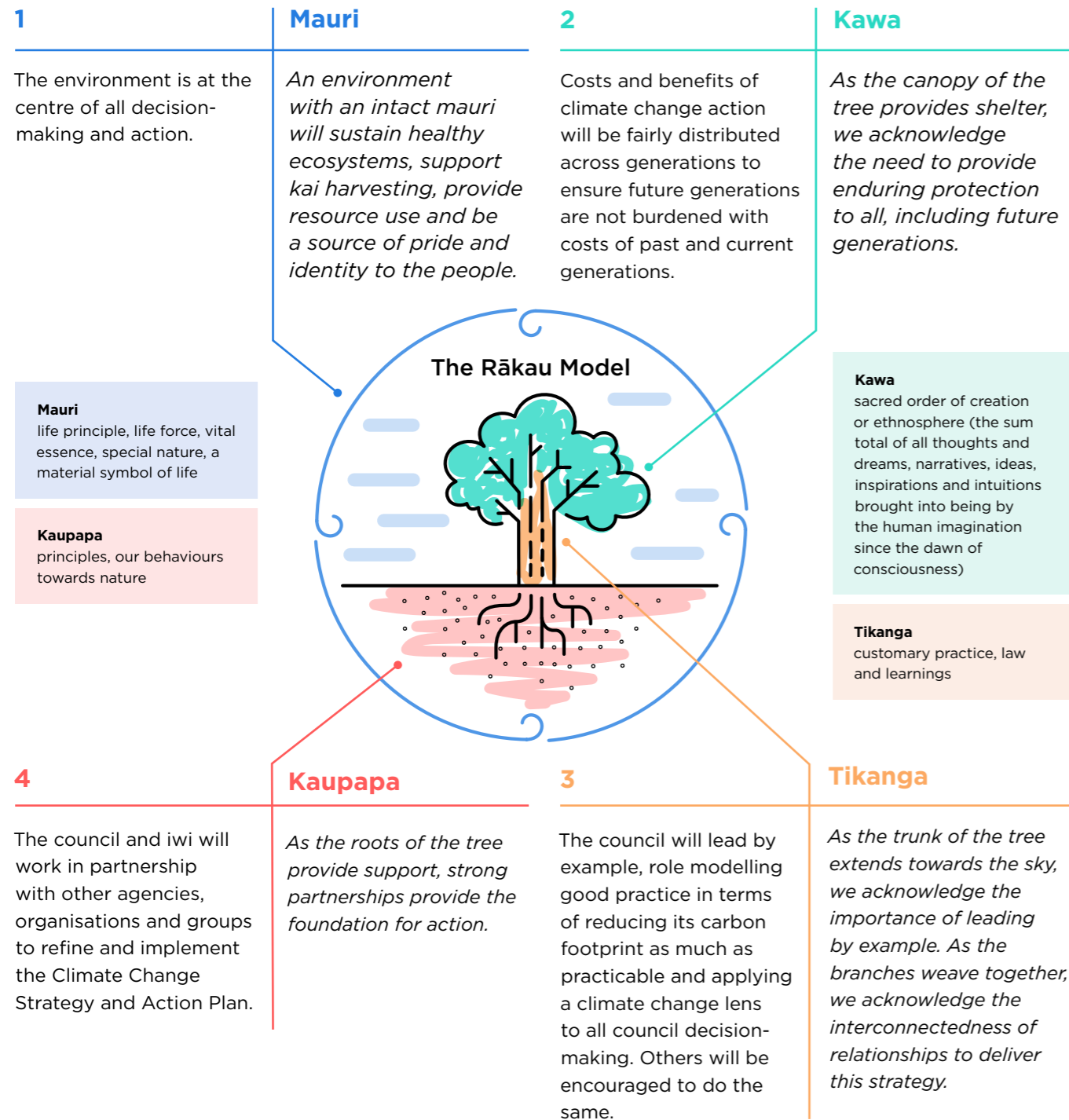
Kia whai hua
Effectiveness & affordability

We will live within our means and make the most of every opportunity

Tēnei au te morikau nei

I am still fashioning this log





There are three main international policies that guide our climate change adaptation and mitigation work.

The international context

1 **The United Nations Framework Convention on Climate Change (UNFCCC):** an international environmental treaty with the objective to:

“Stabilise greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic¹ interference with the climate system.”

The UNFCCC was adopted by over 185 countries, including New Zealand, at the Rio Earth Summit in 1992.

2 **The Kyoto Protocol:** the international treaty signed in 1997 that extends the 1992 UNFCCC and commits state parties to reduce greenhouse gas emissions based on the scientific consensus that:

- Global warming is occurring
- It’s extremely likely that human-emitted CO₂ emissions have predominantly caused it.

3 **The Paris Agreement:** an agreement within the UNFCCC signed in Paris in 2016. The aims of the Paris agreement are to:

- Hold the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels
- Increase the ability to adapt to the adverse impacts of climate change and foster climate resilience and low greenhouse gas emissions development, in a manner that does not threaten food production
- Make finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development.

¹ Anthropogenic = resulting from or produced by human activities, as defined by the Intergovernmental Panel on Climate Change (IPCC).

The national context

The Climate Change Response (Zero Carbon) Amendment Act 2019 has set a domestic greenhouse gas emission reduction target for New Zealand to:

- Reduce net emissions of all greenhouse gases (except biogenic methane) to zero by 2050
- Reduce emissions of biogenic methane to 24-47% below 2017 levels by 2050, including to 10% below 2017 levels by 2030.

It has also:

- Established a system of emission budgets to act as stepping stones towards the long-term target.
- Required the government to develop and implement policies for climate change adaptation and mitigation.
- Established a new, independent Climate Change Commission to provide expert advice and monitoring to help keep successive governments on track to meeting long-term goals.

The Climate Change Response (Zero Carbon) Amendment Act 2019 required preparation of a National Climate Change Response Assessment (NCCRA) no later than one year after the start of the Act (November 2019). This was produced in August 2020. The NCCRA has a critical role to play in providing the best available evidence and assessment to decision-makers, to support a planned approach to climate change risks and opportunities. The Act requires the Minister for Climate Change to prepare a National Adaptation Plan (NAP) in response to the NCCRA. This will be published before mid-2022. The NAP will define both the government's objectives for adapting to climate change and how the Government will meet those objectives.

The Climate Change Commission released its advice to government on climate action in Aotearoa on 31 January 2021 for public consultation. This report proposes the first three emissions budgets and policy guidance on how the emissions budgets could be met. The Commission's final advice is due by 31 May 2021. The emissions budgets and the emissions reduction plan are to be set by December 2021.

The Resource Management Act 1991 (RMA) is another piece of key legislation. Under the RMA, local government is required to consider the effects of a changing climate on communities, and to incorporate climate change into existing frameworks, plans, projects and standard decision-making procedures. On 12 February 2021 the government announced its intention to reform the RMA. A key reason is to better prepare for adapting to a changing climate and risks from natural hazards, and better mitigate emissions contributing to climate change. The proposal is to replace the RMA with three new pieces of legislation – the National and Built Environments Act, the Spatial Planning Act and the Climate Change Adaptation Act. The Climate Change Adaptation Act will address complex issues associated with managing retreat and funding and financing adaptation.

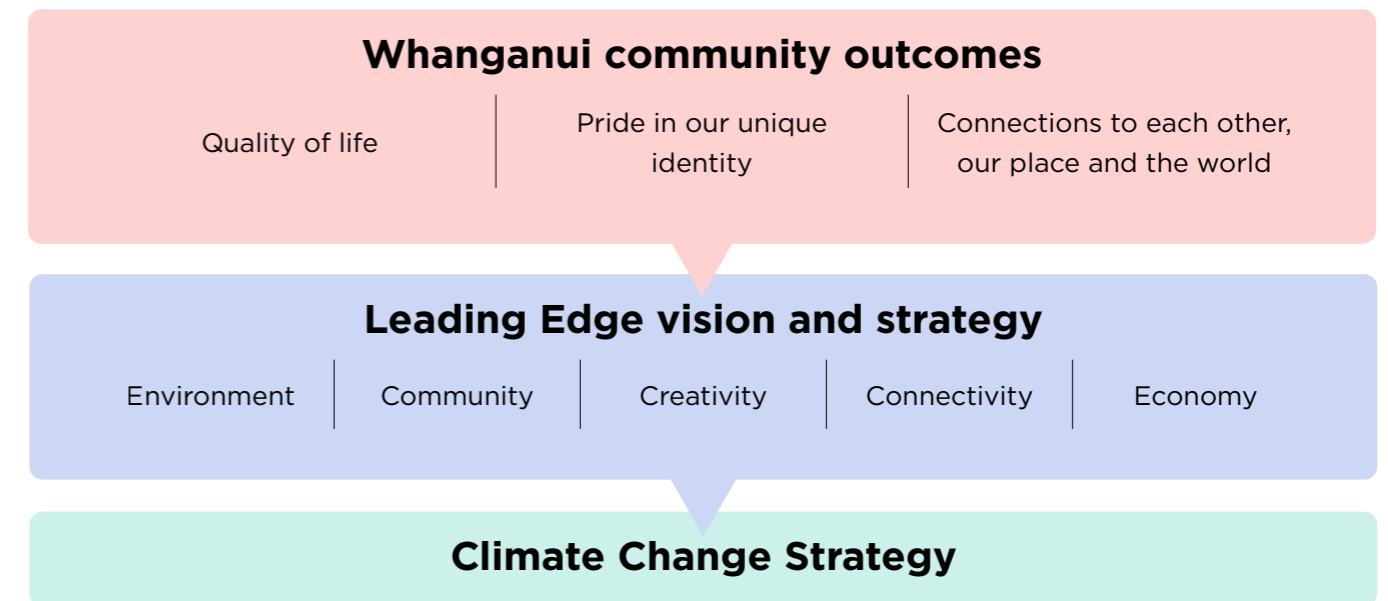
Local government's roles and responsibilities are affected by climate change. A climate change perspective is now integrated into activities such as flood management, water resources, planning, building regulations and transport. Local authorities have social and legal obligations to take climate change effects into account in community planning. Long-term planning needs to embrace expected long-term shifts in climate to ensure future generations are adequately prepared for future climate conditions.

The regional context

Horizons Regional Council is playing a key role in climate change across the region, coordinating activity, providing the community carbon footprint assessments for the districts and commissioning a regional risk assessment.

The regional risk assessment is due for completion in August 2021. A memorandum of understanding between all the local authorities in the region has been signed and a joint climate action committee established.

The local context



Our commitment

Whanganui District Council has:

- Declared a climate emergency in 2020
- Committed to working in partnership with tangata whenua, iwi and hapū, and working collaboratively with the community
- Developed this Climate Change Strategy
- Set an aspirational target to achieving net zero carbon emissions by 2050
- Decided to appoint a climate change officer to drive action

During 2019, Whanganui emitted gross 787,025 tCO₂e and net 661,147 tCO₂e emissions. The population in 2019 was approximately 47,000 people, resulting in per capita gross emissions of 16.75 tCO₂e/person.

Greenhouse gas emissions



WHANGANUI DISTRICT'S CARBON FOOTPRINT

Gross (excluding forestry)

787,025 tCO₂e

Net (including forestry)

661,147 tCO₂e

Gross emissions per capita

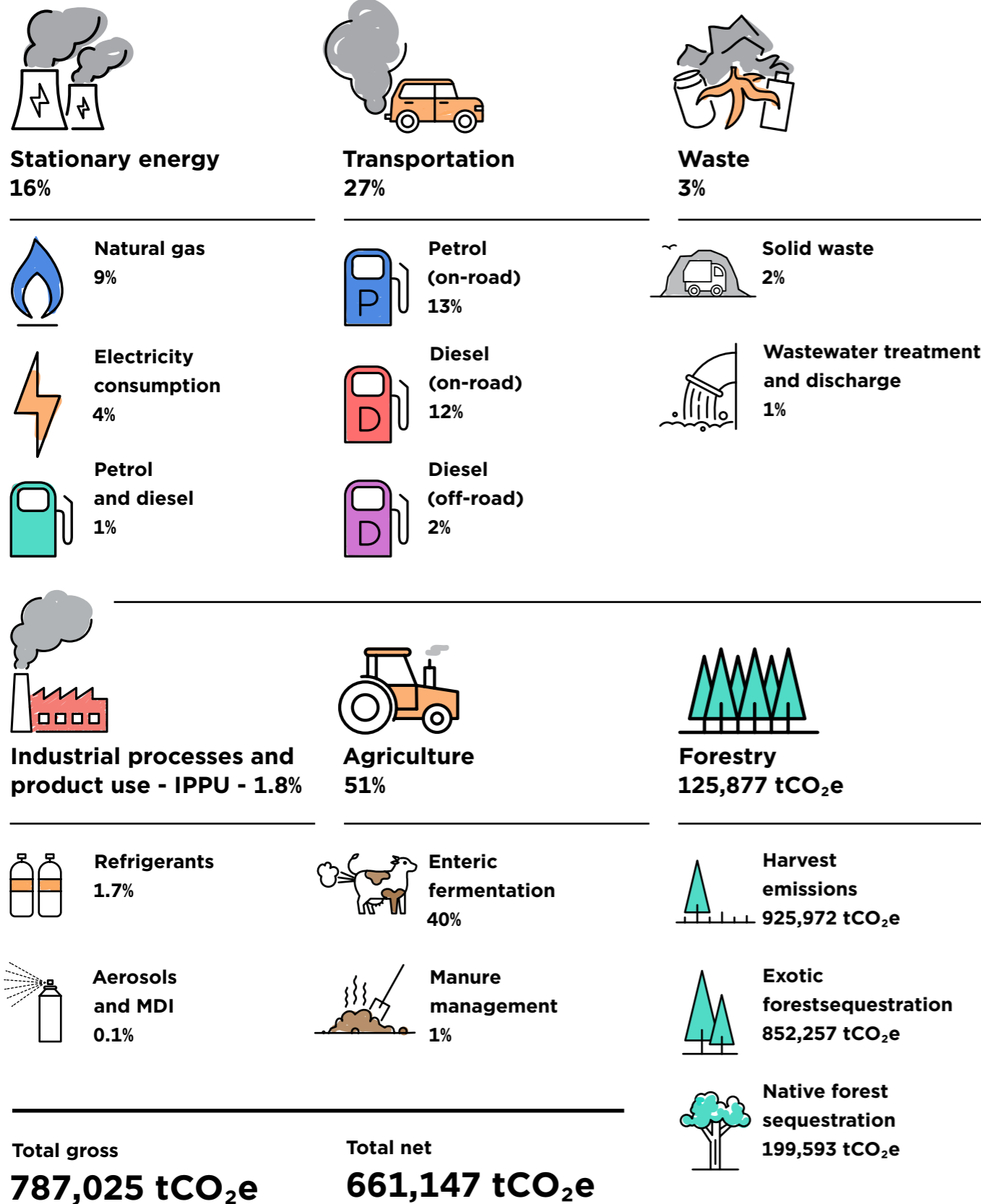
16.75 tCO₂e

Gross emissions per hectare

3.3 tCO₂e

tCO₂e stands for tonnes (t) of carbon dioxide (CO₂) equivalent (e).

Greenhouse gas emissions - Whanganui District 2018/19



Source: Whanganui Community Carbon Footprint 2019 modified to incorporate MfE guidance on voluntary greenhouse gas reporting²

² Ministry for the Environment. 2020. Measuring Emissions: A Guide for Organisations: 2020 Detailed Guide. Wellington: Ministry for the Environment - GWP factors CH₄ - 25, N₂O - 298 and CO₂ - 1

The model on which the infographic on the left is based has been developed by credible, independent information but may contain distortions. Any model is based on assumptions, so the information is valid but may differ from other models. The information becomes more accurate when you look at a much bigger area than just Whanganui District. However, it provides a useful benchmark for measuring change and progress over time.

Agricultural emissions are the largest contributor to Whanganui's greenhouse gas emissions (51%), with 79% of agricultural emissions coming from livestock in the form of biogenic methane as a result of enteric fermentation (animal's digestive processes). Sheep are farmed in the largest numbers across the area, accounting for 86% of farmed livestock and 50% of the biogenic methane produced. Cattle make up 13% of farmed livestock and 41% of biogenic methane. Other sources of biogenic methane are from solid waste and wastewater treatment which account for 8% of biogenic methane with the largest urban contributor being solid waste within landfills at 6%.

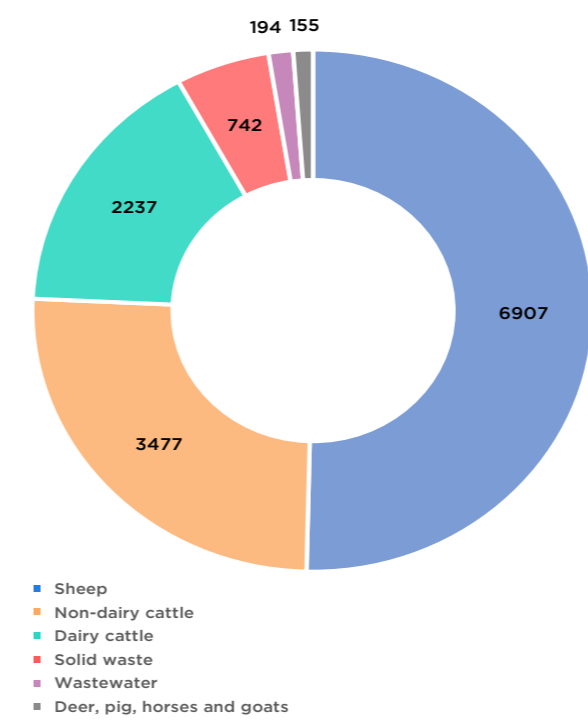


Figure 1: Whanganui District - biogenic methane - 2018/19 (tonne CH₄/yr)

³ The Industrial Processes and Product Use (IPPU) sector includes emissions associated with the consumption of GHGs for refrigerants, foam blowing, fire extinguishers, aerosols, metered dose inhalers and sulphur hexafluoride for electrical insulation and equipment production.

Whanganui District gross greenhouse gas emissions, excluding biogenic methane, is estimated at 441,647 tCO₂e. The largest contributor is transport (216,108 tCO₂e) followed by stationary energy (128,671 tCO₂e) and agricultural sector (82,912 tCO₂e, excluding biogenic methane).

Greenhouse gas mitigation through forestry sequestration is calculated at 199,593 tCO₂e. While it is noted that there is sequestration in other forms of agriculture, including a large amount of the native vegetation, further work is required to measure this accurately. Due to the district's heavy reliance on forestry sequestration, the district's net greenhouse gas emission are likely to fluctuate based on yearly harvest volumes.

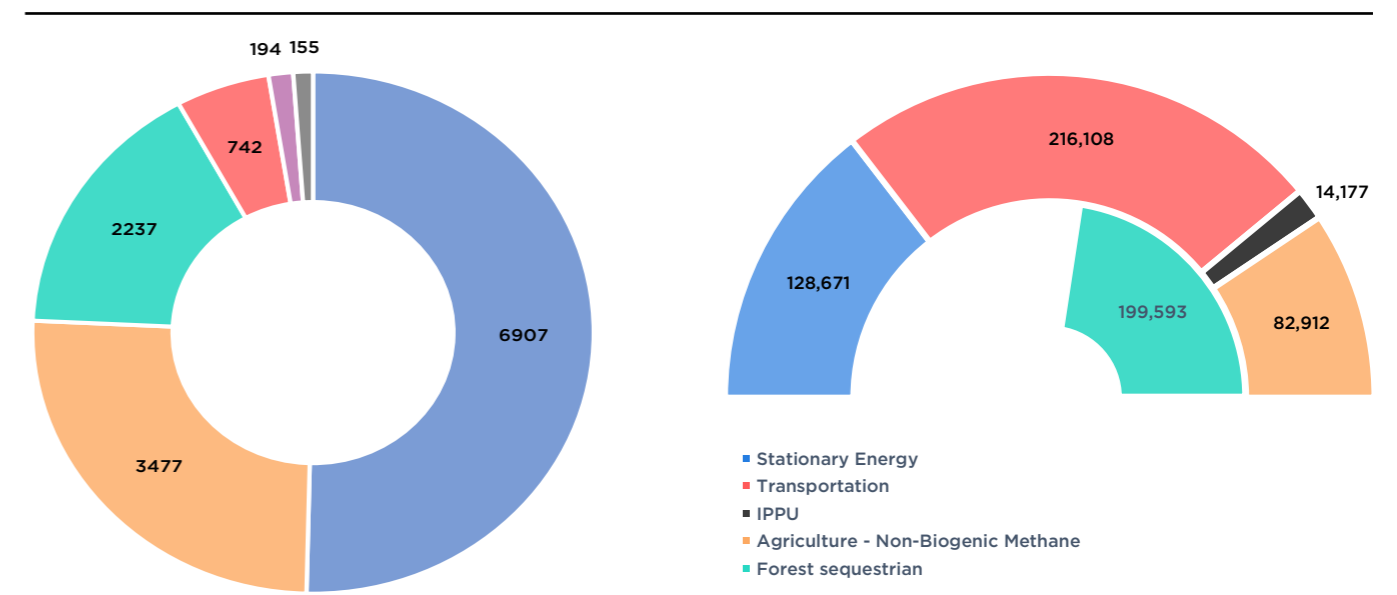
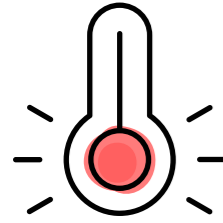
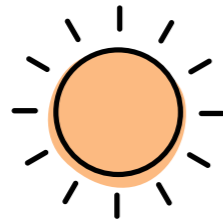


Figure 2 Whanganui District - net CO₂e excluding biogenic methane - 2018/19 (tonne CO₂e/yr)³

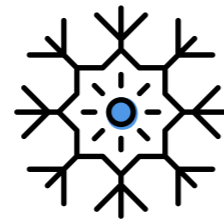
Temperature



- To rise by 0.8°C by 2031-2050
- To rise by 1.8°C by 2081-2100



- More hot days >25°C
- Greatest warming in summer/autumn

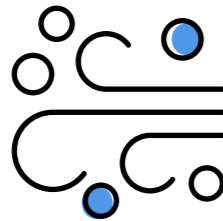


- Earlier spring melt
- Fewer frost days

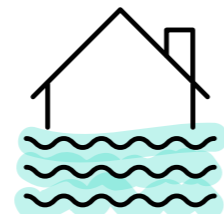
Rainfall



- Wetter conditions with annual precipitation up 1% and winter rainfall up 6% by 2031-2050
- Winter rainfall up 11% by 2081-2100

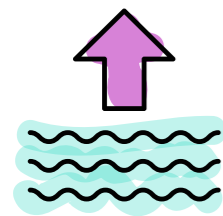


- The frequency and magnitude of storm-related events will increase

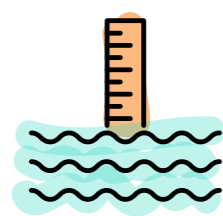


- Increased high country erosion
- Increased flooding risks and river sedimentation

Planning for sea level rise



- Increased coastal erosion and flooding



- A rise of 0.3-1.0m by 2100
- 0.2-0.5m by 2060

These interim district mitigation targets were set to be consistent with national and regional targets. While draft emissions budgets have been proposed, the final outcome for these will not be known until December 2021. The targets in this strategy may be modified as information and our knowledge improves. It is intended that a district carbon model is developed so we may better understand the impact of potential mitigation actions, and to inform the setting of targets.

Both the adaptation targets and the council mitigation targets will be determined upon the completion of base research.

District mitigation target*	Reduce net carbon emissions for the district to zero (excluding biogenic CO ₂) by 2050
	Reduce net carbon (excluding biogenic CO ₂) by 30% by 2030
	Reduce emissions of biogenic methane to 24-27% below 2017 levels by 2050
	Reduce emissions of biogenic methane to 10% below 2017 levels by 2030
District adaptation target	Target for development of district adaptation plans is to be determined upon completion of the Regional Climate Change Risk Assessment
Council mitigation target	Targets to be set once the organisational carbon footprint has been calculated and a low-carbon roadmap developed

* Source: the Climate Change Response (Zero Carbon) Amendment Act (2019)

The key priorities for the council are both adaptation and leading by example, role-modelling good practice in terms of reducing its own carbon footprint.

In terms of adaptation and becoming more resilient to the impacts of climate change, the priority is to complete the Regional Climate Change Risk Assessment, which will inform where our vulnerabilities lie and the development of district adaptation plans.

Council also has a role to play in encouraging everyone in the community to play their part in addressing climate change.

While agriculture is the biggest emitting sector, the sector has significantly improved productivity over the past 30 years with reductions in numbers of sheep and beef cattle but increases in dairy cattle have also occurred. There is also significant work happening nationally, and within the agricultural sectors, to reduce on-farm agricultural greenhouse gas emissions and adapt to climate change. Under the He Waka Eke Noa Primary Sector Climate Action Partnership⁴, by 2025 all farmers and growers will be including climate change mitigation and adaptation in their farm business and environment plans, and calculating their net greenhouse gas emissions.

⁴ Apiculture NZ, Beef + Lamb NZ, Dairy NZ, DCANZ, Deer Industry NZ, MFE, FOMA, FAR, Federated Farmers, Horticulture NZ, Irrigation NZ, MIA, MPI.

It is also necessary to consider the importance of farming to economic activity and social cohesion outcomes, and to be cognisant of the Paris Agreement which highlights the need to work towards low greenhouse gas emissions development in a manner that does not threaten food production.

While waste is a relatively minor emitting sector at 3% of the district's greenhouse gas emissions, there is a high level of community interest.

Five focus areas for our community have been identified to guide the first stage of the journey to support central government's efforts towards a low-carbon and resilient New Zealand:

- **Mahi tahi** – leadership and collaboration
- **Pūnaha kai** – sustainable food system
- **Hiko** – home and building energy
- **Eke waka / te tāone** – transportation and urban form
- **Para** – waste





Ngā whāinga

Goals

The goals are numbered for referencing purposes only. This does not indicate any particular priority, as all goals are considered important. Inherent in each of these goals is the concept of *mauri* (refer Appendix 1), or the life force of all living things that we seek to maintain or enhance using kaitiaki⁵ practices and mātauranga Māori⁶.

	Whāinga	Goals
1	<i>Ka mahi tahi te Kaunihera me ētehi atu ki te whakaiti i te tapuwae waro o tō tātau rohe</i>	The council demonstrates leadership and works collaboratively with partners to reduce our district's carbon footprint.
2	<i>Mā tātau katoa e whai tikanga i ngā hurihuringa āhuarangi</i>	Everyone plays their part in addressing climate change.
3	<i>Ka whakatauiratia e te Kaunihera ngā mahi tika ki te whakaiti i tōna ake tapuwae waro</i>	The council leads by example, role modelling good practice and reducing its own carbon footprint.
4	<i>Ka manawanui te rohe o Whanganui ki ngā pēhitanga o te hurihuringa āhuarangi</i>	Whanganui District becomes more resilient to the impacts of climate change.

⁵ Guardianship, practice of looking after the environment.

⁶ Traditional knowledge.

Whaingā 1

Ka mahi tahi te Kaunihera me ētehi atu ki te whakaiti i te tapuwae waro o tō tātau rohe

To achieve our targets we need to make changes in the way we travel, how we power our homes, buildings, businesses and infrastructure networks, how we grow food and how we deal with waste.

A key role for the council and iwi/hapū is to provide leadership including education, promotion, advocacy and working collaboratively with partners and key sectors. Strong partnerships and transparent governance arrangements to develop and implement climate action programmes and support district-wide involvement will be important.

Whaingā 2

Mā tātau katoa e whai tikanga i ngā hurihuringa āhuarangi

The move to a low-emission, sustainable environment will require change from everyone – businesses, organisations, households and individuals. However, the transition may impact and benefit some parts of our community more than others. Those who are vulnerable or face hardship in the transition will need support.

Goal 1

The council demonstrates leadership and works collaboratively with partners to reduce our district’s carbon footprint.

Signs of success:

- Climate leadership – there is active leadership with partners, influencers and community groups to encourage and accelerate action.
- Action pathways – our community understands the need to reduce greenhouse gas emissions and will be actively involved in developing pathways to achieve a net zero emissions district.
- People able to act – the community is supported to implement action and transition in an equitable way.
- Low-emission transport – our district is designed so people can take fewer and shorter trips to access goods and services, and have access to safe and reliable low-emission travel choices.

Goal 2

Everyone plays their part in addressing climate change

Signs of success:

- Strong communities – support groups, networks and services are connected and assist our community, increasing individuals’ ability to adapt to change.
- Innovation and business – creative climate change solutions and innovation will be supported for a more diverse, resilient and sustainable economy.

Whaingā 3

Ka whakatauiratia e te Kaunihera ngā mahi tika ki te whakaiti i tōna ake tapuwae waro

While the council cannot address climate change on its own, it is essential that the council as an organisation addresses its own environmental impact to set an example to other organisations, businesses and individuals.

The council needs to develop its own response to climate change, focused on minimising organisational emissions and increasing the resilience of our facilities, infrastructure and services for our communities.

Whaingā 4

Ka manawanui te rohe o Whanganui ki ngā pēhitanga o te hurihuringa āhuarangi

While we work to mitigate the effects of climate change, our communities will need to adapt to the changes that are already unavoidable.

To develop resilient communities, we need to be aware of how and where we will be affected by the impacts of climate change and plan our infrastructure accordingly. By understanding the local physical, social, economic and wider environmental impacts, we can work with communities to plan how they can adapt and take action to protect what they value most.

Goal 3

The council leads by example, role modelling good practice and reducing its own carbon footprint

Signs of success:

- Action pathways – the council has a plan for action to reduce its environmental footprint.
- Staff capability – council staff have the knowledge to support the council’s action pathways.
- Green spaces – green spaces and healthy ecosystems are valued as a vital part of our district.

Goal 4

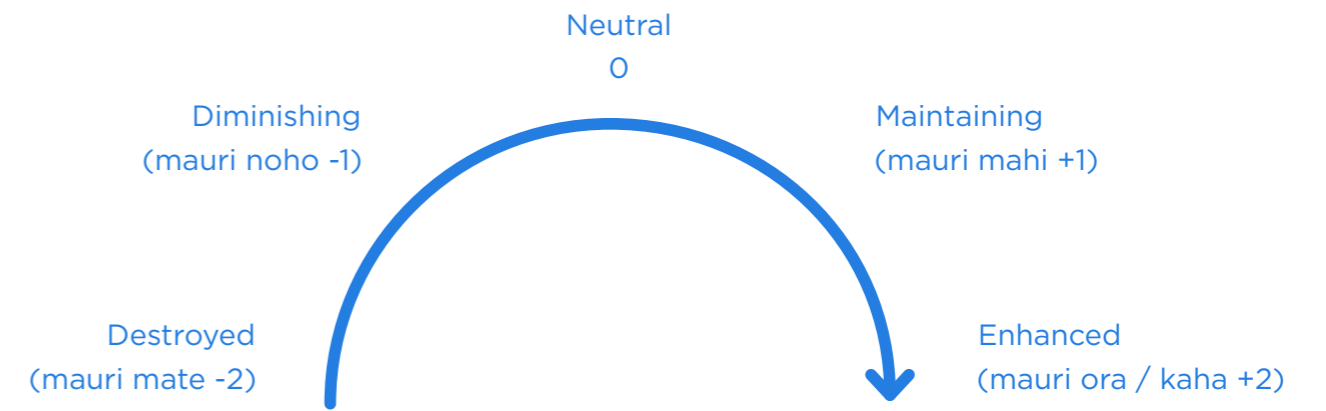
The Whanganui District becomes more resilient to the impacts of climate change

Signs of success:

- Resilient communities – our communities understand and are prepared for the impacts of climate change and are actively involved in decision-making that affects them.
- Adaptive capacity – we will have the knowledge, networks and resources to adapt and evolve over time to respond to climate change.
- Infrastructure planning – the council plans and policies will be updated to show how infrastructure and services will adapt to the future impacts of climate change.

A set of indicators and measures will be developed with iwi/hapū to monitor progress towards the achievement of the goals and targets within this strategy.

Appendix 1: The Mauri model



For more information on Whanganui District Council climate change initiatives visit:
www.whanganui.govt.nz/climate-change



📍 101 Guyton Street
✉ PO Box 637, Whanganui 4500
☎ 06 349 0001
✉ yourcouncil@whanganui.govt.nz

🌐 www.whanganui.govt.nz
📘 @whanganuidistrictcouncil
📷 @whanganuidc
🐦 @WhanganuiDC