Wairarapa-Wellington-Horowhenua

Regional Emissions Reduction Plan
Te Mahere ā-Rohe Whakaheke Tukunga
2024–2030

Wellington
Regional Leadership Committee

About the Wellington Regional Leadership Committee
Mō te Kōmiti Whakahaere ā-Rohe ki Te Whanganui-a-Tara

The Wellington Regional Leadership Committee (WRLC) is a joint regional partnership that brings mana whenua, local government and central government together to work collaboratively to shape future growth in the Wairarapa-Wellington-Horowhenua region. See Figure 1 for all partners.

The WRLC looks for better ways of working together to cultivate a region where people want to live, work and thrive.

The WRLC projects cover five broad key areas: iwi capacity, housing, climate, transport and economic development. The Regional Emissions Reduction Plan is one of three climate change-related projects, and sits alongside the Regional Adaptation Plan and the Regional Food Systems Strategy.

Figure 1: WRLC Partners

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Foreword from the Chair and Deputy Chair
He kupu arataki nā te Tiamana me te Tiamana Tuarua

We are delighted to present the first Emissions Reduction Plan for the Wairarapa-Wellington-Horowhenua region. This Plan draws attention to the issues and opportunities for our region to reduce greenhouse gas emissions and sets out what actions the WRLC in collaboration with others have committed to.

The Plan supports the region's Future Development Strategy which includes an objective to "plan development for a low-carbon future, creating change to rapidly reduce emissions (including emissions from transport) and meet our regional climate change objectives." The Plan helps the Future Development Strategy achieve its objectives by accelerating emissions reduction through developing cross-boundary consensus on the most impactful strategic actions the WRLC can take together.

The WRLC recognises the imperative of working together across the region for a better future. In order to reduce our emissions, we need to reshape many of the systems that drive how we do things to reduce our impact on Papatūānuku, Mother Earth. Working together means we can build the systems we need to thrive in a low emissions future and set the course for an equitable transition, rather than reacting to increasing adverse weather events that are costly and reduce our quality of life.

Mana whenua have an important role to play in supporting the reduction of emissions as they are kaitiaki through whakapapa, with a responsibility to protect, replenish, and sustain te taiao me te whenua. The role of mana whenua as kaitiaki extends beyond the environmental domain into guardianship and protection of all elements of the natural world, including decision-making over activities that could impact the natural world. The cultural diversity of each iwi and hapū is shaped by whakapapa and the unique environment of the rohe of each iwi, such as coastal locations, an abundance of freshwater bodies, or the presence of specific maunga and landscape features. These elements strengthen the connection of the hauora or physical, spiritual, social and mental well-being of the people and the environment.

Along with iwi in the region, groups such as central government, local government, community, and sectors are working hard to reduce emissions. The focus areas outlined in the Plan ensure that we don't replicate this work, but instead focus on the areas where we can make the most impact on emission reduction at a regional level. It will take our collective efforts to make these opportunities a reality.

Darrin Apanui | Rangitāne o Wairarapa, Te Ati Haunui a Pāpārangi, Ngāti Porou
Chair, Wellington Regional Leadership Committee

Daran Ponter
Deputy Chair, Wellington Regional Leadership Committee

Executive summary
Whakarāpopototanga matua

The climate crisis is here and is already affecting our region. Every fraction of a degree of warming matters to how climate change will continue to affect our people and places across our landscapes and communities. We need to act decisively now to pick up the pace of change while we are within the brief window of opportunity to make a difference. Taking action to reduce emissions can improve our health, enhance our connections to te taiao (environment), boost the local economy and provide greater levels of resilience.

The WRLC is taking bold steps as laid out in this Regional Emissions Reduction Plan to contribute to the global effort to prevent the worse impacts of the climate crisis. For context about what we need to achieve and why reducing emissions is important for this region:

- Globally we need to halve emissions by 2030 if we are to have a 50% chance of staying within 1.5°C above pre-industrial levels. Accordingly, the timeline of this Plan is 2024-30.
- According to the Intergovernmental Panel on Climate Change (IPCC), all pathways to limit warming to 1.5°C involve rapid and deep, and in most cases, immediate greenhouse gas emissions reductions in all sectors this decade.
- In one year, the Wairarapa-Wellington region emits 3,852,625 tCO_2e and the Horowhenua district emits 819,053 tCO_2e[1]. Our main emissions sources are from primary industries, transport and energy.
- Delay in taking action will lock in high-emissions infrastructure, raise risks of stranded assets and cost-escalation, reduce feasibility, and increase losses and damage.

Work is currently being done at both the national and local levels to reduce emissions. This Plan outlines the strategic actions and shifts that will make the most difference in the Wairarapa-Wellington-Horowhenua region.

[1] Gross greenhouse gas emissions measured in carbon dioxide, and carbon dioxide equivalents. The Wairarapa-Wellington figure is from the 2021-2022 reporting year and the Horowhenua reporting year is from 2018-2019 as this was the latest year with comparable data.

The focus of the Regional Emissions Reduction Plan is on sectors and areas that provide significant opportunities for regional approaches. These are:

Transport and urban form – Planning for sustainable transport and urban form on a regional level is necessary. Local government has significant levers available to make the key shifts we need to reduce emissions. Transport is the second largest source of emissions in our region and has the highest potential for co-benefits to our health and well-being through cleaner air, more liveable cities and healthier communities.

Energy – Energy underpins everything we do. We need to reduce energy use as well as electrify many activities currently powered by fossil fuels if we are to collectively reduce emissions. Energy's role in decarbonising other sectors means that regional energy emissions are tipped to grow faster than other sources of regional emissions unless action is taken.

Circular economy – Circular approaches reduce GHG emissions by increasing the efficiency of resources used within the economy. Solid waste makes up a small portion of our region's emissions, but overconsumption sits at the root of our climate change and ecological crises. Circular economy principles include:

- Design out waste and pollution,
- Keep products and materials in use.
- Regenerate natural living systems.

Productive land use and primary industries – Agricultural emissions are the largest source of our region's emissions . We will work with farmers and growers to increase farming practices that help reduce emissions and increase resilience to grow food for the future that is climate-friendly, reduces emissions and is of high value.

The four focus areas have different levels of priority across the region. Reducing agricultural emissions is particularly important for Kāpiti, Horowhenua and Wairarapa. Conversely, the larger urban centres can have more of an impact by reducing transport emissions. This plan is informed by the aspirations and interests Māori have across all these focus areas.

Underpinning the focus areas are a combination of quick actions that can be started right away to reduce emissions out to 2030, as well as enabling actions to set us up to reach a net zero emissions future by 2050. The actions in the Plan will be reviewed every three years.

This work helps to fill any gaps in emissions reduction that are not filled by local and national scale actions and will be delivered collectively through the WRLC partnership which includes WRLC iwi members, local government, and central government.

Having iwi as partners is a crucial part of making progress in emissions reduction in our region. Reports indicate that Māori will be disproportionately impacted by climate change, which can contribute to social, economic and health inequality outcomes.Māori take a holistic view across te taiao, taking into consideration the holistic wellbeing between people and all the elements of nature through care and stewardship. WRLC iwi partner interests and aspirations are referenced in Te Tirohanga Whakamua, a statement of iwi and hapū values and aspirations for the Wairarapa-Wellington-Horowhenua region. Te Tirohanga Whakamua therefore serves as the basis of our partnership with iwi in this Plan.

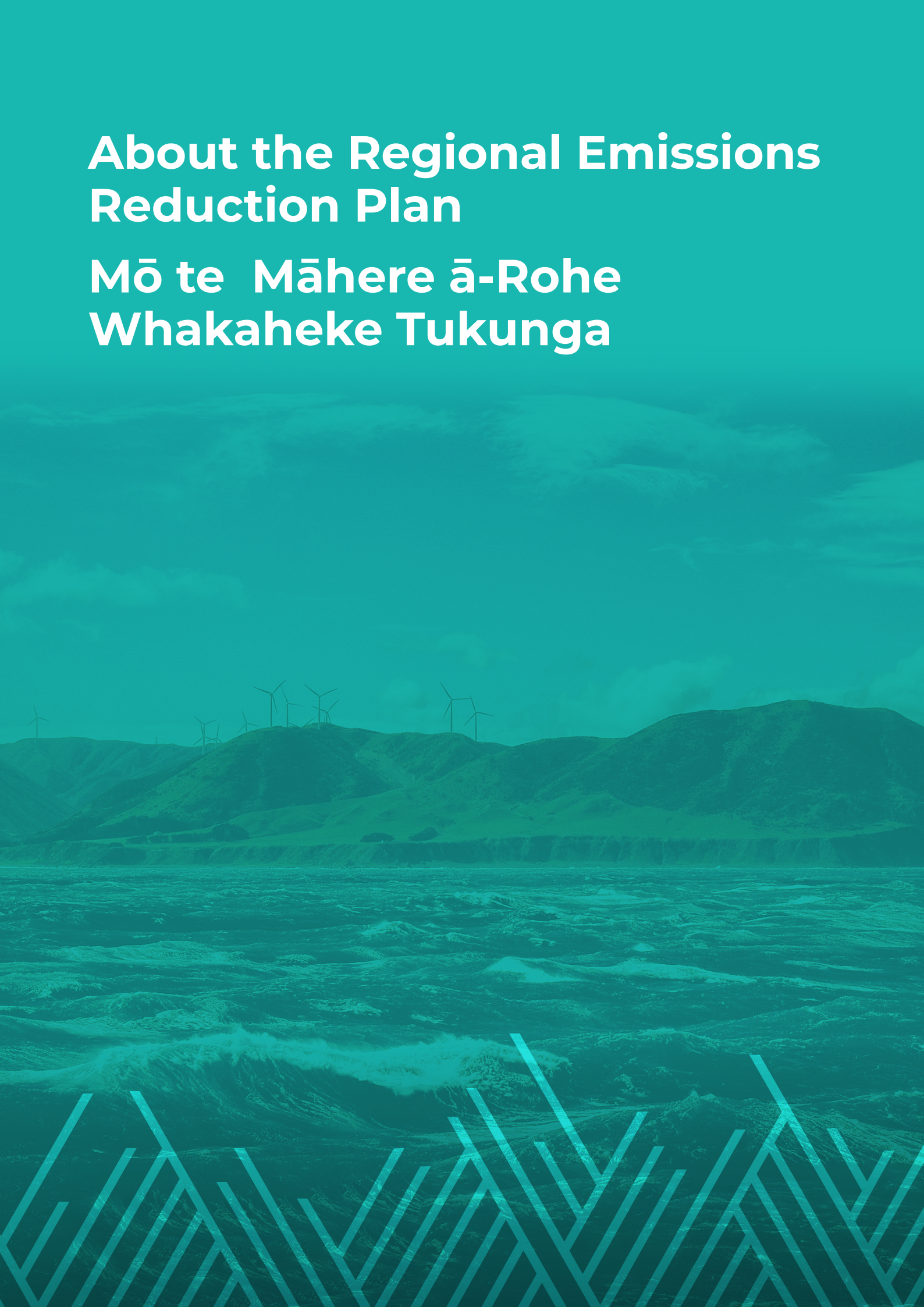
The Plan will be useful for policymakers, people in sectors for which climate change is having or will have an impact, climate activists and the wider community.

Figure 2, over the page, provides an overview of the strategic framework for this Plan. Further information can be found later in this document.

Figure 2. The strategic framework for the Regional Emissions Reduction Plan at a glance

About the Regional Emissions Reduction Plan

Mō te Māhere ā-Rohe Whakaheke Tukunga



HOW THE PLAN WAS DEVELOPED

The Regional Emissions Reduction Plan has been developed by a collation of council representatives, industry experts, central government representatives, community members, and WRLC iwi members.

The Plan's core project team consisted of officers from all councils across the Wairarapa-Wellington-Horowhenua region, bringing climate change, regional transport and land management expertise and by representatives from Waka Kotahi, Kāinga Ora, Wellington Electricity, Electra, and a number of youth representatives.

To develop this Plan we:

- Looked at the regional greenhouse gas emissions stocktakes for 2018/19 and 2022/23.
- Developed modelling of current and future emissions scenarios.
- Workshopped regional opportunities and sector-specific barriers and opportunities at a stakeholder and partner forum in July 2023 attended by over 100 people including iwi partner representatives, council officers, elected members, central government, community, and sector representatives.
- Heard from young people via a stall at Wellington's Festival for the Future in June 2023.
- Heard from iwi representatives via a hui and one-to-one discussions.
- Further developed the ideas raised at the forum into key actions by workshopping with project and steering group members, the WRLC, and seeking advice from sector experts.

At the public forum in July 2023, hosted by the WRLC, there was strong support for working together as a region to tackle climate change. Opportunities identified included the power of galvanised leadership to advocate for national direction and support, unlocking funding opportunities, and taking a regionally planned approach to action. A regionally focussed emissions reduction plan was also seen as a vehicle to lift contributions from all councils, engaging with sector stakeholders and local iwi and community initiatives. There was an appetite for providing opportunities to demonstrate effective innovation to the rest of New Zealand.

PARTNERING WITH IWI

WRLC iwi partners representatives for the Wairarapa-Wellington-Horowhenua region are:

- Rangitāne Tū Mai Rā Trust representing Rangitāne o Wairarapa Inc and Rangitāne o Tamaki nui a rua
- Te Rūnanga o Toa Rangatira Inc representing Ngāti Toa Rangatira
- Port Nicholson Block Settlement Trust representing Taranaki Whānui ki Te Upoko o Te Ika
- Muaūpoko Tribal Authority representing the seven Muaūpoko hapū
- Ngā Hapū o Ōtaki representing Te Rūnanga O Raukawa Inc
- Ngāti Kahungunu ki Wairarapa Tāmaki nui-a-Rua Settlement Trust

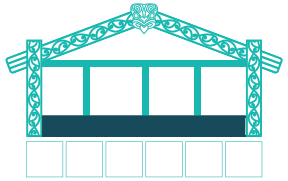
A project steering group provided additional sector-specific guidance to the project team and were made up of senior staff from Greater Wellington Regional Council, Wellington City Council, EECA, Transpower, Te Manatū Waka, Waka Kotahi, Kāinga Ora, the Wairarapa Economic Development Programme, and the Ministry for the Environment.

The Plan includes te ao Māori perspectives from the outset of the Plan's development. Conversations were initiated with WRLC iwi partners from March 2023. WRLC iwi partner representatives took part in the May 2023 WRLC workshop on the Plan, the WRLC Annual Partners Forum in June 2023, and in the partner and stakeholder public forum in July 2023. A facilitated workshop with WRLC iwi partners and one on one meetings were undertaken from October 2023.

WRLC iwi partners have recommended that their perspectives and involvement in the Regional Emissions Reduction Plan be based on Te Tirohanga Whakamua: statement of iwi and hapū values and aspirations for the Wairarapa-Wellington-Horowhenua region. Te Tirohanga Whakamua was originally created for the regional Future Development Strategy and is a dynamic, living document, to be altered and added to over time. While it was originally developed in a context focused on urban development, Te Tirohanga Whakamua provides a holistic lens across all aspects of the wellbeing of people and the environment. For that reason, WRLC iwi partners were of the view that it could equally be applied to this Regional Emissions Reduction Plan.

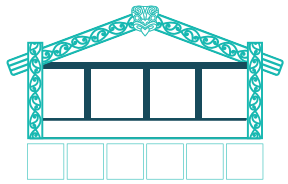
How Te Tirohanga Whakamua links to the Regional Emissions Reduction Plan
Te hononga a Te Tirohanga Whakamua ki te Mahere ā-Rohe Whakaheke Tukunga

Te Tirohanga Whakamua (see the full statement on the next page, Figure 3) shows how perspectives shared by iwi in our region can be organised from a te ao Māori worldview. From that starting point it is possible to see the links or connecting threads between the Māori perspectives set out in the statement and the focus areas in this Plan that are seen as important by other representatives and groups.



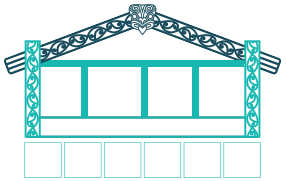
Whare element: Te tuāpapa or the foundation of the whare emphasises the role of mana whenua as Kaitiaki for our region and the responsibility everyone has to protect, replenish and sustain te taiao me te whenua, the environment and the land.

Connecting thread: This foundation can be used as a basis for envisaging the way we partner with iwi and collaborate with all communities across our region on emissions reduction for the wellbeing of the people and the environment.



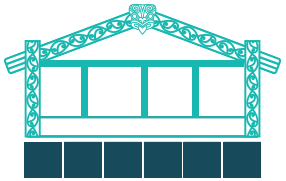
Whare element: Upon the foundation rest four **pou** or pillars of the whare: Pou tahi: Rangatiratanga, Pou rua: Mātauranga Māori, Pou toru: Kotahitanga/ Ōritetanga/ Mana taurite, and Pou Wha: Kaitiakitanga. These pou are important parts of Te o Māori, speaking to elements such as self-determination, Māori worldviews and knowledge, equity and unity, and holistic wellbeing. They are the central pillars of what sustains and holds up mana whenua and our communities into the future.

Connecting thread: Reducing emissions is a vital part of ensuring the wellbeing of mana whenua, our communities and te taiao into the future.



Whare element: Atop the four pou is **te tuanui** (roof), the future vision. 'Ko te Tiriti o Waitangi te tūapapa o ngā rautaki hapori tirohanga whakamua hei huhua te rangatiratanga o tēnā o tēnā o ngā iwi.' This statement emphasises aspirations of mana whenua for the future of our region as one founded on Te Tiriti o Waitangi and realised through the tino rangatiratanga of tangata whenua

Connecting thread: These pou stem from the mātauranga Māori and intergenerational wisdom passed on to WRLC iwi partners through whakapapa and shared as a taonga. The pou provide a te ao Māori framing to deepen the knowledge, tools and expertise we as a community have available to draw on to help reduce emissions in our region.



Whare element: The whare is supported by six **kōkiri** or design principles. These are value statements to guide and provide consistency in the way we plan for and make decisions on the future of our region.

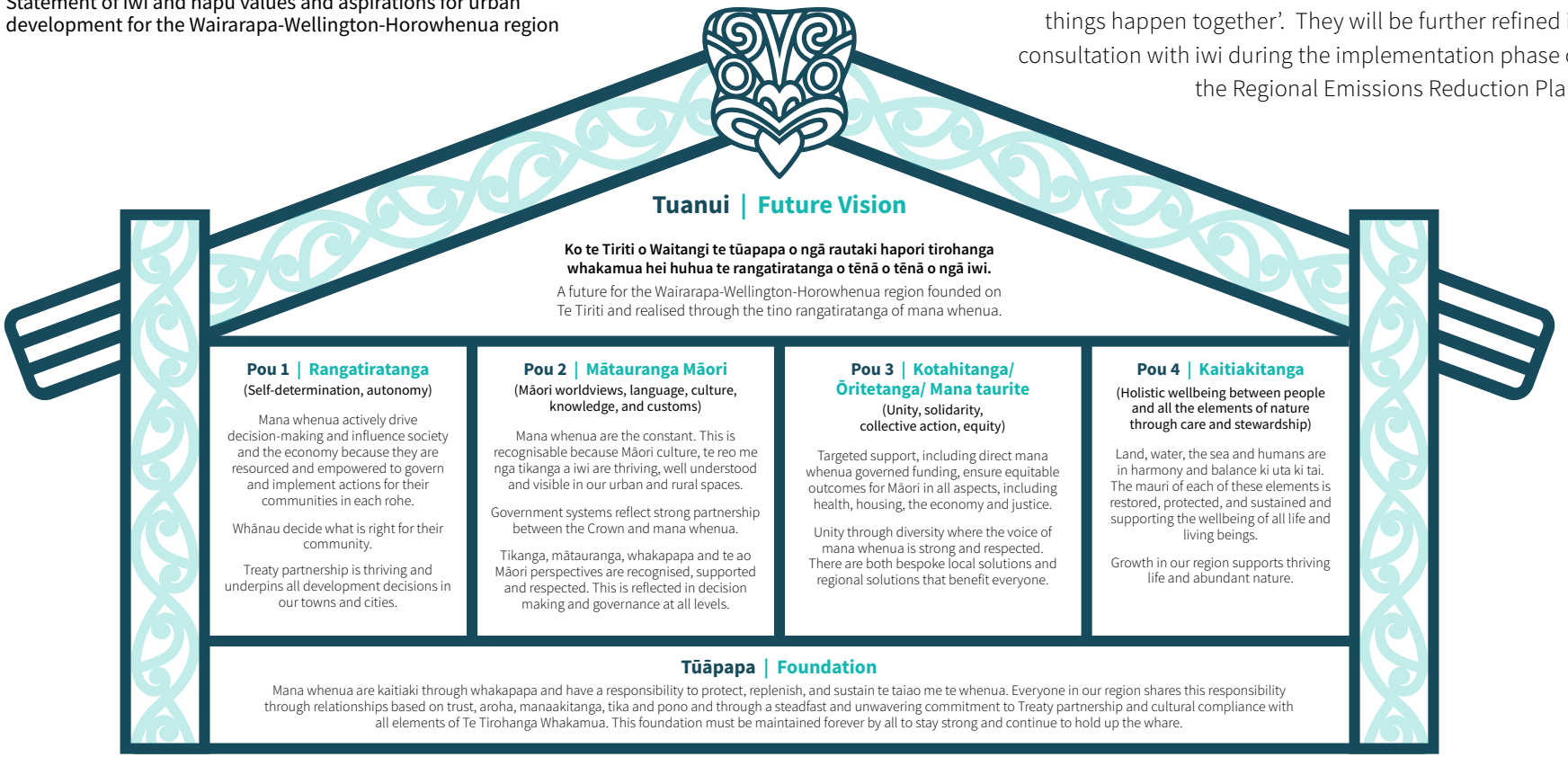
Connecting thread: The kōkiri include elements that contribute to emissions reductions initiatives, including supporting Treaty partnership, circular economy models, sustainable growth, removing barriers that iwi face, investment that reduces inequality and promotes economic growth and equipping future generations to face challenges, such as climate change.

Figure 3. Statement of iwi and hapu values and aspirations developed by iwi Leaders and the Wellington Regional Leadership Committee

Te Tirohanga Whakamua

Statement of iwi and hapū values and aspirations for urban development for the Wairarapa-Wellington-Horowhenua region

High-level ideas for how we can translate and apply these elements of Te Tirohanga Whakamua into action can be found in section entitled 'Our focus for action: Making things happen together'. They will be further refined in consultation with iwi during the implementation phase of the Regional Emissions Reduction Plan.



Tuanui | Future Vision

Ko te Tiriti o Waitangi te tūapapa o ngā rautaki hapori tirohanga whakamua hei huhua te rangatiratanga o tēnā o tēnā o ngā iwi.

A future for the Wairarapa-Wellington-Horowhenua region founded on Te Tiriti and realised through the tino rangatiratanga of mana whenua.

Pou 1 | Rangatiratanga

(Self-determination, autonomy)

Mana whenua actively drive decision-making and influence society and the economy because they are resourced and empowered to govern and implement actions for their communities in each rohe.

Whānau decide what is right for their community.

Treaty partnership is thriving and underpins all development decisions in our towns and cities.

Pou 2 | Mātauranga Māori

(Māori worldviews, language, culture, knowledge, and customs)

Mana whenua are the constant. This is recognisable because Māori culture, te reo me nga tikanga a iwi are thriving, well understood and visible in our urban and rural spaces.

Government systems reflect strong partnership between the Crown and mana whenua.

Tikanga, mātauranga, whakapapa and te ao Māori perspectives are recognised, supported and respected. This is reflected in decision making and governance at all levels.

Pou 3 | Kotahitanga/ Ōritetanga/ Mana taurite

(Unity, solidarity, collective action, equity)

Targeted support, including direct mana whenua governed funding, ensure equitable outcomes for Māori in all aspects, including health, housing, the economy and justice.

Unity through diversity where the voice of mana whenua is strong and respected. There are both bespoke local solutions and regional solutions that benefit everyone.

Pou 4 | Kaitiakitanga

(Holistic wellbeing between people and all the elements of nature through care and stewardship)

Land, water, the sea and humans are in harmony and balance ki uta ki tai. The mauri of each of these elements is restored, protected, and sustained and supporting the wellbeing of all life and living beings.

Growth in our region supports thriving life and abundant nature.

Tūāpapa | Foundation

Mana whenua are kaitiaki through whakapapa and have a responsibility to protect, replenish, and sustain te taiao me te whenua. Everyone in our region shares this responsibility through relationships based on trust, aroha, manaakitanga, tika and pono and through a steadfast and unwavering commitment to Treaty partnership and cultural compliance with all elements of Te Tirohanga Whakamua. This foundation must be maintained forever by all to stay strong and continue to hold up the whare.

Kōkiri 1

Growth supports Treaty partnership and is directed towards benefits for all people in the region, and has a positive cumulative impact. It is recognised that all areas of change are interrelated.

Kōkiri 2

There is movement away from a linear economy model and towards a circular approach, and development is informed by nature-based solutions wherever possible.

Kōkiri 3

When planning for growth, the environment comes first, and growth should only occur where it creates positive environmental outcomes and is in tune with nature and the biodiversity of the region.

Kōkiri 4

Planning focuses on decolonisation, removing barriers that iwi face and setting us up to respond to our challenges independently.

Kōkiri 5

Investment is directed toward reducing inequality and growing healthy economic opportunities for Māori communities, and funding distribution empowers mana whenua with what is needed in each rohe.

Kōkiri 6

The children of today are equipped with the information, tools and knowledge they need for the future of tomorrow, including climate change and natural disaster planning.

Our climate is changing
E huri ana te tai āhuarangi

The climate crisis
Te tairaru o te āhuarangi

The dominant cause of our rapidly changing climate over recent decades is human-caused global warming[2]. Most of the human-caused climate change has been generated in the last century and global emissions are continuing to rise.

Climate change worsens climate extremes, making our heatwaves hotter, flooding more severe, droughts longer and cyclones more intense. The climate crisis is and will continue to have wide-ranging impacts including on our food supply, availability of safe drinking water, infrastructure, livelihoods, finance and geopolitics. A stable climate and thriving natural environment are the basis for every aspect of our lives including the economy. Everyone in our region will be affected by climate change in the coming years and decades. It is already having a significant impact on many lives. Reports indicate that Māori will be disproportionately impacted by climate change, which can contribute to social, economic and health inequality outcomes.

In our region, we are anticipating a higher frequency and severity of weather events such as floods and droughts. It is expected that the Wairarapa will become drier, while the west coast including Kāpiti will become wetter. Communities like Petone and Seaview will face increasing pressure from sea level rise. As these impacts are already beginning to happen, we need to work on emissions reduction in a committed way while also starting the process of adapting to the impacts that we're experiencing and are likely to see accelerate into the future.

A Wellington Regional Climate Change Impact Assessment has been completed bringing together a consistent regional evidence base of the climate change risks and impacts over the next century. The assessment will provide findings regarding impacts to our communities, infrastructure, natural ecosystems, economy, and governance systems. A Regional Climate Adaptation Plan will be developed in response to the Assessment findings.

[2] https://www.ipcc.ch/report/ar6/wg1/chapter/chapter-3/

Why we need to act now
Nāianei tātou kōkiri ai

What we do now matters a great deal to the kind of future our tamariki (children) will have.

The Intergovernmental Panel on Climate Change has concluded that we are in a brief and rapidly closing window to secure a liveable future for humanity. Every year of delay requires deeper cuts to emissions in future years if we are to meet Paris Agreement targets of staying below 1.5oC of warming above pre-industrial levels. We are already witnessing climate impacts at 1.1oC of global warming - every fraction of a degree matters. At a sustained 1.5oC of warming, we risk reaching 'tipping points' in the climate system that may cause significant warming that human actions cannot control. These feedback loops do not bode well for our future. Taking bold, sustained action now is necessary if we are to secure a liveable future for the coming generations.

While New Zealand is small in terms of population and landmass, our per-person emissions are significant, three times our share of global emissions based on population (we emit 0.17% of global emissions for a population size of 0.06% of the global community)[3]. We are part of a global community of smaller countries that make up 38.4% of worldwide emissions collectively after accounting for the seven largest emitting countries (plus international shipping and aviation)[4]. A combination of overseas supplier demands and NZ consumer expectations means that many NZ industries and sectors are ramping up their emissions reduction activities to remain competitive.

As the latest Intergovernmental Panel on Climate Change report AR6[5] states:

Every bit of warming matters...
Every year matters and every choice matters.

What could our future hold?
He aha rā kei tua o nāianei?

Our future is up to us. The more work we do now to enable and live low emissions lifestyles the better off we are likely to be in the future.

Fortunately, many of the activities we do that fuel climate change and are reliant on fossil fuels have cleaner, greener alternatives or are not required for us to live good lives. That is, we can provide what we need to live well and meet our needs without causing climate breakdown, among other catastrophic risks like biodiversity collapse.

Taking the opportunity to enable low emissions lives can improve our health and wellbeing as many climate actions have significant co-benefits such as cleaner air to breathe, thriving wildlife and more resilient communities. If planned well, we can improve our energy security, create meaningful green jobs and reduce poverty. Not only is taking action the right thing to do but it is in our interest as increasingly international trade agreements require New Zealand to reduce emissions to remain a viable trading partner, and access to fossil fuels becomes more challenging.

If we act now, we can set our region up for the future while improving our communities' lives.

[3] https://environment.govt.nz/publications/new-zealands-greenhouse-gas-inventory-1990-2020-snapshot/#:~:text=In%202020%2C%20the%20share%20of,of%20the%20world's%20gross%20emissions.

[4] https://genless.govt.nz/stories/new-zealand-isnt-too-small-to-make-a-difference/
https://www.ipcc.ch/sr15/about/foreword/

[5] https://www.ipcc.ch/sr15/about/foreword/

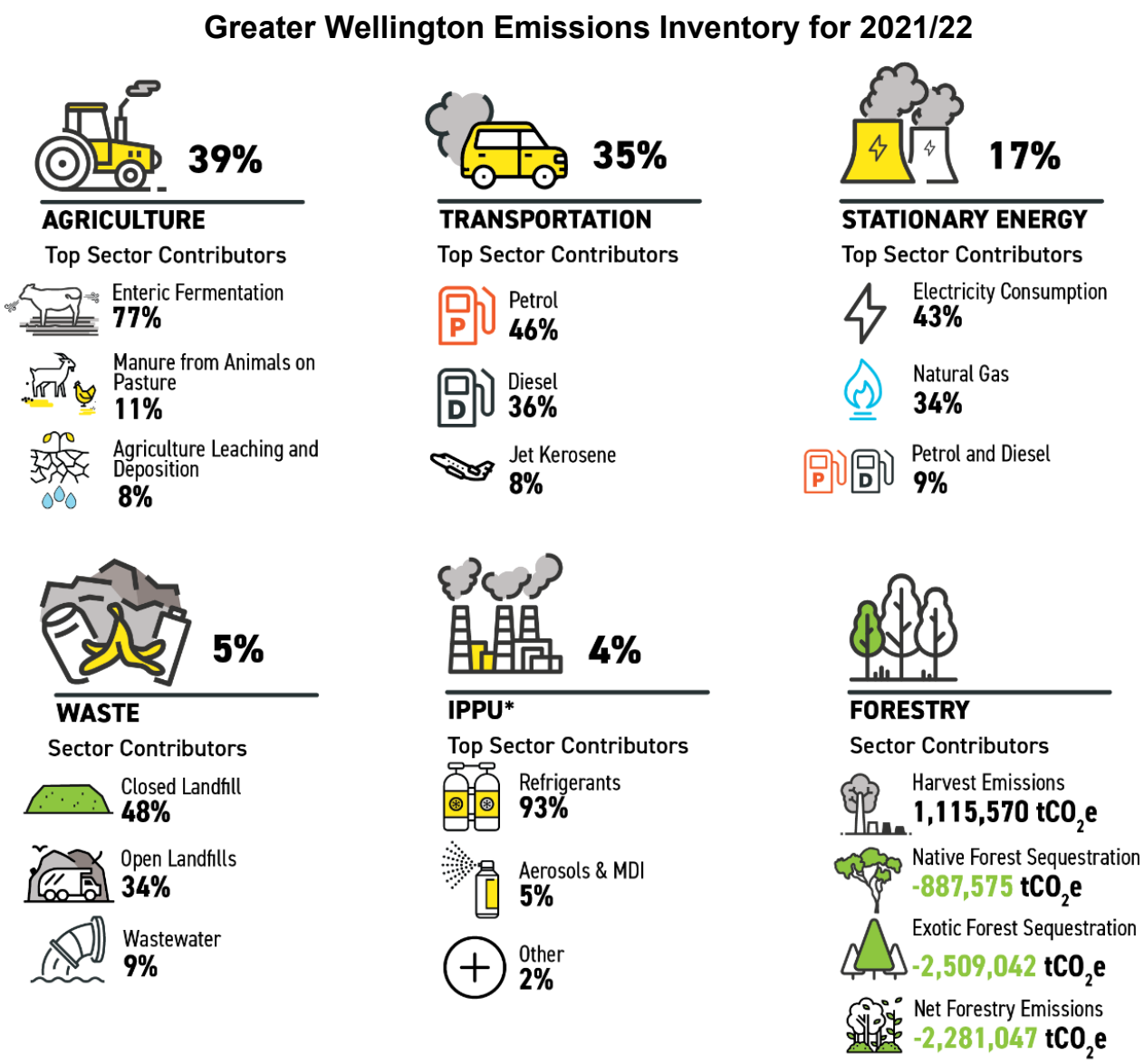
Our emissions, targets and modelling

Ā tātou tukunga , whāinga me ngā whakatauiratanga

Our region's two major sources of emissions are from burning petrol and diesel as energy to power vehicles, as well as from animals we farm (through their digestive processes). Electricity and gas to power our economy and homes are the next largest sources of emissions. Waste, in particular landfill emissions, is a sizeable source of emissions though this is decreasing following actions such as the installation of methane capture systems by several councils in the region. Industrial processes, aviation, and marine shipping all contribute to our overall emissions profile. The Wellington regional emissions profile is outlined in Figure 4 and explained in Appendix One. This information is only available at a regional level and does not include Horowhenua.

This Regional Emissions Reduction Plan uses existing emissions reduction targets. For the purposes of modelling, we have used both national and regional targets to show us where the gaps are between committed actions and targets. The modelling was then used alongside stakeholder and partner input to guide our focus areas and prioritise actions for this Regional Emissions Reduction Plan. Both the modelling and targets are outlined in Appendix One.

Figure 4. Wellington region gross greenhouse gas emissions 2021-2022 by source



[6] Data for the Greater Wellington region's data (Wellington-Wairarapa) has been used.

HOW OUR EMISSIONS ARE CHANGING

Scientific analysis and technological improvements over several decades have given us information and tools to reduce emissions. As a region, we have been taking action to reduce emissions and have seen some success.

Our emissions reduced from the 2018-2019 year to the 2021-2022 year by 9%. [7]However, a significant amount of this reduction was from transport emissions including aviation which were affected by COVID-19 lockdowns.

For example, aviation emissions reduced from 16.4% of transport emissions for 2018/19 to 8% of transport emissions in 2021/22. Without continued focus on reducing transport emissions we can expect reductions like these to rebound.

Emissions from waste decreased by 15% between 2018/19 and 2021/22. This is in part because councils including Wellington, Porirua and Hutt City have installed methane gas capture systems in landfills.

We are making progress, but we need to move further and faster to reach our targets.

[7] https://www.gw.govt.nz/assets/Documents/2023/06/GWRC_EmissionsInventory_2022_Region_230609_Final.pdf

Our strategic approach
Tā Tātou Ahunga Whānui

This Plan is a contribution to wider efforts to take climate action and is focused at a regional level on the areas in which we can drive for change through leadership and taking a collaborative, regional approach.

In the sections below, we set out our vision and objectives for regional emissions reduction.

OUR VISION
TĀ TĀTOU TIROHANGA

We live in a flourishing low-emissions region
that meets current and future generations' needs and aspirations, and is founded on Te Tiriti o Waitangi

We have clear objectives for this plan
Mārama pū ana ā tātou whāinga mō te mahere nei

With this plan, we will

PROTECT TE TAIAO THROUGH KAITIAKITANGA AND THE REALISATION OF TINO RANGATIRATANGA.

Working towards a flourishing low-emissions region for our communities and for their mokopuna (future descendants) requires an ongoing relationships based on Te Tiriti and realised through the tino rangatiratanga of the tangata whenua of our region.

GALVANISE LEADERSHIP TO MAKE TOUGH DECISIONS AT A PACE THAT SETS US UP FOR THE FUTURE

Bold action is required to get us on the right track to emissions reduction in our region. Choices need to be made by leaders that balance trade-offs and create new opportunities. Some of these are better tackled together and the WRLC can provide the support, focus and consistency that embolden leadership to make important calls.

ENABLE SYSTEMS CHANGE THAT MAKES CLIMATE-POSITIVE BEHAVIOUR THE EASY CHOICE

Some of the ways our systems and plans work make it harder for our community to "do the right thing" and make choices that reduce emissions. We must acknowledge the interconnections of different systems that all together play a part in how we live. While we all need to contribute, our leaders can help drive the system change that creates the environment for behaviour change. This should inspire and empower community action and initiatives by others, not replace them.

PRIORITISE ACTIONS THAT PROVIDE CO-BENEFITS FOR OUR COMMUNITIES

Acting on climate change can have significant co-benefits for health, resilience, household costs, biodiversity and more. We can choose to take actions that have the most benefit, particularly for those who are in the greatest need.

SUPPORT EVIDENCE-BASED REGIONAL ACTIONS THAT BRIDGE THE GAP BETWEEN NATIONAL AND LOCAL ACTION

Work to reduce emissions is already underway at a national and local level, as well as through community-based initiatives. This plan complements these actions at a regional level.

REDUCE REGIONAL EMISSIONS WITH A FOCUS ON DECARBONISING SECTORS, AND INCORPORATING CIRCULAR ECONOMY PRINCIPLES.

The Plan focuses largely on emissions reduction within the region's high-emitting sectors, rather than on carbon sequestration. Alongside of this, shifting from linear thinking to using circular economy principles will help to create a system that is good for people and the environment.

Principles guide our decisions
E arahina ana tātou e ngā mātāpono

We will apply guiding principles to decisions we make across this plan and any resulting projects.

GENUINE PARTNERSHIP WITH MANA WHENUA, INCLUDING THROUGH THE IMPLEMENTATION OF TE TIROHANGA WHAKAMUA.

Empowering mana whenua through genuine partnership serves as a guiding beacon through this transition. Tino Rangatiratanga, as a guiding principle, encompasses more than decision-making authority; it embodies the broader concept of self-determination and autonomy for mana whenua.

In the context of emissions reduction, it means recognising and respecting the right for mana whenua to exercise control over their traditional lands, resources, and cultural practices. Mātauranga Māori, and all the knowledge, wisdom and understanding passed on through generations, is recognised and valued as a taonga. The visibility and free expression of Māori identity is foundational to the way our region reduces its emissions, including through tikanga (cultural principles) and kawa (cultural practices).

This is the foundation for an ongoing collaborative and equitable relationship between mana whenua and local government and central government, and is expressed through the wording of Te Tirohanga Whakamua.

RECOGNISE WE ARE PART OF NATURE

We recognise the kaitiaki of our region and the responsibility everyone has to protect, replenish and sustain te taiao me te whenua, the environment and the land.

If we are to live sustainably, we must acknowledge that we are part of the natural world, sustained, and also limited by our planet's resources. Climate change is one of many interconnected issues we face including biodiversity loss, plastic pollution, and environmental degradation. Only if nature is well, can we thrive.

ENABLE AN EQUITABLE TRANSITION

We are in a period of great transformation and disruption – we can use this transition to address past and ongoing injustices and work towards our shared goal of wellbeing for all.

COLLABORATE AS A REGION TO DRIVE THE BIG SHIFTS

Making impactful change requires collaboration at a regional scale between councils, central government, iwi, community and sectors. Together we can create system shifts that are above and beyond what we could do alone.

Our focus for action: Making things happen together

Tā tātou aronga: Kia kotahi ai te whakatutukitanga

We have identified key shifts and priority actions at a regional level to reduce carbon emissions across key sectors or focus areas.

The key shifts include:

System-wide change to provide more sustainable transport options for more people and support the building of communities where people can get around without relying on fossil-fuel-based transport.

Collaborate as a region to understand current and future energy infrastructure needs and reduce demand.

Embed circular economy approaches into our region to design out waste and pollution to create greater efficiencies and economic growth through innovation and design.

Supporting central government and industry emissions reduction efforts in primary industries, and at a regional level helping farmers learn more about on-farm de-carbonisation options and increasing resilience of the landscapes used for food production.

Across these key shifts we take into account opportunities for emissions reduction, wider impacts on other planetary boundaries, and co-benefits for action. We also understand that evolving the way we make decisions around climate change mitigation can empower communities and enable tino rangatiratanga (self-determination for Māori).

In the following sections, we outline our plans for making the shifts across focus areas and set out priority actions for each.

These actions have been rated either high, medium or low in terms of the potential to directly reduce emissions, and to enable future emissions reduction activities to be carried out.

Transport and urban form
Te ao huarahi, nōhanga hoki

The region is currently home to over half a million people with an estimated 200,000 more people expected to call this place home over the next 30 years.

The way we live in communities and how we move about is deeply linked. The more concentrated our urban areas are, the easier it is to provide connecting infrastructure, the further away, the longer we have to travel. This makes urban form – what our towns and cities look and feel like – a key driver for reducing emissions. The Wairarapa-Wellington-Horowhenua Future Development Strategy and Wellington Transport Emissions Reduction Pathway are key documents that augment this Plan. These documents support each other and together support action to reduce emissions by shaping how and where we live, our work and travel.

A sustainable transport system can reduce our transport emissions while improving wellbeing through enabling better health outcomes, cleaner air and more connected communities. Making urgent system changes in transport is key to meeting our overall emissions reduction targets as it can deliver quick wins while we work on sectors that take longer to deliver reductions.

The Wairarapa-Wellington-Horowhenua region has many urban towns and cities that are served to varying degrees by public transport. These towns and cities can be enhanced to create dense clusters of walkable communities within existing railway and bus routes with improved services. Well-connected networks of bike lanes, enjoyable walking routes,and fast and frequent public transport are important to provide people with choices for how to get around that continue to protect our planet.

In the last few years changes to central government policy have encouraged more dense housing near public transport nodes including the National Policy Statement on Urban Development 2020 (updated May 2022)[8]. This legislation required councils to produce a Future Development Strategy (FDS) to plan for accommodating future population growth.

The FDS prioritises development in areas along strategic public transport network corridors (to reduce reliance on cars) over greenfield development (which is more emissions-intensive). This region's FDS also notes that we will need to provide more services, amenities and spaces for our communities including green spaces, parks and educational, health and community facilities.

The FDS will have an implementation plan that will include the infrastructure needed to support our population growth whilst moving towards a low emissions region. The FDS is required to be reviewed every three years. In order to further reduce emissions, the next iteration of the FDS should incorporate:

- even more integrated public transport and urban form, and
- a continued focus on development and density along public transport networks.

The first National Emissions Reduction Plan, released in May 2022 sets a target for Aotearoa New Zealand to reduce transport sector emissions by 41% by 2035[9]. In response to this target, the Greater Wellington Regional Council is developing a Wellington Transport Emissions Reduction Pathway (WTERP). This is a significant piece of work that will create the conditions for a more liveable, low-emissions region in the coming years and decades. The WTERP aims to make it easier to get around without a car, help people make the shift to electric vehicles and encourage low emissions freight.

[8] https://environment.govt.nz/publications/national-policy-statement-on-urban-development-2020-updated-may-2022/

[9] https://environment.govt.nz/what-government-is-doing/areas-of-work/climate-change/emissions-reduction-plan/

Councils and central governments are already investing in large-scale transformative projects such as investment in new trains, bike networks and pedestrian improvements to reduce dependency on private vehicles.

Iwi in our region support the improvement and use of public transport and the ready availability of electric motor vehicles and electric vehicle infrastructure to facilitate the transition to a low emissions economy. The development of public transport infrastructure supports the mobility and accessibility of people and communities. This includes access to rural areas and places of cultural significance to mana whenua, such as marae or sites where cultural activities take place. When rangatiratanga is realised, regional growth is planned so that mana whenua are able to maintain traditional settlement patterns and activities. A thriving future means housing is affordable, builds communities, and is designed in line with living building principles. It also means urban design in our region includes Māori urban design approaches.

Beyond land transport, aviation and coastal shipping also contribute to our regions' emissions. Aviation is an area where the technology to enable the sector to reduce emissions is still being developed, including developing biofuel infrastructure and the technology for electric planes. Alternatives to flying in our region could include the provision of long-distance train travel. Better integration of coastal shipping with rail could play a role in reducing our emissions. Organisations like CentrePort are working on reducing emissions from transport through micro-grids, using electric container transfer vehicles and providing an on-shore power source for ferries.

To take action and reduce emissions in transport and urban form the WRLC will:

1 Endorse and implement (through member organisations) the Wellington Transport Emissions Reduction Pathway (WTERP)

Directly reduce emissions: High

Enable future emissions reduction: High

Land transport is our highest source of transport emissions. The WTERP once approved by the Regional Land Transport Committee, will provide a comprehensive pathway for reducing emissions in this area. The Regional Land Transport Plan already has an ambitious target of a 35% reduction in transport emissions from 2018 levels by 2035.

The WTERP interventions fall into three broad areas:

- Less car-centric cities and towns (covering public transport investment, urban form and travel demand management)
- Cleaner vehicle fleet
- Smarter freight

2 Develop a best practice urban design toolkit for more resilient, low-carbon towns and cities.

Directly reduce emissions: Medium

Enable future emissions reduction: High

Urban form is key to reducing car dependency and land transport emissions. The toolkit will take best practice and apply it to our local context, from cities to rural towns. It will be able to address multiple challenges, and wide-ranging co-benefits from thriving economies to nature-based solutions.

This accessible, visual toolkit will help elected members, planners, developers, community members, iwi/hapu, and stakeholders to actively engage in conversations on good urban design for enhanced liveability and reduced car dependency.

3 Develop and undertake a pilot that reduces transport emissions at a neighbourhood level by ensuring quick and easy access to amenities, public transport and active travel options.

Directly reduce emissions: Medium

Enable future emissions reduction: Medium

If people can access important amenities (e.g. library, supermarket, GP) close to where they live including active modes and public transport, this reduces transport emissions.

We will identify a suitable neighbourhood linked to the Future Development Strategy to run the pilot in. The pilot would be undertaken with councils, iwi, community, and other key stakeholders. Learnings can be applied across the region.

4 Promote and support localised co-working hubs.

Directly reduce emissions: Low

Enable future emissions reduction: Low-Medium

This action aims to reduce commuter demand on transport infrastructure by making better use of underutilised buildings and/or new developments in local centres.

5	**Facilitate local economic development and job creation through the increased provision of suitable industrial land.**
Directly reduce emissions: Low-Medium  *Enable future emissions reduction: Medium* 	Encourage dispersed employment locations leading to reduced travel time and distance to and from work.

6	**Advocate for re-instating intra-regional long-distance rail services.**
Directly reduce emissions: *High*  *Enable future emissions reduction: High* 	Providing lower emissions alternatives to flying and driving can reduce transport emissions. Several intra-regional routes could replace or provide alternatives to flying or driving that could be advocated for by the WRLC.

7	**Advocate for upgrades to the electricity network so that Wellington Airport and Centreport can continue to enable their decarbonisation plans.**
Directly reduce emissions: Medium  *Enable future emissions reduction: HIgh* 	Advocate to the electricity sector to provide these organisations with adequate infrastructure. These organisations are also investigating other fuel sources such as hydrogen. CentrePort aims to create a micro-grid that will enable shore power to large ships to reduce fuel consumption by these ships while they are in port. This will require investment in electricity network assets. Wellington Airport requires certainty of supply for EV chargers, helping hire car companies electrify, getting rid of gas boilers etc. In the future, high volumes of electricity may be needed for electric planes.

Energy
Pūngao

Energy underpins everything we do in our lives. Energy is required to move our bodies, heat and cool buildings, power appliances, manufacture goods, transport people and freight.

In New Zealand, approximately 60% of our primary energy (meaning energy created directly from the actual resource) is non-renewable[10]. The largest overall source of energy emissions is fossil fuel (petrol and diesel) which is used in vehicles and machines.

87% of electricity was generated from renewable sources; hydroelectric, geothermal, and wind in 2022. There was record generation from both wind and geothermal along with above average hydro lakes inflows.

To reduce impacts from climate change and air pollution we need to reduce energy use as well as shift from fossil fuels to renewable energy, also called decarbonisation. Moving away from fossil fuels to renewable sources will build resilience by reducing exposure to the global supply and price shock of fossil fuels and addressing our declining domestic gas reserves.

It is important that the national grid supplying our region can service demand. The level of future demand is somewhat uncertain as we can create efficiencies in activities where energy is wasted (i.e. heat escaping from uninsulated buildings), while some activities which traditionally use fossil fuels (i.e powering buses and cars) may require more electricity which will increase demand.

Electrification and planning for other energy sources are key to decarbonising the region at pace. Defining infrastructure requirements and location (some infrastructure will require sizeable real estate and investment) at a regional scale will make it quicker and easier to electrify. There is an important coordination opportunity here to identify where to plan and invest in order for the region to grow, rapidly decarbonise, and avoid energy hardship. Iwi participation and inclusion of NGOs to represent the community and ensure a socially equitable approach is taken are key to this regionally coordinated approach.

The WRLC could support the energy transition by contributing to the increased wind and solar capacity as well as solid biofuels to provide process heat. There is also a potential role to play in supporting small-scale distributed renewable energy generation like micro-grids alongside government ministries and agencies like the Ministry of Business Innovation and Employment and ECCA (Energy Efficiency & Conservation Authority).

Per capita energy consumption in NZ has more than tripled since 1960[11]. This is despite all the energy-efficient technologies we have adopted. This also points to over-consumption being the root cause of climate change and other environmental harm.

We need to be efficient in our energy use and try to reduce demand. One way to reduce energy is to improve our buildings. Residential buildings in particular need to be well-insulated to reduce reliance on coal during winter peaks. Retrofitting homes and ensuring high energy efficiency in new buildings can provide dry healthy housing improving our community's health.

Housing is an issue of great importance to iwi our region. Well-functioning energy infrastructure supports meeting the objective of all Māori and all communities in our region being housed in a warm, safe environment. The realisation of rangatiratanga and regional sustainability goals are also supported through the provision to communities of individual off-grid technology to redistribute power, water and other utilities.

[10] https://www.mbie.govt.nz/assets/energy-in-new-zealand-2023.pdf

[11] https://data.worldbank.org/indicator/EG.USE.ELEC.KH.PC?locations=NZ

To take action to reduce our emissions and make the big shifts needed for energy the WRLC will:

8 Develop an Energy Roadmap for the region.

Directly reduce emissions: Low-Medium

Enable future emissions reduction: Medium

This project includes:

Part 1: removing roadblocks to council electrification by creating a council/sector Energy Coordination group to document needs and requirements. Connection with EECA and Transpower will help remove roadblocks for local councils to decarbonise through electrification, including the roll-out of EV chargers, EV bus depots, and gas boiler replacement. Planning together with Electricity Distribution Businesses (EDBs) will create efficiencies.

Part 2: The development of a Multi-Sector Regional Energy Roadmap. This would outline energy users' long term energy requirements, aspirations and roadblocks so that central government and EDBs know where to plan and invest for the region to grow and rapidly decarbonise, and to coordinate energy demand reduction efforts.

Part 3: Additionally, the group can help fast-track local implementation of central government programmes e.g. National EV charging network, and Regional Energy Transition Accelerator.

9 Investigate local energy generation and community micro-grids.

Directly reduce emissions: Medium

Enable future emissions reduction: Medium

Investigate investment into local generation such as community-level micro-grids (including storage) via funds like MBIE's Community Renewable Energy Fund. Investigate supporting developers to implement microgrids in developments, especially in a denser-housing context.

Kāinga Ora and Wellington Electricity could share learnings from their Wellington Energy Sharing Pilot. Local energy sharing can increase resilience and alleviate pressure on the national grid while large-scale renewable energy is being developed.

10 Make a move to reduce reliance on gas by avoiding demand growth and phasing out existing use.

Directly reduce emissions: Medium

Enable future emissions reduction: Medium

This action aligns with the Climate Change Commission's 2021 advice. Fossil gas makes up 34% of emissions from our region's Stationary Energy emissions. There is estimated to be less than ten years' worth of gas reserves left in NZ[12], and renewable gas alternatives are in their infancy. The transition away from fossil gas use needs to be timed so that the energy sector has the capacity to manage the increased demand.

We will investigate opportunities to avoid additional/new demand for fossil gas from new residential and commercial users while supporting the phase-out of existing fossil gas use through education and support packages.

Gas should be used as a transition fuel where an alternative energy source is not cost-efficient, to protect network resiliency and customers from sudden changes as the region decarbonises. This would need to be paired with encouraging and incentivising network-controlled devices to shift unnecessary peak demand load.

11 Support more energy-efficient homes.

Directly reduce emissions: Medium

Enable future emissions reduction: Medium

We need to make sure our houses are warm and dry while using as little energy as possible. We plan to advocate to central government to fund larger-scale residential retrofit programmes, and Eco Design Advisors at councils, while also expanding current work (e.g Warmer Kiwi Homes programme) to reduce energy demand from household heating in winter peak, along with incentivizing new smart devices that can be controllable for flexibility. These measures will:

- create energy efficiencies
- help with capacity constraints, and provide the ability to shift flexible energy usage to times of day when there is less demand on non-renewable energy sources.
- reduce our energy emissions.

[12] https://www.mbie.govt.nz/about/news/petroleum-reserves-data-shows-decline-in-gas-reserves/#:~:text=Estimated%20gas%20reserves%20have%20now,2021%20and%20183PJs%20for%202020.

Circular economy
He ōhanga āmio

Adopting approaches to support a more circular economy and efficient resource use sets us up for a low-emissions future, is a high priority for iwi, and has multiple co-benefits.

In a circular economy, waste and pollution are designed out to keep resources in use for as long as possible. Materials are then recovered or regenerated to be used again or for other products. Circular economy principles include

- Design out waste and pollution,
- Keep products and materials in use.
- Regenerate natural living systems.

The way resources are used can have a big impact on our emissions. Emissions are generated throughout our supply chain and waste significantly contributes to our emissions profile. Taking a more circular approach to our economy means that we need to re-design many of our production, manufacturing and processing systems.

Circular approaches reduce greenhouse gas emissions by increasing the efficiency of resources used within the economy. In general, circular approaches favour activities that preserve energy, labour, and materials, which means products are designed for durability, reuse, remanufacturing, and recycling to keep products, components, and materials circulating in the economy.

Transitioning to a circular economy is seen as a crucial strategy for addressing the environmental challenges associated with climate change and resource depletion. It can also drive innovation and investment in more climate-friendly industries and encourage economic development that does not increase our emissions overall. This way, circular approaches can provide new business and job opportunities while introducing stronger environmental credentials.

The essence of circular thinking has been part of te ao Māori for centuries – from viewing all things as interconnected, to preserving the earth's natural resources for future generations. Iwi in our region support circular economy approaches, in part, as a way to transition to a lower emissions future. This means there is movement away from a linear economy model towards a circular approach, and development is informed by nature-based solutions wherever possible. A thriving future means consumption is reduced as waste is being designed out, products and materials are kept in circulation, and natural living systems are regenerating. It also means that to support sustainability, green housing and green infrastructure is used in urban areas.

Individuals can send a message about their sustainability preferences by voting with their wallets. However, it is large organisations, such as government, who can set ethical and environmental standards for procurement, and drive competition and innovation with their spending power. Procurement practices that favour low carbon and sustainable products contribute to the responsible management of natural resources, ensuring their availability for future generations, reducing greenhouse gas emissions associated with the production and use of goods and services.

The first National Emissions Reduction Plan[13] sets out actions led by central government, which starts by developing a circular economy and bioeconomy strategy and investing in data collection and research. It will then seek to integrate circular practices across government, communities and businesses. Key actions include supporting households and businesses to reduce organic waste and diverting organic and construction waste from landfills.

[13] https://environment.govt.nz/publications/aotearoa-new-zealands-first-emissions-reduction-plan/

Much of our waste emissions come from biogenic methane – largely generated by the decomposition of organic waste (such as food, garden, wood and paper waste). While waste contributes a small percentage of our total emissions, biogenic methane has a warming effect 28 times greater than carbon dioxide. Under the Waste Minimisation Act 2008, councils hold the responsibility to promote effective and efficient waste management within each district.

Taking steps to reduce, recycle and recover greater volumes of organic waste – and improve services and infrastructure – will also create opportunities. These steps will support the shift to a circular economy, create new employment and business opportunities, improve the ability to dispose of waste responsibly and generate cost savings for households and businesses.

In our region, we are working hard to reduce waste and manage it better. But there is more we can do. The Wellington and Wairarapa councils of the region have collaborated to produce a proposed Waste Management and Minimisation Plan (WMMP) 2024-29. This plan agrees objectives and policies for effective and efficient forms of minimising waste. One of the key objectives of the Wellington Regions WMMP is to increase circularity through waste and resource recovery infrastructure and services. Horowhenua District Council will also be renewing their WMMP shortly with the current version identifying avoiding the creation of waste as a top priority.

There are opportunities to significantly increase and upgrade infrastructure, facilities and services to enable solid progress towards minimising waste and improving our drive towards a circular economy in the region. Two new facilities and services are in development – one for food and green waste and one for construction and demolition waste. These two waste sources make up two-thirds of waste going to landfill[14]. Key to the success of these facilities will be a change in behaviour so that the construction and demolition industry put in place processes to sort and transport their waste to the appropriate facility.

A number of recycling, repairing, local production and waste reduction initiatives are happening at a local level. This includes local community composting facilities, upcycling shops and repair workshops.

There is a regional opportunity to get more value out of biological waste and products. For example, organic waste from farms and horticulture as well as woody biomass, or slash from forestry can be turned into energy. Wood pellets can help replace heating with fossil fuels.

[14] https://environment.govt.nz/assets/Emissions-reduction-plan-chapter-15-waste.pdf

To ensure we benefit from more efficient resource use and innovation of a circular economy while reducing waste the WRLC will:

12	**Facilitate WRLC partners to change their procurement policies or practices to include a requirement for a vendor emissions reduction plan as part of major projects (e.g a roading project, new stop banks).**
Directly reduce emissions: Medium  *Enable future emissions reduction: Medium* 	Across WRLC partners there are many big operational and capital spend projects that involve contracts with key industry players. WRLC partner organisations requiring vendor Emissions Reduction Plans can create a system shift in the market whereby vendors focus more effort on how they may reduce emissions including in their supply chain.

13	**Work with EECA to investigate feasibility of circular principles in organic waste-to-energy.**
Directly reduce emissions: Low  *Enable future emissions reduction: Medium* 	Making better use of organic waste by using it for innovative products or turning it into renewable energy reduces energy emissions and uses circular economy principles that support economic development. We support EECA's Regional Energy Transition Accelerator work, which includes using biomass to support the phasing out of fossil-fuel-based energy sources. By linking a waste source to an industry need we can reduce emissions in waste as well as energy and support local job creation.

14	**Support further development of and investment in infrastructure and facilities to encourage waste diversion.**
Directly reduce emissions: Low-Medium  *Enable future emissions reduction: Medium* 	Diverting waste to be reused helps stimulate the bioeconomy and is more resource efficient especially for materials that can provide valuable feedstock such as woody biomass for bioenergy or other products that reduce reliance on fossil fuels. This is of particular importance for: - plastic waste - organic waste which is particularly high in methane emissions and can be turned into compost - woody biomass from forestry which can be turned into energy, and also - timber from construction and demolition waste which often can be re-used

15	**Advocate for waste management initiatives which encourage behaviour change and product stewardship.**
Directly reduce emissions: Low  *Enable future emissions reduction: Medium* 	Many initiatives relating to how products are produced or imported and how waste is managed go beyond regional boundaries. We can advocate on behalf of the Regional Waste Management and Minimisation Committee to support initiatives which encourage behaviour change in how we manage waste, and provide leadership in encouraging product stewardship to support the development and strengthening of a more circular economy.

16	**Support regional pilot projects that promote collaboration and skills sharing between different community groups working in the waste reduction space.**
Directly reduce emissions: Low  *Enable future emissions reduction: Low-Medium* 	There is an opportunity to help coordinate funding and accelerate innovation from our community to help reduce waste and create higher-value products. These initiatives get community engaged and can provide educational opportunities on topics like composting and repairing. This plays an important role in reducing waste emissions and promoting circular economy principles.

Productive land use and primary industries
Te ahu whenua hua nui me ngā ahu matua

Our region is rich in diverse soils providing opportunities for primary industries to thrive, support our growing urban population, and provide goods for the export market. From the vegetables grown in Horowhenua to agriculture and wine in the Wairarapa, our region encompasses diverse primary industries. The native and exotic forests across the region help close the gap between our regional emissions and our targets.

Emissions from food production are significant. In our region, agricultural emissions make up 39% of the Wellington and Wairarapa region's emissions. This is slightly lower than the national level, with agricultural emissions making up 50% of Aotearoa New Zealand's gross greenhouse gas emissions, including most of our nitrous oxide and biogenic methane emissions[15].

Agricultural operations impact climate change directly through emissions, including biogenic methane, nitrous oxide and carbon dioxide, and indirectly through its value chain when produce is processed and transported. Operations are also impacted by climate change directly through the changing physical climate and indirectly through changing markets, society and policy responses. The impacts of climate change on our farms, people and animals are not evenly distributed. The breadth and diversity of land use and farm types mean some are more exposed while others can harness opportunities.

A changing climate already impacts what we can grow, where and how. Severe weather events are set to increase, fluctuating between flooding and drought. We need to encourage practices that lower emissions and ensure our productive land use is resilient in a changing climate.

Reduction in agricultural emissions is an important part of meeting New Zealand's 2050 target, including the requirement to reduce biogenic methane emissions by 24–47% by 2050 nationwide[16]. Reducing agricultural emissions will also enhance Aotearoa New Zealand's reputation as a low-emissions and trusted provider of agricultural products. The industry is experiencing overseas supply chain pressures. For example, Fonterra and other large industry representatives are working on improving the emission profile across the industry through decarbonising industrial plants and supporting farmers to make operational improvements.

The first National Emissions Reduction Plan outlines actions to build on the efforts of farmers, growers, businesses, sector bodies and government agencies to deliver a low-emissions future and resilient rural communities. These actions are seen to work in line with other key initiatives aimed at improving productivity, environmental performance and overall resilience in the primary sector. Key actions in the National Emissions Reduction Plan relating to primary industries include accelerating mitigation technologies, and supporting producers to make changes through advice and building of knowledge.

[15] https://environment.govt.nz/publications/aotearoa-new-zealands-first-emissions-reduction-plan/agriculture/#:~:text=Agricultural%20emissions%20make%20up%2050,47%20per%20cent%20by%202050.

[16] https://www.legislation.govt.nz/act/public/2002/0040/latest/LMS282014.html

The regional focus is currently on supporting farmers with land management advice through the Greater Wellington Regional Council. This includes farm plans (focused on water quality and soil erosion) which have a co-benefit of reducing emissions. Horizons Regional Council (which includes the Horowhenua District) also supports landowners to develop farm plans with a focus on increased flood protection, water quality, and protection of hill country and native habitats.

The Wellington Regional Economic Development Plan also provides direction around food and fibre priorities and the need to identify opportunities to grow jobs, value and connections in the food and fibre sector, contributing to our regional food story while considering climate change impacts. The identification of meaningful initiatives in the primary/food & fibre industries with potential to lower the emissions footprint is also being progressed through the Wairarapa Economic Development Strategy.

Through whakapapa links, mana whenua as kaitiaki of te taiao, possess inherent intergenerational wisdom on working in harmony with the whenua to produce food, including in climate friendly ways. For iwi in our region, food sovereignty means that whānau have access to sufficient, safe, affordable and nutritious food that is produced in harmony with the natural world. A thriving future means all whānau have what they need to grow their own kai. It also means that through care and stewardship clean fresh water also the use of food diversification approaches that reflect the biodiversity of the region.

A Regional Food Systems Strategy is in development and aims to foster a regionally coordinated approach to sustainable and accessible food production.
This includes:

- A collective approach or framework for realising the equity, potential and aspirations of Māori in diversifying land-use and unlocking the Māori food economy.
- A number of regional initiatives and approaches including increased supply and demand for local, seasonal, affordable and low-carbon food and reducing/preventing food wastage.

Through this first Regional Emissions Reduction Plan, we will work with farmers and growers to increase farming practices that help reduce emissions and increase resilience to produce food that is climate-friendly, reduces emissions and is of high value. As part of this, we encourage all forms of land use optimisation and advocate for investment and attraction of synergistic opportunities to our region to lower emissions, which include agri-tech, biotech, and other hub opportunities for processing and manufacturing goods.

The WRLC will:

17	**Encourage land use diversification through increasing certainty and planning for water resilience.**
Directly reduce emissions: Low  *Enable future emissions reduction: Medium* 	Greater Wellington is coordinating an establishment phase to specify programmes of work and partnership approaches to advance the Wairarapa Water Resilience Strategy (WWRS). The implementation of the WWRS is a multi-year process and will provide opportunities to look for carbon emissions reduction as a co-benefit of land use diversification associated with the ongoing implementation of the WWRS. Learnings from this work can be shared with other parts of the region to help them with water resilience and land-use diversification planning.
18	**Advocate for funding to expand of on-farm advice.**
Directly reduce emissions: Low  *Enable future emissions reduction: Medium* 	We support increased identification of carbon emissions reduction opportunities and provision of advice to landowners related to core activities, to help farmers understand how to reduce their on-farm emissions and to integrate these practices into existing Farm Environment Plans.
19	**Support opportunities for farmer-to-farmer learning.**
Directly reduce emissions: Low  *Enable future emissions reduction: Medium* 	We understand farmers want to hear from a trusted, local source about farming practices to reduce methane, conversions to low-emission land use and decarbonising technology and equipment. We can support the showcasing of examples from Wairarapa and Horowhenua of existing good practices and facilitate knowledge sharing to deliver on-farm emissions reduction demonstrations.
20	**Explore papakāinga pilot with iwi around food systems and emissions.**
Directly reduce emissions: Low  *Enable future emissions reduction: Medium* 	New kai production processes including crop diversification and local opportunities for land use could lead to reduced agricultural emissions. We will work with mana whenua partners to support initiatives that help with that.

Tracking our progress
Arotake i te kokenga

Clearly demonstrating our progress is important to build community engagement, commitment to actions and transparency. The monitoring of this Plan will be carried out by the WRLC secretariat. Iwi representation on this rōpū is important to ensuring a Te Tiriti o Waitangi approach to implementation is undertaken, and to monitor progress and advocacy for the values and aspirations rights, interests and aspirations of mana whenua. In addition to this, the Regional Emissions Reduction Plan can be tracked through the following metrics:

- Emissions continue to track down as measured by the Greater Wellington and Horowhenua district emissions inventory processes.
- Progress made on actions in the Plan. Each action will need a plan with objectives and KPIs.

Our plan for action (Appendix Two) outlines the individual actions to be implemented as part of this Plan.

This Plan will be updated in three years by the WRLC.

Appendix One: Our emissions, targets and carbon modelling

Āpitihanga tahi: Ā tātou Putanga Haurehu, whāinga me ngā whakatauiratanga waro

Our region's emissions
Ngā tukunga a tō tātou rohe

WHAT ARE GREENHOUSE GASES?

Greenhouse gases (GHG) are gases that trap heat from the sun in our planet's atmosphere keeping it warm and contributing to global warming. The main greenhouse gases released by human activities are carbon dioxide, methane, nitrous oxide, and fluorinated gases.

Of these, the gas with the highest concentration in the atmosphere is carbon dioxide. The human activities that cause the most carbon dioxide to be released into the atmosphere are burning of fossil fuels, deforestation, and changing the way land is used. Our reliance on fossil fuels has led to an increase of CO2 in the atmosphere, which over the last 60 years is increasing at an annual rate around 100 times faster than previous nature increases . In 2022 it reached a record high of 417.06ppm, a more than 50 percent increase in concentration since pre-industrial times [18].

Methane is a greenhouse gas that is responsible for at least 25 percent of global warming[19]. Methane is released during the extraction and transport of coal, gas, and oil. It is also emitted from landfills and ruminant animals such as cows and sheep.

Fluorinated gases are emitted in smaller amounts than carbon dioxide or methane, but they have a very potent warming potential. They are currently used in many appliances like refrigerators.

Greenhouse gases are often referred to collectively as 'emissions' and expressed in one number as carbon dioxide equivalents, or C02e.

The cause of climate change is an excess of greenhouse gas emissions.

HOW MUCH GREENHOUSE GAS DO WE EMIT AS A REGION?

In the 2021-2022 year, the Wairarapa-Wellington region emitted 3,852,625t CO_2e (total gross emissions)[20]. The latest emissions inventory with comparable data for Horowhenua district was 2018-2019 and in that year, the district emitted 819,053t CO_2e[21]. All the following emissions data in this section are from these respective years and from reports footnoted.

WHAT IS CARBON SEQUESTRATION?

Some of the carbon dioxide that we emit is absorbed by ecosystems in plants, animals and other organic matter, this is called carbon sequestration. Our largest source of sequestration in the region is forests which store carbon in trees, plants and soil.

Growing trees in forests increases carbon sequestration (carbon not polluting the atmosphere). However, when forests are cut down, they release some of the emissions they sequestered.

[17] https://www.climate.gov/news-features/understanding-climate/climate-change-atmospheric-carbon-dioxide

[18] https://www.climate.gov/news-features/understanding-climate/climate-change-atmospheric-carbon-dioxide

[19] https://www.edf.org/climate/methane-crucial-opportunity-climate-fight#:~:text=Methane%20has%20more%20than%2080,by%20methane%20from%20human%20actions.

[20] https://www.gw.govt.nz/assets/Documents/2023/06/GWRC_EmissionsInventory_2022_Region_230609_Final.pdf

[21] https://www.horizons.govt.nz/HRC/media/Media/Publication/SoE_2020_Horizons-Region-Community-Carbon-Footprint-2018-19.pdf?ext=.pdf

In the Wellington-Wairarapa region, the forest, plants and soils sequestered a net of 2,281,047t CO_2e, bringing the total net emissions down to 1,571,578t CO_2e. However, in Horowhenua forestry emissions from harvesting exceeded emissions from sequestration thus increasing the total net emissions for the district to 983,392t CO_2e.

OUR EMISSIONS PROFILE REFLECTS OUR ECONOMIC ACTIVITY AND THE WAY WE LIVE.

In our region, primary industries like agriculture generated the largest source of emissions accounting for 39% of Greater Wellington regions' total gross emissions and 37% of Horowhenua district's total gross emissions. These emissions are mostly from farming that takes place in the rural parts of Wairarapa and Horowhenua. The emissions are mostly from biogenic methane from the digestive processes of ruminant animals; primarily cows and to a lesser extent sheep. Methane is measured as CO_2 equivalent so that it can be compared against the other emissions. It is a shorter-lived gas but is more potent than CO_2 in that it is more effective at trapping heat in the atmosphere than C02 per tonne. Some primary industry emissions can be attributed to horticulture, in particular fertiliser use.

A close second is transport, being 35% of total gross emissions for the Greater Wellington region and 38.4% for the Horowhenua district. Transport emissions are mostly from petrol and diesel being burned in combustion engines of cars, utes, and trucks. Many of our cities have been designed over decades to be easiest to get around in cars, which is why this is the most well-used form of personal transport (by number of trips by mode) in our region. Transport emissions also include freight, marine and aviation emissions.

Stationary energy is the third largest source of emissions, this relates to emissions from electricity and natural gas used to power our homes, schools and factories as well as stationary petrol and diesel use. These emissions count for 17% of the Greater Wellington regions total gross emissions and 9.6% of the Horowhenua districts.

Waste makes up 5% of the Greater Wellington regions' emissions while it makes up 2.1% of Horowhenua districts' emissions. This includes waste in landfills, wastewater and individual septic tanks. Industrial processes and products make up 4% of the Greater Wellington region and 1.3% of Horowhenua district. This emissions source includes emissions from refrigerants, aerosol etc and does not include energy use for industrial manufacturing which is included in the stationary energy and transport.

It is relevant to note that the emissions inventory is described as production based (as opposed to consumption based) so they exclude globally produced emissions relating to consumption from the things we import from overseas such as imported food, cars phones and clothes. Our emissions from consumption are important as all products require materials and energy to consume. These have global warming impacts recorded on other countries' inventory as well as impacts on other planetary boundaries including biodiversity loss.

TARGETS

The most widely recognised international climate change target is contained in the Paris Agreement, signed by 196 parties in 2015 at the United Nations Climate Change Conference (COP 21). The Paris Agreement aims to limit global warming to well below 2°C, and preferably hold global warming to no more than 1.5° long-term average above pre-industrial average temperatures. As the science has developed in the 8 years since 2015 more emphasis has been placed on limiting global warming to 1.5° to avoid triggering tipping points that may destabilise Earth's systems. While the Paris Agreement Target is based on long-term averages, scientists at the World Meteorological Organisation predict a 50% chance that we'll reach an average global temperature reaching 1.5°C above pre-industrial levels in the next five years[22].

[22] https://wmo.int/news/media-centre/wmo-update-5050-chance-of-global-temperature-temporarily-reaching-15degc-threshold-next-five-years#:~:text=For%20the%20years%20between%202017,for%20the%202022%2D2026%20period.

To limit global warming to 1.5°C, greenhouse gas emissions must peak before 2025 at the latest and decline 43% by 2030. Then emissions must reach net zero by 2050. These are the Paris Agreement targets, for which governments can set their Nationally Determined Contributions (NDC); a pledge to do their bit towards the international effort of reducing emissions. Globally, our 2030 Nationally Determined Contributions combined put us on a path to 2.4°C of warming by 2100 (and continue rising thereafter). However, real-world policy and actions (what we are doing, not what we say we might do) put us on a path for 2.7° of warming. As such, achieving the Paris Agreement targets looks increasingly unlikely.

At a national level, the government through the Climate Change Response (Zero Carbon) Act (the Act) takes a split gas approach to domestic emissions targets (that is, it has different targets for CO_2 and methane). The government's 2050 target is a 24-47% reduction in biogenic methane and a net-zero target for carbon dioxide and other gases[23]. This is insufficient to meet Paris Agreement targets. The Act does not include a 2030 target; however, our government provided a Nationally Determined Contribution (NDC) to the Paris Agreement in 2021 (at the Conference of the Parties, or COP 26 in Glasgow, Scotland). The NDC was a commitment to net emissions dropping 50% compared to 2005 gross emissions[24]. This is also insufficient to meet Paris Agreement targets.

As well as emissions targets, the government has set emissions budgets which are required under the Act. These are set every five years based on advice from the Climate Change Commission. The first three domestic budgets for 2022-25, 2026-30 and 2031-35 were set in 2022. The current government will set the following year's budgets, as well as our Nationally Determined Contributions for 2031 -2035.

At a regional level, the Greater Wellington Regional Council has a draft Regional Policy Statement (RPS) target that does not take a split gas approach to carbon and methane. The target is to contribute to a 50% reduction in greenhouse gas emissions by 2030 from 2019 levels and to work towards net zero emissions by 2050[25]. This is a science-based target that is aligned with the Paris Agreement. The Horizons Regional Council (which includes the Horowhenua District) references the Paris target of a 43% reduction by 2030[26].

This plan does not contain any new targets. Both the national and regional targets have been used to inform our modelling and actions for this Regional Emissions Reduction Plan.

EMISSIONS MODELLING

We have undertaken carbon modelling to equip us with information and evidence as to what impact the current national and regional projects, policies, pledges and targets will have on reducing greenhouse gas (GHG) emissions, and how close this might get us to meeting national targets and draft regional targets (draft RPS).

The carbon model is a mathematical representation of the world that makes assumptions and allows us to input different scenarios that change what our future world looks like, which is helpful for us to understand scale, and to understand where some emissions areas need to pull greater weight.

Using the modelling we can test how actions to reduce emissions might close the gap from what's already committed to what is required.

The model used is the Sub-National carbon model developed by Palmerston North City Council and then adapted to our context. This model has a good level of detail and is being used by councils around the country. We would like to thank Palmerston North City Council's climate team for the use of the Sub-National carbon model for this Plan.

[23] https://www.legislation.govt.nz/act/public/2002/0040/latest/LMS282014.html

[24] https://unfccc.int/sites/default/files/NDC/2022-06/New%20Zealand%20NDC%20November%202021.pdf

[25] https://www.gw.govt.nz/assets/Documents/2022/08/Proposed-RPS-Change-1-for-the-Wellington-Region.pdf

[26] https://www.horizons.govt.nz/managing-natural-resources/climate/what-horizons-is-doing#:~:text=Horizons%20greenhouse%20gas%20emissions%20reduction,greenhouse%20gas%20emissions%20by%202030.

What is included in the model

Baseline:

The baseline is the point against which we model any changes in greenhouse gas (GHG) emissions when a scenario is added to the model.

A 2019 baseline was added to the model (consistent with most targets' baseline). This baseline is calculated from the Greater Wellington region GHG inventory and Horowhenua GHG inventory. Other data was added where needed in order to create the baseline, such as VKT (vehicle kilometres travelled), and national renewable electricity used. The data inputted to the model has been independently quality checked by Aecom.

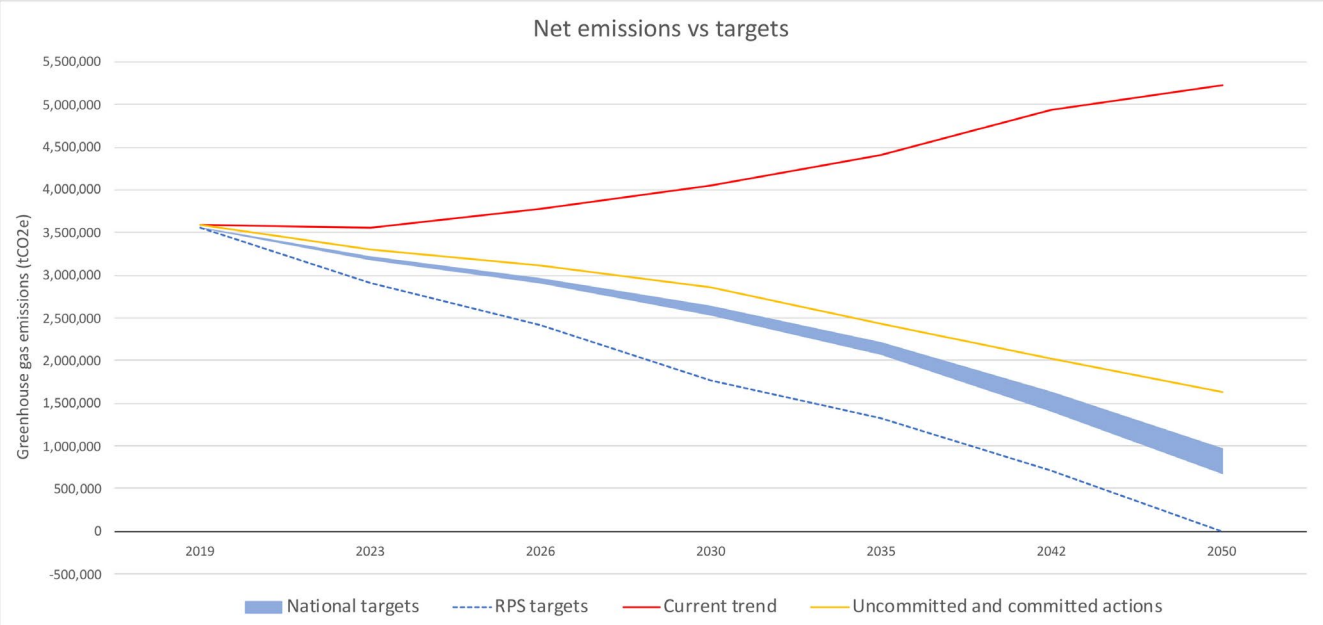
Scenarios:

The model provides room for scenarios in different sectors (land use, transport, industry, buildings and energy). Those scenarios were designed by the Regional Emissions Reduction Plan project team and are mostly based on:

- status quo (no changes except for population growth)
- current trend (extrapolation of the last few years)
- implementation of uncommitted and committed policies and actions (national and regional)

Figure 5 below shows the growing gap between the region's net emissions (red line) and emissions reduction targets (blue lines) if significant emissions reduction action is not undertaken. The yellow line shows the gap almost closes when a series of uncommitted and committed actions are undertaken.

Figure 5



Modelled net emissions

Targets – blue lines:

The blue range in the diagram above represents the national domestic emissions reduction targets and the dotted blue line the draft regional targets from Regional Policy Statement for the Greater Wellington region.

The reason why the blue range is slightly higher is because the national targets split out biogenic methane from the other gases and give it a lower, less stringent target to meet by 2050. The draft regional targets don't take this approach and propose that all gases combined need to reduce to net zero by 2050.

Current trend – red line:

The current trend scenario in the diagram above shows how far off we are from getting to net zero emissions by 2050 if we keep going as we have been.

Some of the assumptions in this scenario are:

- population growth
- a modest amount of forestry growth
- minor efficiency improvements in industrial operations
- increased travel demand
- increase public transport and active travel modes (cycling, walking)
- increased freight moved by rail
- modest energy efficiencies

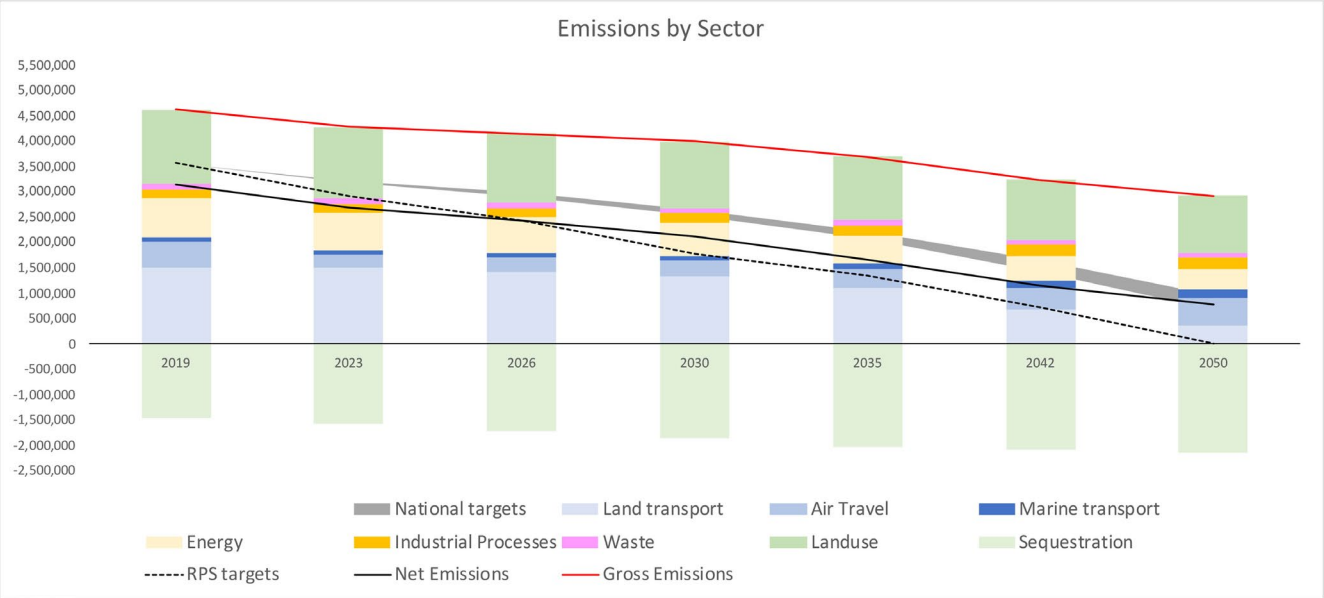
Uncommitted and committed actions – yellow line:

The uncommitted and committed actions scenario in the diagram above shows the gap between our net emissions and targets has almost closed. However, for this scenario to be achieved, actions need to be developed and committed to in order to meet national and regional pledges and targets (e.g. National Emissions Reduction Plan – NERP). The Plan aims to identify some of the most impactful actions at a regional level that could close the gap between the red and yellow line in the graph e.g a Wellington Transport Emissions Reduction Pathway. This scenario assumes:

- A higher level of afforestation
- Major improvements in the industrial processes
- Reduction in greenhouse gas emissions from agriculture based on the activities from the National Emissions Reduction Plan
- The success of the Wellington Transport Emissions Reduction Pathway (WTERP)
- A higher level of energy efficiency
- A higher level of renewable electricity
- Achievement of the National Emissions Reduction Plan targets regarding electrification of the vehicles (30% of the fleet by 2035)
- Achievement of the National Emissions Reduction Plan targets regarding fuel efficiency (-10% by 2035)
- Improvement in building efficiency
- Achievement of the Aotearoa New Zealand Waste Strategy targets (reduction of waste production and increased recycling and green waste diversion)

Figure 6 below shows the emissions by sector in the scenario "Uncommitted and committed actions". We can see that the biggest sources of emissions by 2030 could be energy (31%), land use (30%) and land transport (26%).

Figure 6



Appendix Two: Our plan for action

Āpitihanga rua: Tā tātou mahere kōkiri

The tables in Appendix two provide further detail to the actions outlined in the section Our focus for action: Making things happen together. This includes alignment to other plans and programmes, who will undertake the work, and whether new resources will be required for the work to be carried out. This plan forms the basis of implementation.

Regional Emissions actions – Transport & urban form

Action	Enabling or direct emission reduction	Lead	Key partners	Timeframe Long: 5+ years Med: 3-4 years Short: 1-2 years	Resourcing required	Level of community behaviour change required (H, M, L)	Alignment to other plans
Action: Endorse and implement (through member organisations) the Wellington Transport Emissions Reduction Pathway (WTERP).							
The WTERP provides a comprehensive pathway for reducing land transport emissions in this area. The WTERP interventions will fall into three broad areas: - Less car-centric cities and towns (covering public transport investment, urban form and travel demand management) - Cleaner vehicle fleet - Smarter freight	*Direct reduction: High* ●●●	Regional Transport Committee Approve	Member organisations within WRLC will have an advocacy, investment, implementation, policy and regulatory role.	LONG 5+ years	Crown funding (required)	●●●	Regional Land Transport Plan, and individual council transport plans where appropriate
	Enabling: High ●●●	WRLC endorse and support			Regional Land Transport Plan (bids to National Land Transport Fund)		
		Greater Wellington Regional Transport Team developing WTERP. Action lead will depend on what part of WTERP is being implemented			FDS/District Plans (existing BAU)		Future Development Strategy
Action: Develop a best practice urban design toolkit for more resilient, low-carbon towns and cities.							
This toolkit will help elected members, planners, developers, community members, iwi/hapu, and stakeholders to actively engage in conversations on good urban design for enhanced liveability and reduced car dependency.	*Direct reduction: Medium* ●●○	Greater Wellington Regional Transport Team		MEDIUM 3-4 years	Existing BAU	●●○	Regional Land Transport Plan
	Enabling: High ●●●						Future Development Strategy

Action	Enabling or direct emission reduction	Lead	Key partners	Timeframe Long: 5+ years Med: 3-4 years Short: 1-2 years	Resourcing required	Level of community behaviour change required (H, M, L)	Alignment to other plans
Develop and undertake a pilot that reduces transport emissions at a neighbourhood level by ensuring quick and easy access to amenities, public transport and active travel options.							
WRLC Secretariat to work with councils to identify a suitable neighbourhood linked to the Future Development Strategy to run the pilot in. The pilot would be undertaken with councils, iwi, community, and other key stakeholders. Learnings can be applied across the region. This action is aimed at reducing transport emissions by people living close to important amenities (e.g. library, supermarket, GP), or being able to access them easily via public transport and active modes.	*Direct reduction:* *Medium*  *Enabling:* *Medium* 	Relevant Council to lead locally.	Greater Wellington's Travel Choice team via existing work programme	MEDIUM 3-4 years	New funding to develop and implement pilot.		Wellington Transport Emissions Reduction Pathway Future Development Strategy
Promote and support localised co-working hubs							
This action aims to reduce commuter demand on transport infrastructure by making better use of underutilised places in local centres.	*Direct reduction:* *Low*  *Enabling:* *Low-Medium* 	WellingtonNZ	Council Economic Development officers Local Chambers of Commerce	SHORT 1-2 years	Existing BAU		Regional Economic Development Plan

Action	Enabling or direct emission reduction	Lead	Key partners	Timeframe Long: 5+ years Med: 3-4 years Short: 1-2 years	Resourcing required	Level of community behaviour change required (H, M, L)	Alignment to other plans
Facilitate local economic development and job creation through the increased provision of suitable industrial land.							
This action will help encourage dispersed employment locations leading to reduced travel time and distance to and from work.	*Direct reduction: Low-Medium* ●◐○ *Enabling: Medium* ●●○	WRLC Secretariat leading an industrial land study	Councils to respond to findings WellingtonNZ Council Economic Development Officers Chambers of Commerce	MEDIUM 3-4 years	Underway	●○○	Future Development Strategy Regional Economic Development Plan
Advocate for re-instating intra-regional long-distance rail services.							
This action is aimed at providing lower emissions alternatives to flying and driving. Several intra-regional routes could replace or provide alternatives to flying or driving that could be advocated for by the WRLC.	*Direct reduction: High* ●●● *Enabling: High* ●●●	WRLC Secretariat	Greater Wellington	LONG 5+ years		●●○	Future Development Strategy
Advocate for upgrades to the electricity network so that Wellington Airport and Centreport can continue to enable their decarbonisation plans.							
Advocate to the electricity sector to provide these organisations with adequate infrastructure. Centreport: creating a micro-grid that will enable shore power to large ships to reduce fuel consumption by these ships while they are in port. This will require investment in electricity network assets. Wellington Airport: Requires certainty of supply for EV chargers, helping hire car companies electrify, getting rid of gas boilers etc. In the future, electricity may be needed for trial electric planes.	*Direct reduction: Medium* ●●○ *Enabling: High* ●●●	Part of Energy Roadmap work	Wellington City Council Greater Wellington Wellington Electricity	MEDIUM 3-4 years	Part of Energy Roadmap work	●○○	RERP energy roadmap action. Future Development Strategy

Regional Emissions actions – Energy

Action	Enabling or direct emission reduction	Lead	Key partners	Timeframe Long: 5+ years Med: 3-4 years Short: 1-2 years	Resourcing required	Level of community behaviour change required (H, M, L)	Alignment to other plans
Develop an Energy Roadmap for the region.							
This action should remove roadblocks to Council electrification by creating a council/ sector Energy Coordination group to document needs and requirements. This will lead to ensuring we remove roadblocks for key energy users in the region via the development of a Multi-Sector Regional Energy Roadmap. This would outline energy users' needs, aspirations and roadblocks so that the Central Government and EDBs know where to plan and invest for the region to grow and rapidly decarbonise, and to coordinate energy demand reduction efforts.	*Direct reduction: Low-Medium* *Enabling: Medium*	WRLC Secretariat	Councils Iwi Energy sector reps (EDBs, EECA, Transpower, Gentailers) NGOs Big energy users	MEDIUM 3-4 years	Requires resourcing TBC		MBIE national energy strategy Future Development Strategy Charging Our Future: National electric vehicle charging strategy for Aotearoa New Zealand 2023-2035
Investigate local generation and community micro-grids.							
Investigate investment into local generation such as community-level micro-grids (including storage) via funds like MBIE's Community Renewable Energy Fund. Investigate supporting developers to implement microgrids in developments, especially in a denser-housing context. Kāinga Ora and Wellington Electricity to share learnings from their Wellington Energy Sharing Pilot.	*Direct reduction: Medium* *Enabling: Medium*	WRLC Secretariat	Councils Iwi Kāinga Ora Wellington Electricity	MEDIUM 3-4 years	Existing BAU		Future Development Strategy Wellington region energy roadmap

Action	Enabling or direct emission reduction	Lead	Key partners	Timeframe Long: 5+ years Med: 3-4 years Short: 1-2 years	Resourcing required	Level of community behaviour change required (H, M, L)	Alignment to other plans
Make a move to reduce reliance on gas by avoiding demand growth and phasing out existing use.							
We aim to investigate opportunities to avoid additional/new demand for fossil gas from new residential and commercial users while support the phase-out of existing fossil gas use through education and support packages.	*Direct reduction:* *Medium*  *Enabling:* *Medium* 	Porirua and Hutt City Council Climate teams	Councils incl. regional council Iwi Energy sector	SHORT 1-2 years	Existing BAU		MBIE national energy strategy EDB gas transition plans, and Price path re-sets Wellington region energy roadmap.
Support more energy-efficient homes.							
This action is to advocate to Central Government to fund larger-scale residential retrofit programmes, and Eco Design Advisors at Councils, while also expanding current work (e.g Warmer Kiwi Homes programme) to reduce energy demand from household heating in winter peak, along with incentivizing new smart devices.	*Direct reduction:* *Medium*  *Enabling:* *Medium* 	WRLC Secretariat	Councils	MEDIUM 3-4 years	Existing BAU		National Emissions Reduction Plan

Regional Emissions actions – Circular economy

Action	Enabling or direct emission reduction	Lead	Key partners	Timeframe Long: 5+ years Med: 3-4 years Short: 1-2 years	Resourcing required	Level of community behaviour change required (H, M, L)	Alignment to other plans
Facilitate WRLC partners to change their procurement policies or practices to include a requirement for vendor emissions reduction plan as part of major projects (e.g a roading project, new stop banks).							
WRLC partner organisations requiring vendor Emissions Reduction Plans can create a system shift in the market whereby vendors focus more effort on how they may reduce emissions including in their supply chain.	*Direct reduction:* *Medium* ●●○ *Enabling:* *Medium* ●●○	WRLC secretariat All Councils	Other WRLC partners	SHORT 1-2 years	Existing BAU	●○○	Regional Economic Development Plan Wellington Region Waste Management & Minimisation Plan
Work with EECA to investigate feasibility of circular principles in organic waste-to-energy.							
Making better use of organic waste by using it for innovative products or turning it into renewable energy. We will support EECA's Regional Energy Transition Accelerator work, which includes using biomass to support the phasing out of fossil-fuel-based energy sources. By linking a waste source to an industry need we can reduce emissions in waste as well as energy and support local job creation.	*Direct reduction:* *Low* ●○○ *Enabling:* *Medium* ●●○	EECA and the Regional Waste Management & Minimisation Plan Steering Group to co-lead	Iwi	MEDIUM 3-4 years	Existing BAU	●○○	Regional Energy Roadmap Wellington Region Waste Management & Minimisation Plan

Action	Enabling or direct emission reduction	Lead	Key partners	Timeframe Long: 5+ years Med: 3-4 years Short: 1-2 years	Resourcing required	Level of community behaviour change required (H, M, L)	Alignment to other plans
Support further development of and investment in infrastructure and facilities to encourage waste diversion.							
infrastructure and facilities to encourage waste diversion. Diverting waste to be reused helps stimulate the bioeconomy and is more resource efficient especially for materials that can provide valuable feedstock such as woody biomass for bioenergy or other products that reduce reliance on fossil fuels. This is of particular importance for: - plastic waste - organic waste which is particularly high in methane emissions and can be turned into compost - woody biomass from forestry which can be turned into energy, and also - timber from construction and demolition waste which often can be re-used.	*Direct reduction: Low-Medium*  *Enabling: Medium* 	Regional Waste Management & Minimisation Plan Steering Group	WRLC advocate to central government in support of the WMMP work Councils	MEDIUM 3-4 years	Requires new funding		Wellington Region Waste Management & Minimisation Plan Future Development Strategy Food Systems Strategy
Advocate for waste management initiatives which encourage behaviour change and product stewardship.							
This action is to advocate on behalf of the Regional Waste Management and Minimisation Committee to support initiatives which encourage behaviour change in how we manage waste, and provide leadership in encouraging product stewardship to support the development and strengthening of a more circular economy.	*Direct reduction: Low*  *Enabling: Medium* 	Regional Waste Management and Minimisation Plan Steering Group	WRLC Councils	MEDIUM 3-4 years	Existing BAU		Wellington Region Waste Management & Minimisation Plan

Action	Enabling or direct emission reduction	Lead	Key partners	Timeframe Long: 5+ years Med: 3-4 years Short: 1-2 years	Resourcing required	Level of community behaviour change required (H, M, L)	Alignment to other plans
Support regional pilot projects that promote collaboration and skills sharing between different community groups working in the waste reduction space.							
This action aims to help coordinate funding and accelerate innovation from our community to help reduce waste and create higher-value products. These initiatives get community engaged and can provide educational opportunities on topics like composting and repairing.	*Direct reduction: Low*  *Enabling: Low-Medium* 	Regional Waste Management & Minimisation Plan Steering Group	Iwi Councils Akina Sustainable Business Network Localised (arm of the Zero Waste Network)	MEDIUM 3-4 years	New resource required		Regional Economic Development Plan Food Systems Strategy

Regional Emissions actions – Productive land and primary industries

Action	Enabling or direct emission reduction	Lead	Key partners	Timeframe Long: 5+ years Med: 3-4 years Short: 1-2 years	Resourcing required	Level of community behaviour change required (H, M, L)	Alignment to other plans
Encourage land use diversification through increasing certainty and planning for water resilience.							
Learnings from the Wairarapa Water Resilience Strategy (WWRS) work can be shared with other parts of the region to help them with water resilience and land-use diversification planning. The implementation of the WWRS is a multi-year process and will provide opportunities to look for carbon emissions reduction as a co-benefit of land use diversification associated with the ongoing implementation of the WWRS.	*Direct reduction: Low* ●○○ *Enabling: Medium* ●●○	Greater Wellington	Wairarapa Councils WellingtonNZ	MEDIUM 3-4 years	A fixed-term project resource is funded through to 30 June 2024	●●●	Wairarapa Water Resilience Strategy Wairarapa Economic Development Strategy Freshwater Farm Plans Regional Policy Statements Whaitua Implementation Plan
Advocate for funding to expand on-farm advice.							
Advocate for increased identification of carbon emissions reduction opportunities and provision of advice to landowners related to core activities, to help farmers understand how to reduce their on-farm emissions and to integrate these practices into existing plans, Farm Environment Plans.	*Direct reduction: Low* ●○○ *Enabling: Medium* ●●○	Greater Wellington Climate Change and Ecosystems & Community Delivery teams	Wairarapa Economic Development Strategy Horowhenua Co. Horizons Regional Council Industry Bodies MPI	MEDIUM 3-4 years	Existing BAU for advocacy (WRLC). Requires new funding for implementation (GW)	●●●	Fresh Water Farm Plans (FWFP) and Environmental Plans (cFEP) Regional Policy Statements Whaitua Implementation Plan

Action	Enabling or direct emission reduction	Lead	Key partners	Timeframe Long: 5+ years Med: 3-4 years Short: 1-2 years	Resourcing required	Level of community behaviour change required (H, M, L)	Alignment to other plans
Support opportunities for farmer-to-farmer learning.							
We understand farmers want to hear from a trusted, local source about farming practices to reduce methane, conversions to low-emission land use and decarbonising technology and equipment. Showcase examples from Wairarapa and Horowhenua of existing good practices and facilitate knowledge sharing to deliver on-farm emissions reduction demonstrations.	*Direct reduction: Low* ●○○ *Enabling: Medium* ●●○	TBC	Wairarapa Councils Horowhenua District Council MPI Greater Wellington	SHORT 1-2 years	Existing BAU to identify farmers and connect Requires new funding to promote the showcasing – potential event fund.	●●○	
Explore papa kāinga pilot with iwi around food systems and emissions.							
New kai production processes including crop diversification and local opportunities for land use could lead to reduced agricultural emissions. We will work with mana whenua partners to support initiatives that help with that.	*Direct reduction: Low* ●○○ *Enabling: Medium* ●●○	WRLC Iwi partners (TBC)	Food Systems Strategy project Councils	MEDIUM 3-4 years	Requires new	●●○	New District Plan rules Food Systems Strategy Future Development Strategy

He waka eke noa // we are all in this together

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