

Queenstown

Lakes Climate and

Biodiversity Plan

2022 - 2025



JULY 2022

 **Climate
Action**



**QUEENSTOWN
LAKES DISTRICT
COUNCIL**

1 Message from Mayor

Since Council adopted its first Climate Action Plan in 2020, and declared a climate and ecological emergency, we have seen a significant shift in weather patterns nationally and globally. We have also witnessed from afar and experienced first-hand the effects of these swiftly changing conditions to our environment and on our lives. Extreme flooding events have wreaked havoc on homes and businesses and irrevocably changed the landscape around us. Storms of increasing frequency and magnitude have overturned lives. Lengthening summers and higher temperatures bring long drought conditions that affect agriculture, livestock, and unbalance delicate ecosystems.

Although we have made strong progress in delivering on that first plan, now is undeniably time for us to step up a gear. It is clear that the changes we make now and in the next few years are fundamental in reducing the impacts of climate change. And it is a collective change that needs to be made. This is not something that Council can or should address alone. It needs all of us to play our part and embrace the principles of Vision Beyond 2050.

I am heartened and somewhat reassured by the passion and commitment that I see every day within our community and from Council officers. There is so much good work across our district that I cannot begin to acknowledge everyone or the projects underway, but their work can be seen through initiatives such as

the 2021 WAO Summit and the successful recipients of the annual QLDC Waste Minimisation Community Fund which aim to reduce waste at the source or divert it from landfill. These influencers, innovators and educators are essential to our collective success in this vital issue and I thank each and every one of them personally and on behalf of this Council.

I do, however, want to specifically thank and acknowledge the Queenstown Lakes Climate Reference Group which was established in late 2020. This advisory body has provided valuable insight helping Council turn ideas into action. They have brought an expert climate and biodiversity lens to many Council matters and continue to inform future developments with their guidance.

In this second iteration of the plan, now the Climate and Biodiversity Plan to reflect the significance of biodiversity in maintaining healthy ecosystems, we have seen you all take your thinking to the next level which continues to help shape Council's vision and programme of work. Collectively we have envisaged our communities and businesses not compromised but thriving through climate action. We aspire to see our local flora and fauna flourishing thanks to vital interventions and ambitious, authentic leadership. These are things this Council hopes to see enhancing the lives of everyone in our district – now and into the future.

This Council is committing wholeheartedly to making this vision a reality and I challenge each and every one of you to make that same commitment. He waka eke noa. We are all in this together and Council cannot turn the tide alone. I hope we all see this as vital and shared mahi over the coming years to leave a lasting legacy for future generations.

Aku mihi nui ki a koutou



JIM BOULT
Mayor, Queenstown Lakes District Council



2 Message from the Queenstown Lakes Climate Reference Group

Tahuri ana au ki te tīhi o te mauka e rere ana kā mihi ki ērā mauka raraki e,

Ki kā awa e rere ana kia tere ki te Matau-au tae atu ki te tai moana,

Ki kā Puna Karikari o Rakaihautu, ko Hāwea, Wānaka me Whakatipu-waimaori,

Ki kā tapuae o kā tūpuna.

Tīhei mauriora!

Greetings to the many mountains inland. Ko Pikirakatahi, Tītītea, Te Taumata o Hakitekura, me Ka Tiritiri-o-te-moana. To Pikirakatahi, Tītītea, Te Taumata o Hakitekura and the Southern Alps

To the rivers that flow rapidly toward Mata-au, and onward to the ocean

To the great pools of water dug by Rakaihautu, to Hāwea, Wānaka and Whakatipu-wai-maori

And, to the sacred footsteps of our ancestors

The Climate Reference group (CRG) was established to be an independent, multidisciplinary and regionally representative team to offer expert advice and support to Queenstown Lakes District Council (QLDC) on the Climate and Biodiversity Plan (CBP). The group has worked together to evaluate best practice in Aotearoa New Zealand and globally, to identify our key challenges and recommend priority action areas.

The CRG's input and work has helped co-design the review of the CBP in collaboration with QLDC.

As part of the design and review we have stretched our network to bring as much information from stakeholders right across our district, in doing so learning about the significant leadership so many people are already embracing in our region around climate and biodiversity. We want to thank all of those involved in sharing their time, passion and knowledge to feed into this plan. This input means that our CBP is designed for our district, by our district.

The CRG will focus on influencing the implementation of this plan. Our environment has become fragile over decades of taking from it and the need to protect and restore it has never been so urgent. Climate and biodiversity issues need to rise to the front of everyone's agendas in everything we do. As a group it is our primary objective to ensure this happens. We are confident that we have the knowledge, skill and capability to achieve the changes required to move from damaging to sustainable and from sustainable to regenerative. We have seen so many wonderful examples of people and communities learning, sharing and shifting. If we can focus all of our people on the changes required, anything is possible.

Tēnei te ruru, e kōkōu mai nei. Kīhai mahitihiti, kīhai marakaraka, te upokonui o te ruru terekau: he pō, he pō, he ao, he ao, he awatea.

Nau mai, tahuti mai ki tēnei paetukutuku.

Here is the ruru (morepork) which calls here, now; Whose head does not bow from side to side, nor



up and down; The head of the ruru is steadfast on its shoulders as it calls from the darknes towards the dawn.

Welcome! Come! Gather here to weave together the many layers of people and knowledge.

This whakatauki stresses the importance of keeping steadfastly to the kaupapa; taking the accumulated years of wisdom and knowledge, to inform present and future challenges.

The CRG are passionate about creating change for our children and future generations.

Ngā mihi maioha



BRIDGET LEGNAVSKY
Chair, Queenstown Lakes Climate Reference Group

MEMBERS OF THE CLIMATE REFERENCE GROUP:

Bridget Legnavsky

Dr Lyn Carter

Cr Alexa Forbes (Otago Regional Council)

Cr Niki Gladding

Tony Pfeiffer

Dr Jim Salinger

Cr Quentin Smith

Alec Tang

Gail Thompson

Cr Esther Whitehead

Dr Barrie Wills

Amanda Robinson





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Te Reo Māori translation: Please note, QLDC uses the local Kāi Tahu dialect which replaces 'ng' with 'k', e.g. tākata (people) instead of tāngata



4 Introduction

This decade is crucial. So are our collective next steps.

In 2019 we declared a climate and ecological emergency in our district and developed our first Climate Action Plan.

A lot has changed since then. The COVID-19 pandemic has demonstrated how interconnected humankind is and how we can all be affected by a global crisis. It has also shown how quickly we can adapt to change and find new solutions when we work together.

There is a need to continue with this commitment to change and not return to a business-as-usual way of thinking. The scientific evidence for urgent climate action is clear. The International Panel for Climate Change documents how record levels of greenhouse gases and heat have shifted the climate into uncharted territory. The impacts of this change, such as record temperatures, unprecedented weather events and shifting climate patterns, are being experienced here and around the globe.

This plan sets out how we're going to respond to biodiversity loss and climate change in Queenstown Lakes. We have compiled 70 actions. They range from embedding climate action into Council decision-making to building food resilience, and many areas in between.

While Council led the development of this plan, we see it as belonging to the whole district, and it wouldn't be possible without input from mana whenua, climate and biodiversity experts, local businesses, sustainability advocacy groups, conservation groups, and the passion of our community.

This plan belongs to the district. Climate change and biodiversity loss affects everyone.

THIS PLAN IS STRUCTURED IN TWO PARTS.

The first part provides background information on the importance of tackling the climate and biodiversity crises together, the state of our emissions in the district and our options for emissions reduction pathways, the likely climate change impacts we will see in the future, and the challenges we face in trying to change and adapt.

The second part includes a framework that shows how we will measure our progress, as well as a detailed action plan with the following six outcomes.

1 QLDC demonstrates ambitious climate leadership

2 Our transport system is low-emission and better connected

3 Our built environment is low-emission and resilient

4 Our communities are low-emission and climate resilient

5 Low-emission businesses thrive

6 A flourishing natural environment

Our partnership with Kāi Tahu is foundational to this plan.

The partnership between Kāi Tahu and Queenstown Lakes District Council underpins the Climate and Biodiversity Plan 2022-2025.

Over the past three years our partnership with Kāi Tahu has been strengthened through the shared development of the Grow Well | Whaiora Spatial Plan. Building on this partnership, the Climate and Biodiversity Plan has been informed by Climate Reference Group representation from Aukaha and Te Ao Marama on behalf of Kāi Tahu. It is also strongly aligned with the Kāi Tahu Values Framework from the Spatial Plan as shown below.

KĀI TAHU VALUES FRAMEWORK

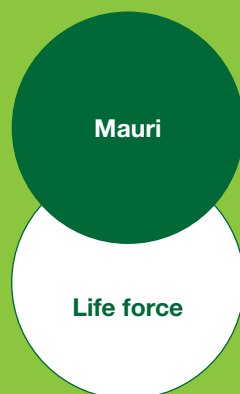
| VALUE | DESCRIPTION | APPLICATION |
|-----------------------|------------------------------|--|
| <i>Whanaukataka</i> | Family and community focused | Ensuring consideration of the social implications of decisions to enable community and whānau connections and growth. |
| <i>Manaakitaka</i> | Hospitality | Demonstrating behaviour that acknowledges others, through the expression of aroha, hospitality, generosity and mutual respect. |
| <i>Rakatirataka</i> | Leadership | Ensuring the treaty partnership is recognised to enable mana whenua leadership in decision making processes. |
| <i>Haere whakamua</i> | Future focused | Adopting a forward looking orientation with future generations in mind. |
| <i>Tikaka</i> | Appropriate action | Ensuring consideration of the appropriateness of decisions that will have a bearing on social, economic, environmental and cultural outcomes. |
| <i>Kaitiakitaka</i> | Stewardship | Enabling the inherited responsibility of mana whenua to support and protect people, the environment, knowledge, culture, language and resources on behalf of future generations. |
| <i>Mauri</i> | Life force | Recognising the life force in all lands, waters and the natural environment that stems from time immemorial, requiring a high duty of care for kaitiaki (and others) to maintain an intact and healthy mauri, ensuring that what is gifted from the Atua is not neglected. |

The Kāi Tahu climate change strategy, He Rautaki mō te Huringa Āhua o Te Rangī¹, speaks to creating a legacy for those whānau to come in response to the effects of climate change. We share Kāi Tahu's aspiration to secure the best possible future for us and our children after us. The Council stands beside Kāi Tahu in the belief that amid change and loss there is also hope, and opportunities to thrive.

¹ <https://ngaitahu.iwi.nz/wp-content/uploads/2018/11/Ngai-Tahu-Climate-Change-Strategy.pdf>

**KĀI TAHU
VALUES
FRAMEWORK**

- Value
- Description



The role of Council.

Although central government has an important role to play in Aotearoa New Zealand’s response to the climate and biodiversity crises, local government plays a critical role in driving change at a district and community level. Council is closely connected to the communities it serves and the environment it protects. Council must advocate for, partner, and lead the district-level response.

ADVOCATING

Council has a responsibility to advocate for our community and our local environment. To date, we have strongly advocated for greater urgency, ambition, and funding commitments from central government.

PARTNERING

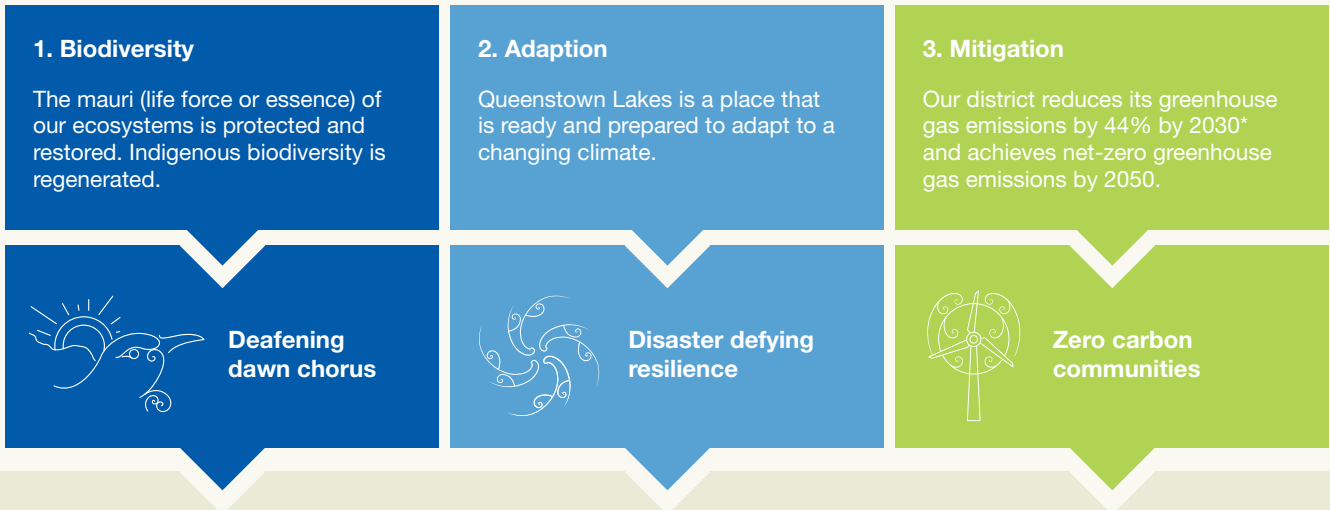
Council works closely with our communities and local organisations to partner in the delivery of climate and biodiversity actions. This includes funding a wide variety of community groups and projects that are focused on district-level emissions reduction, climate change education, biodiversity regeneration and helping our communities to be prepared and resilient for a just and equitable transition.

LEADING

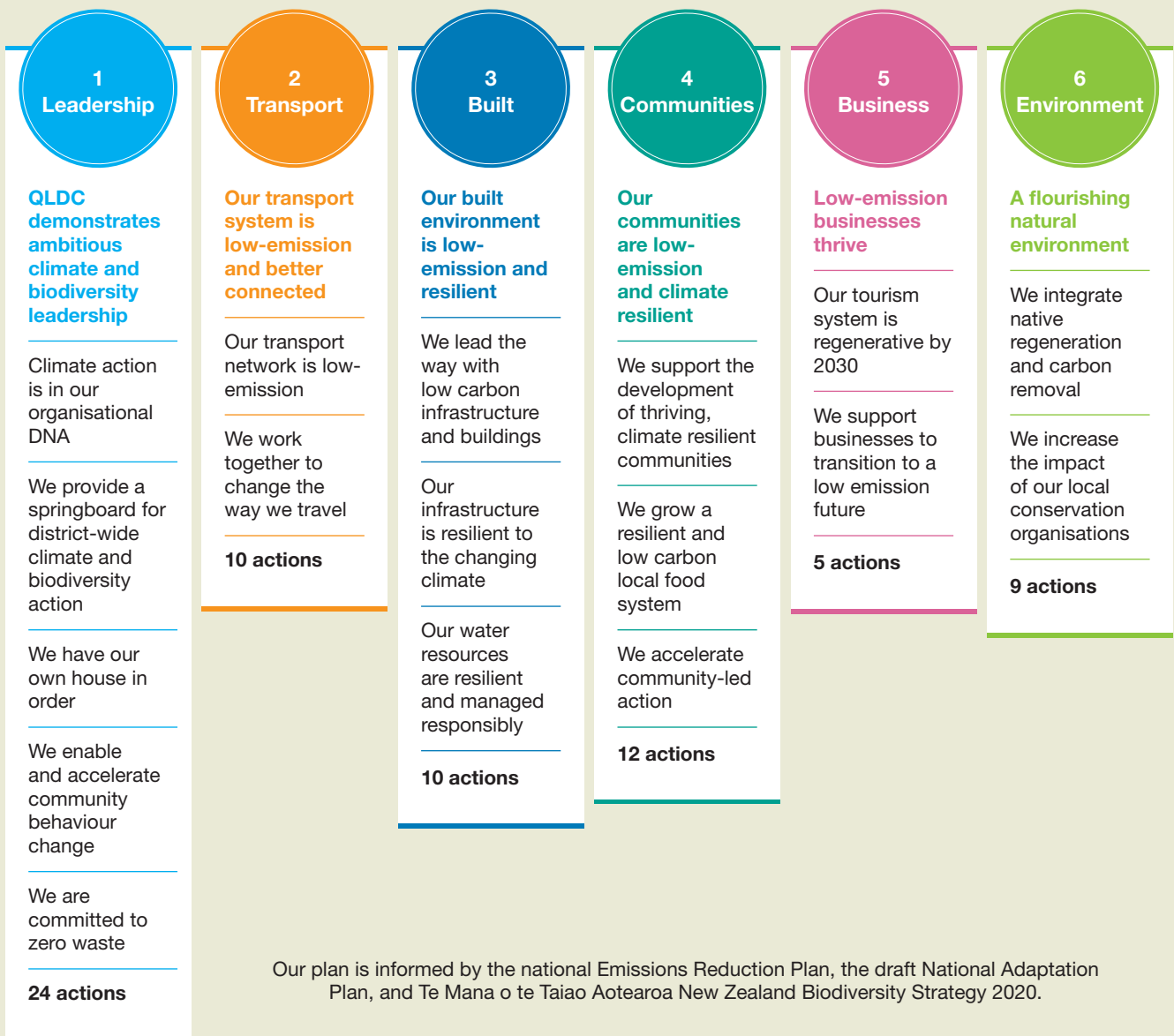
Council has a major role to play in leading the district-level response to the climate and ecological emergency. The way we work and invest matters. This plan ensures that Council activity is focused towards climate action and biodiversity regeneration. Not only are we one of the largest employers in the district, but we also invest a significant amount in public infrastructure. Our ambition is for Council to be a leader and learner, embedding climate action into our organisational culture. This ambition aligns with our long-term commitment to Vision Beyond 2050.

Our Climate and Biodiversity Plan has 3 goals

THESE GOALS ALIGN WITH OUR COUNCIL'S VISION BEYOND 2050 OUTCOMES



TO REACH OUR GOALS WE HAVE SIX OUTCOMES



Our plan is informed by the national Emissions Reduction Plan, the draft National Adaptation Plan, and Te Mana o te Taiao Aotearoa New Zealand Biodiversity Strategy 2020.

* Against a 2019 baseline and aligned with the 1.5 degree science-based target pathway outlined in the 2020 Emissions Reduction Roadmap.





5 Tackling the climate and biodiversity crises together

In 2019 we declared a *climate and ecological emergency.*

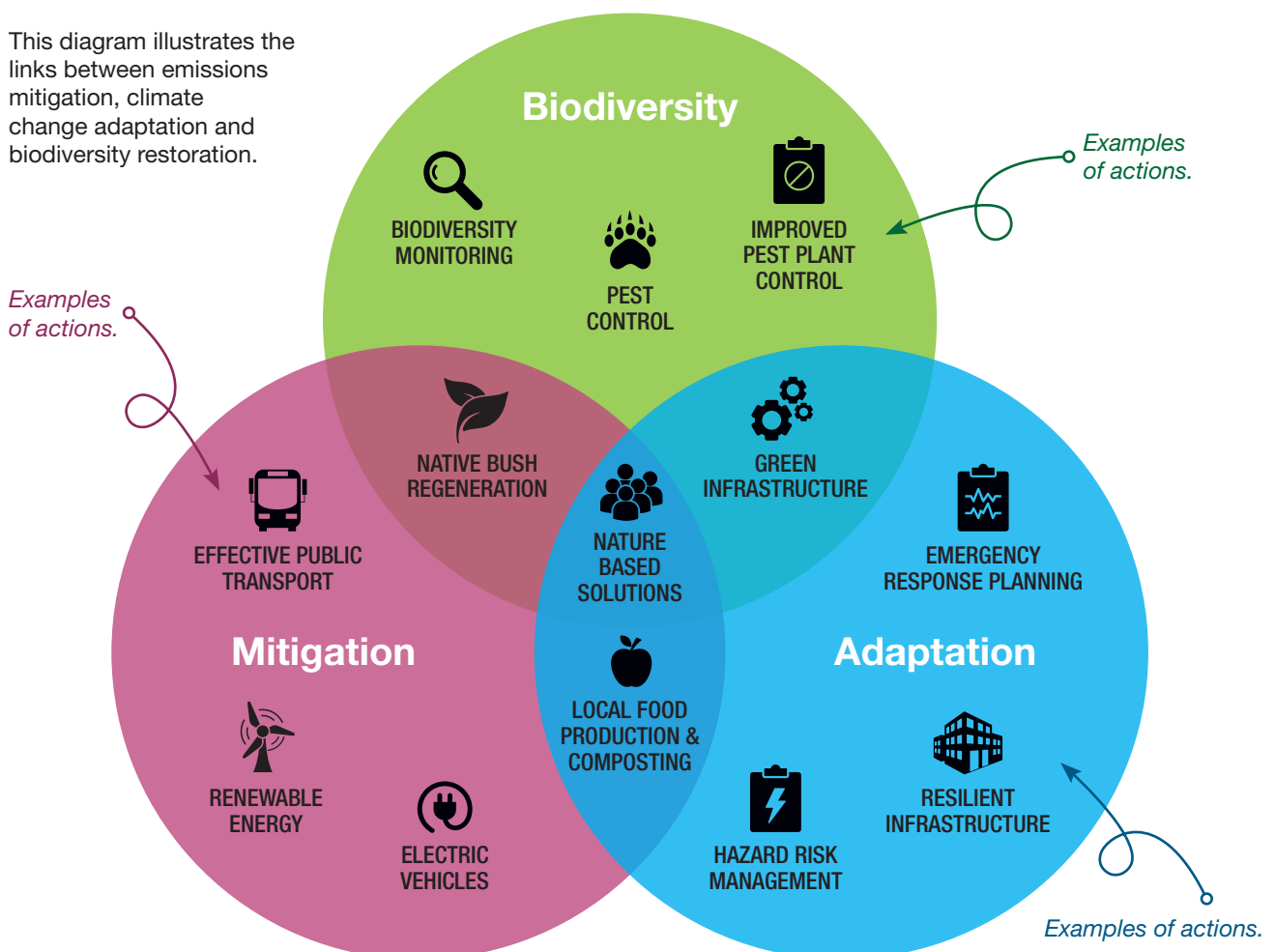
Our first Climate Action Plan (2019-2022) focused on laying a solid foundation for the district-wide response to climate action. While much has been achieved, we recognised during the development of this new plan that we needed to strengthen our focus on the ecological emergency. This led to two important changes:

- 1 This is now a Climate **and Biodiversity** Plan
- 2 We have committed to a new outcome: a **Flourishing Natural Environment**

MITIGATION, ADAPTION AND BIODIVERSITY ACTION

Reducing carbon emissions, adapting to a changing climate and restoring indigenous biodiversity should not be approached separately. Our environment is a highly complex system of interdependent relationships. We need to tackle emissions reduction, climate change adaptation, and biodiversity restoration in an integrated and holistic way. We need to identify where interdependencies exist for important actions and ensure that any planning activity or relationship building involves a broad, multi-disciplinary approach. By bringing experts and advocates for emissions mitigation, climate adaptation and biodiversity conservation together we can achieve better outcomes for our communities and our local eco-systems.

This diagram illustrates the links between emissions mitigation, climate change adaptation and biodiversity restoration.



The importance of biodiversity.

Biodiversity refers to the wide variety of animal and plant life on Earth. Biodiversity creates healthy ecosystems, supports clean air and water, plant pollination, pest control, and much more.

We are an integral part of the natural world, and the health of our biodiversity affects our health and wellbeing (social, cultural, and economic) and the environments within which we live².

Healthy ecosystems support rich biodiversity, protect people from the impacts of climate change and capture carbon from the atmosphere. However, our biodiversity and ecosystems are also vulnerable to the effects of climate change.

As well as having intrinsic value, well-functioning ecosystems provide a range of benefits such as provision of food, fresh water, fibres, wood and fuel. They regulate our environment through mitigating flood events, purifying our water, sequestering carbon and cooling temperatures. Well-functioning ecosystems also support our environment through nutrient cycling and soil formation, and they are integral to who we are whether it's through mātauranga Māori or other spiritual, aesthetic, scientific, recreational or educational connections³.

² DOC (2020a) Te Mana o Te Taiao - Aotearoa New Zealand Biodiversity Strategy 2020. Department of Conservation. www.doc.govt.nz/nature/biodiversity/aotearoa-new-zealand-biodiversity-strategy/

³ Millennium Ecosystem Assessment (2005). Ecosystems and Human Well-being: Our Human Planet - Summary for Decision-makers. www.millenniumassessment.org/en/Reports.html



Nature-based solutions (NbS) involve working with nature to address societal challenges, providing benefits for both human well-being and biodiversity.



The biodiversity crisis.

Biodiversity is in crisis globally, with an estimated one million species currently at risk of extinction⁴. In Aotearoa New Zealand we have a high proportion of species found nowhere else in the world. Unfortunately, since human arrival, 79 species have become extinct. Of nearly 11,000 terrestrial species 7% are listed as Threatened, 22% are considered At Risk, and 37% are Data Deficient (insufficient data to determine if they're at risk or threatened). Of 978 freshwater species, 14% are listed as Threatened, 17% as At Risk, and 22% considered Data Deficient⁵.

Key drivers of biodiversity loss in Aotearoa New Zealand are climate change, introduced invasive species, changes in land use (e.g., clearing land and plantation forestry), direct harvesting of species, and pollution.

Biodiversity loss across our district has been significant, particularly since European arrival. Less than 10% of indigenous vegetation cover remains across much of our urban and surrounding areas and there has been significant native vegetation loss in our riparian, wetland, and lakefront areas⁶.

Local government is responsible for controlling the effects of land use on indigenous biodiversity (terrestrial and aquatic) and for identifying and protecting areas of significant indigenous vegetation or significant habitat of indigenous fauna.

This plan ensures we will integrate climate action, biodiversity protection and ecosystem restoration into the way we do business, looking to nature for solutions.

We are supported and guided by the work happening regionally and nationally.

Aotearoa New Zealand has signed the Leaders' Pledge for Nature - a commitment to reversing biodiversity loss by 2030 - and is a party to the international Convention on Biological Diversity and several other international agreements relating to the protection of biodiversity.

Te Mana o te Taiao - Aotearoa New Zealand Biodiversity Strategy 2020, sets the national strategic direction for the protection, restoration, and sustainable use of biodiversity. Our Plan is also guided by the Otago Regional Council's Biodiversity Strategy⁷ and Biodiversity Action Plan⁸.

⁴ IPBES (2019): Summary for policymakers of the global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. <https://ipbes.net/global-assessment>

⁵ DOC (2000b). Biodiversity in Aotearoa an overview of state, trends and pressures 2020, August 2020, Department of Conservation. <https://www.doc.govt.nz/globalassets/documents/conservation/biodiversity/anzbs-2020-biodiversity-report.pdf>

⁶ Manaaki Whenua: Landcare Research (2022) Our Environment Land Atlas of New Zealand Map Tool (Habitats layer) (https://ourenvironment.scinfo.org.nz/maps-and-tools/app/Habitats/lenz_tec/490,414,491,415,399,400)

⁷ ORC (2018). Our Living Treasure | Tō tātou Kōiora Taoka Otago Regional Council's Biodiversity Strategy 2018. www.orc.govt.nz/media/5798/orc_biodiversitystrategy_document-final-web.pdf

⁸ ORC (2019). Biodiversity Action Plan-Te Mahi hei Tiaki i te Kōiora 2019-2024. www.orc.govt.nz/media/7034/final-orc-biodiversity-action-plan-july-2019.pdf

6 Our emissions profile and reduction roadmap

Council's emissions.

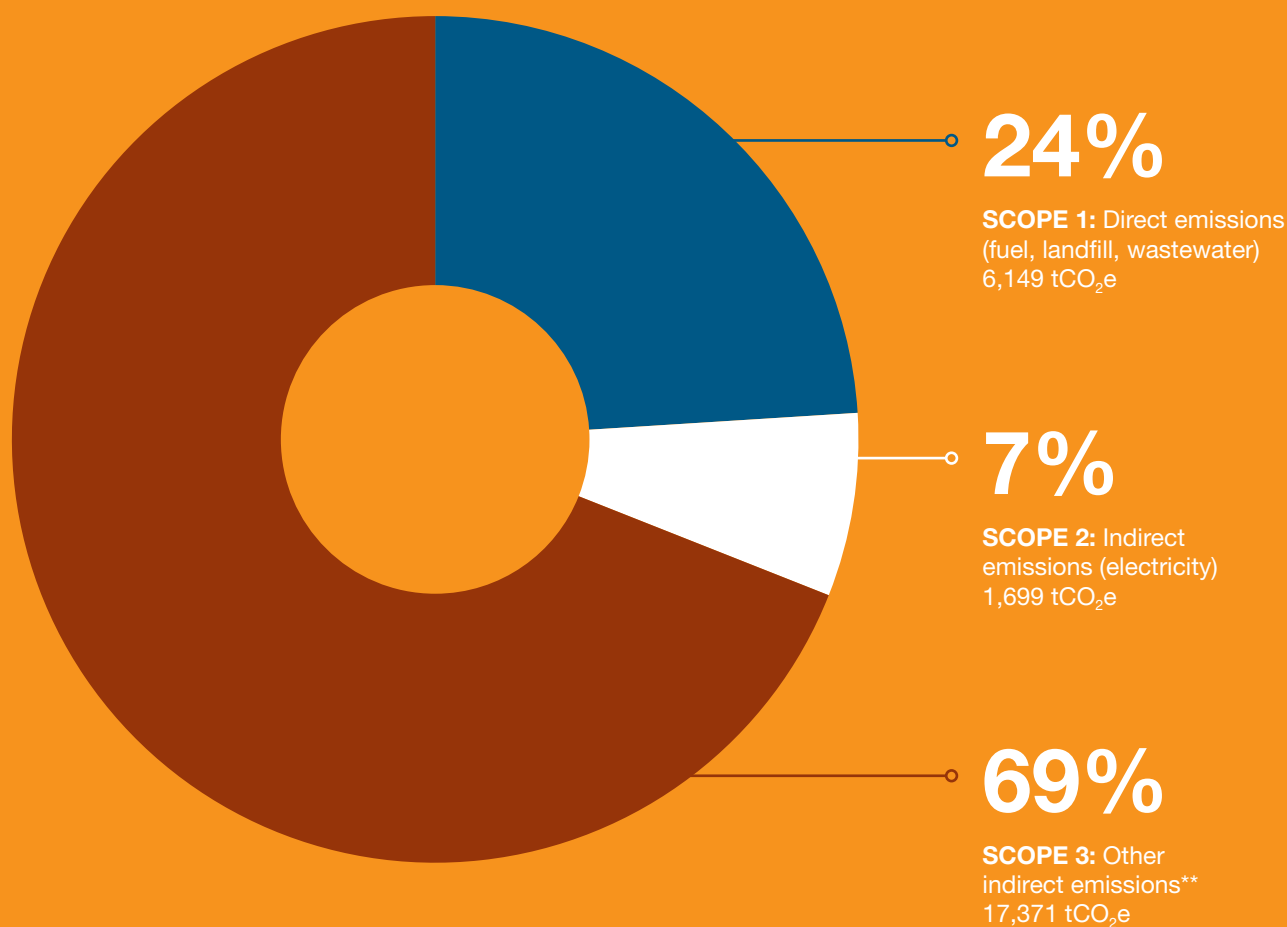
25,219
tCO₂e

Council
emissions in
2018-2019

Council's greenhouse gas emissions were calculated to be 25,219 tonnes CO₂e* in 2018-2019, which is our baseline year.

The main sources of emissions for the Council were the construction of roads and water supply infrastructure (50%), wastewater treatment (20%), purchased goods and services (15%) and electricity (7%).

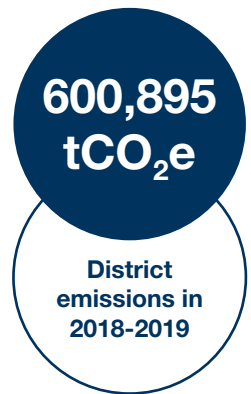
GROSS EMISSIONS BY SCOPE



* "CO₂e" or "carbon dioxide equivalent" is a term for describing all different greenhouse gases in a common unit.

** Indirect emissions include capital goods (roading, water supply and stormwater, buildings and building improvements, sewerage infrastructure, furniture and office equipment, plant and machinery, library books, computer equipment, motor vehicles), purchased goods and services, employee commuting, fuel and energy related activities, investments (Queenstown Airport), business travel, waste generated in operations.

Our district's emissions.

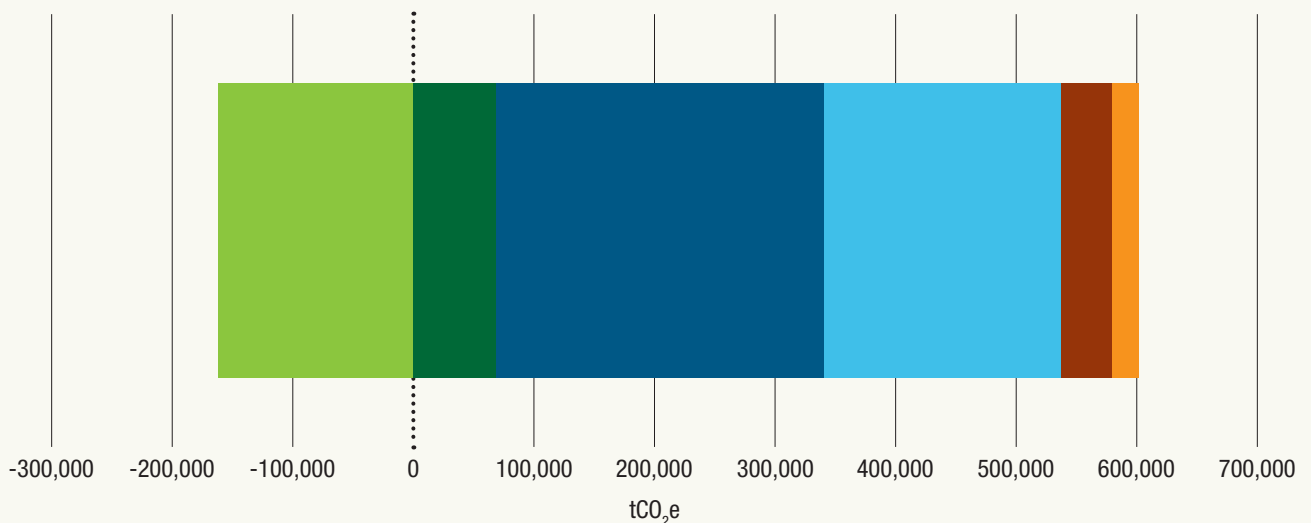


The emissions profile for the district was summarised in the 2021 report, Otago Region Greenhouse Gas (GHG) Profile⁹:

In financial year 2018-2019 it was estimated that:

- > Gross emissions for the Queenstown Lakes District were 600,895 tonnes of carbon dioxide equivalent (tCO₂e).
- > Net emissions (once forestry is taken into account) were 438,591 tCO₂e.

QUEENSTOWN-LAKES GREENHOUSE GAS PROFILE

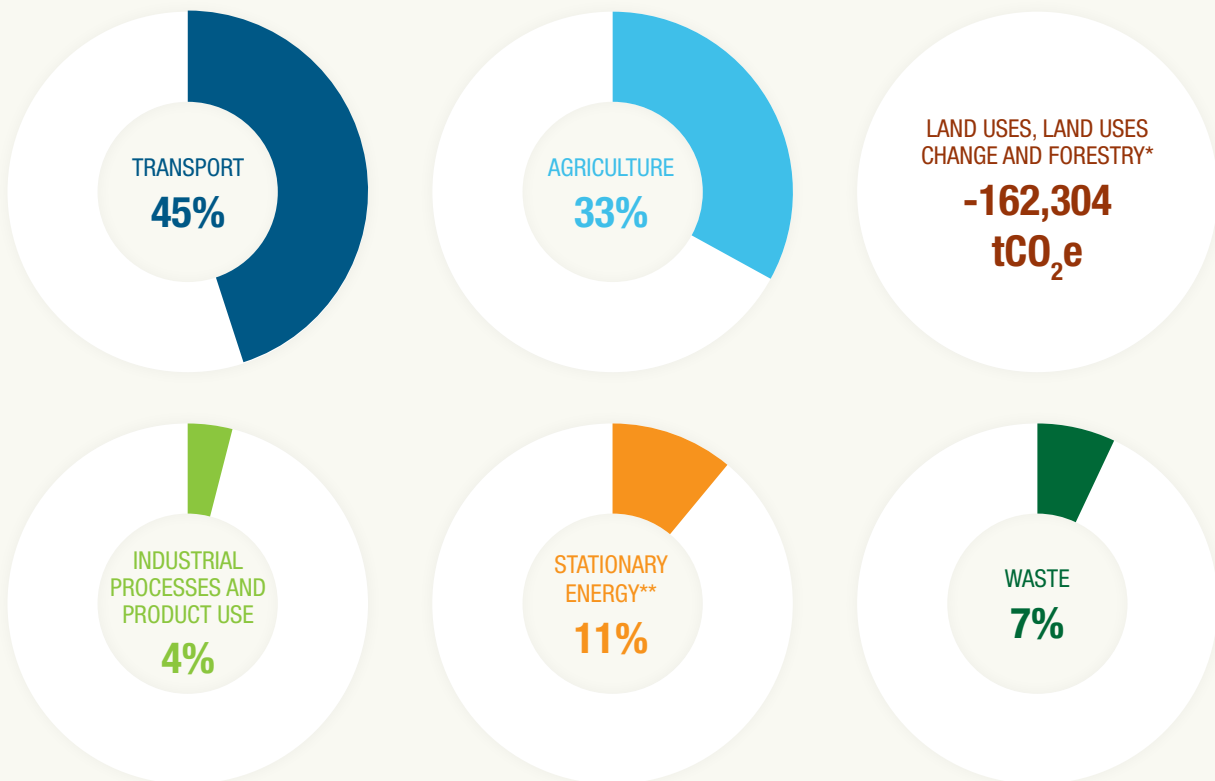


- LULUCF (Land Use, Land Use Change and Forestry*)
- Stationary energy (electricity and fossil fuel energy use by the industrial, commercial, agricultural and residential sectors)
- Transportation (includes on and off-road fuel consumption, and domestic and international aviation)
- Agriculture (livestock and fertiliser)
- Waste (landfill, wastewater treatment, farm fills and rural waste)
- IPPU (Industrial Processes and Product Uses)

* The United Nations definition of LULUCF is a greenhouse gas inventory sector that covers emissions and removals of greenhouse gases resulting from direct human-induced land use, land-use change and forestry activities. <https://unfccc.int/process-and-meetings/the-convention/glossary-of-climate-change-acronyms-and-terms#lulucf>

⁹ ORC (2021). Otago Region Green Gas Profile. https://orc.govt.nz/media/10129/otago-region-ghg-profile-report_v4.pdf

Transport is the highest emitting sector, with on- and off-road transport accounting for 60%, and domestic and international aviation accounting for 38% of sector emissions. After transport, agriculture is the largest contributor to district emissions in the district, mainly from livestock. Stationary energy accounts for 11% of gross emissions and is dominated by electricity consumption. The emissions from waste are largely due to organic waste breaking down in landfills.



Otago regional emissions

Adjusting for differences in how community and national greenhouse gases inventories are calculated, the Otago region represents approximately 6.9% of Aotearoa New Zealand's 2019 gross emissions and 5.6% of Aotearoa New Zealand's net emissions. This compares with Otago accounting for approximately 5% of Aotearoa New Zealand's population and 4.5% of national GDP.

* Not a % as this is sequestration – the difference between gross and net emissions.
 ** Dominated by electricity consumption.



In 2020 we commissioned an Emissions Reduction Roadmap for the district.

This showed us that if we continue on a business-as-usual pathway then our annual emissions would increase to over 944 ktCO₂e by 2050.

The roadmap modelled different pathways using science-based targets to show what actions are

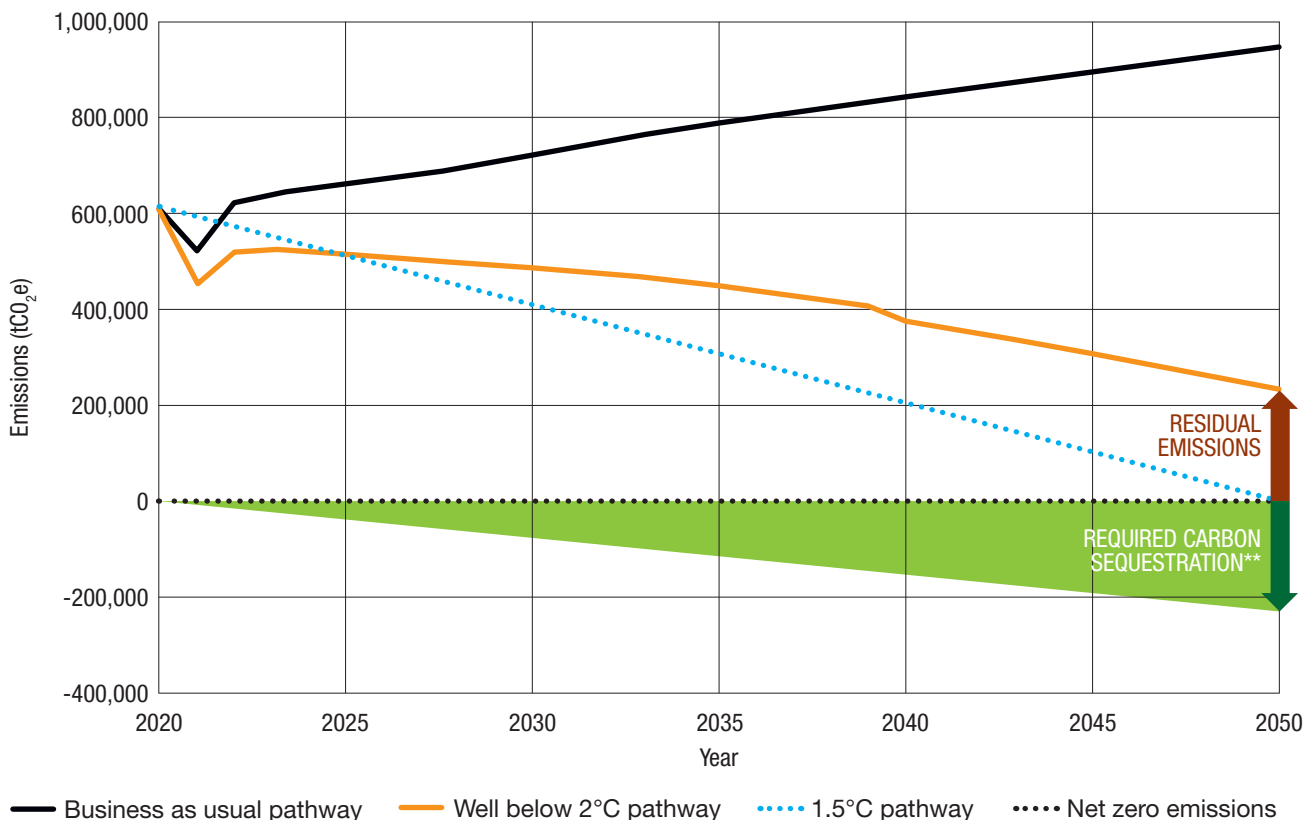
required to achieve net carbon zero by 2050.

Science-based targets are an internationally accepted methodology for determining emissions reduction pathways that will limit global warming to either 1.5°C or well-below 2°C.

Although modelling these pathways is difficult it helps give us insight into the scale of the challenge, areas of opportunity, and specific action areas which have the most savings potential.

The below graph illustrates the emissions pathway options that our district can take over the next 30 years.

EMISSIONS REDUCTION ROADMAP* – PATHWAYS TO 2050

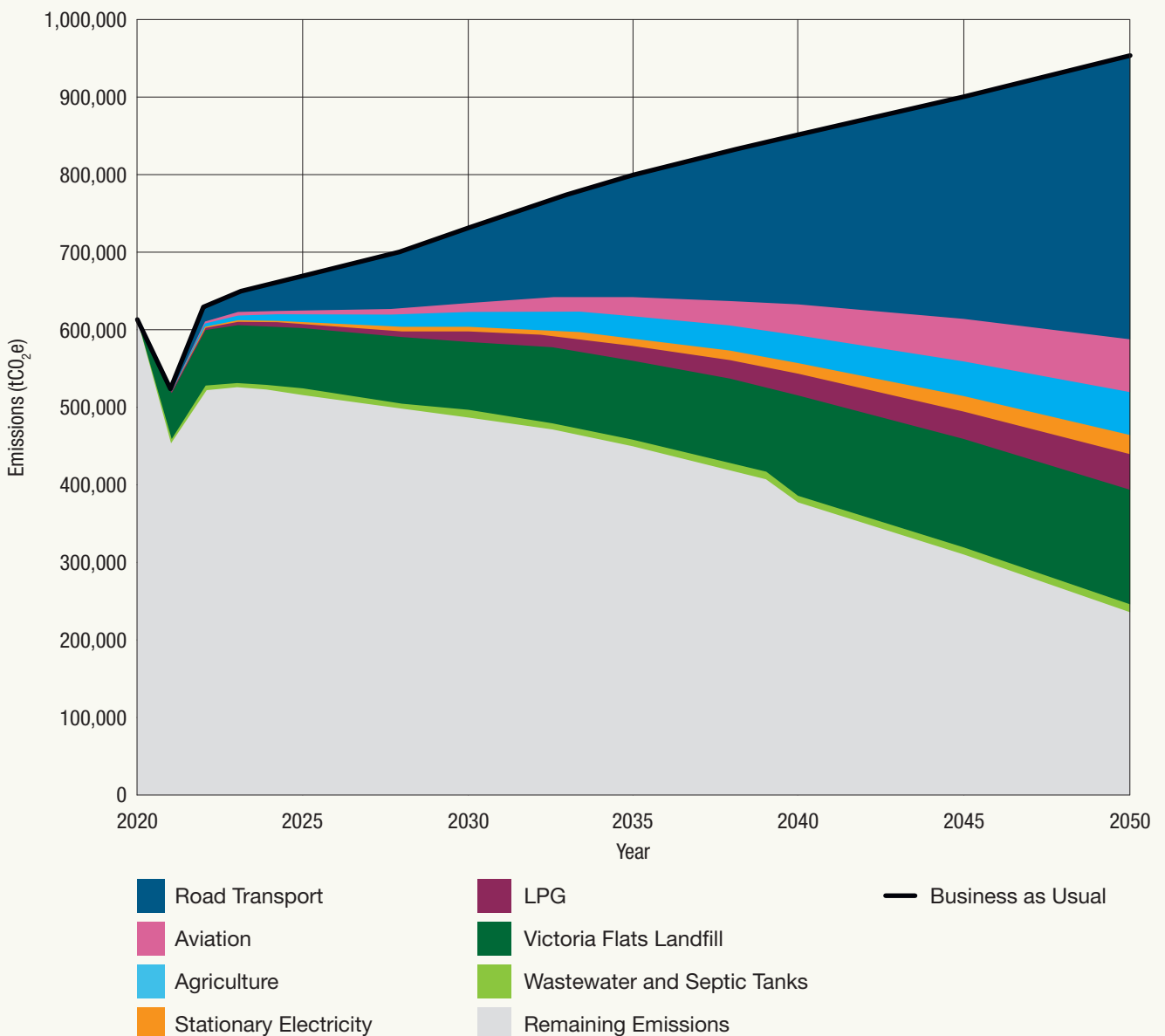


* The Emissions Reduction Roadmap is based on *Tonkin & Taylor (2020), Greenhouse Gas Community Inventory – 2019 Update for the Queenstown Lakes District*. www.qldc.govt.nz/media/qyyn4f4d/qldc-2019-ghg-inventory-report.pdf
 ** Carbon Sequestration is the process of removing CO₂ from the atmosphere to reduce global warming. The most effective means of sequestration is through natural biological processes such as photosynthesis within plants and carbon storage within soil.

Emissions saving potential.

The development of these pathways involves investigating the potential emissions savings opportunities across a variety of sectors. This requires predictions and assumptions about the potential changes we are likely to see in the future for the adoption of new technology (e.g., electric vehicles) and changes to community behaviour (e.g., people choosing to reduce waste or using public transport more often).

The below graph shows the potential emissions we could save over the next 30 years across different sectors. The graph highlights the significant role that road transport plays in our district as well as the high level of emissions (methane) that are associated with the Victoria Flats landfill.



At a district level we have strengthened our climate goals.

When we commissioned the roadmap back in 2020 it was developed for a well-below 2°C pathway that achieves net-zero carbon by 2050.

However, there is increasingly a strong international focus to meet the 1.5°C target¹⁰ and the New Zealand Government has committed its support to this target.

We have set a goal of 44% emissions reduction by 2030 and commit to the 1.5°C target. We will update the district's Emissions Reduction Roadmap to increase the pace of change.



¹⁰ <https://ukcop26.org/cop26-keeps-1-5c-alive-and-finalises-paris-agreement/>

7 What climate impacts can we expect in Queenstown Lakes?

There will be significant impacts to our environment and way of life.

Although we are fortunate in the sense that our Queenstown Lakes communities will not have to deal with the effects of sea level rise, there will still be significant changes to our district's climate which will impact our environment and way of life.

We're likely to see more extreme rainfall and the risk of landslides, flooding, erosion, heatwaves, and wildfire will all increase. Rain that would previously have fallen as snow will fall more often as rain and spring snowmelt may occur earlier in the season.

We'll also see changes to our native flora and fauna, as well as pest and crop diseases, and which crops can be grown. Rising temperatures may extend the breeding season of predators, like possums, which will in turn threaten our native birds.

By 2100, on average, there will be up to 60 more 'summer days' each year, with temperatures reaching above 25°C. Winter's highest daily maximum temperatures will increase by 5-7°C depending on location. We're likely to see more heat stress from heatwaves affecting plant, animal, and human health.

As climate change impacts upon other regions, we may see inward migration into our district. Comparatively, life in Aotearoa New Zealand could be far preferable for many global citizens, so it is likely that we will see an increase in migration to our country, and our district.

These predictions are from a report by Bodeker Scientific for Council. The full report is available on our website www.qldc.govt.nz/your-council/climate-change-and-biodiversity



Our climate is likely to change in the following ways.



The district is likely to warm by several degrees, with a projected increase in some areas of up to 7°C.



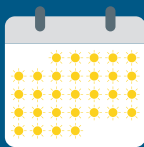
A considerable reduction in mountain snowpack and resultant water storage, with snowmelt occurring earlier in each season. This will lead to a reduction in the volume of water through the spring melt season in addition to a variability in freeze-thaws.



Summers will get warmer with maximum temperatures from December to February increasing by as much as 6-9°C. Summer daily minimum temperatures may increase between 2-3°C depending on location.



Rainfall distribution and intensity is likely to change, with a greater likelihood* of more extreme rainfall events.



On average, there will be about 12-64 fewer frost days, and up to 60 more 'summer days' each year (i.e. a daily maximum temperature above 25°C).



It will also get warmer over the winter months with the seasonal lowest minimum temperatures increasing by 2-3°C.



Precipitation that would previously have fallen as snow and stored in the snowpack will more likely fall more often as rain and contribute to variability in river flows and lake levels.



Winter's highest daily maximum temperatures will increase by 5-7°C depending on location.





8 The challenges we face

Responding to climate change isn't always easy.

The challenges we face are significant, complicated, and often involve strongly divergent views over the complex array of benefits, trade-offs, and constraints.

8.1 THE CHALLENGE OF CLIMATE LEADERSHIP

We know that our community wants to see leadership from Council. Not only are we one of the largest employers in the district, we also invest a significant amount in public infrastructure. The way we work and invest matters and this plan will ensure that Council activity considers the climate and the environment.

Council also has a role in supporting community and business activity and making connections so that we work together as a district to achieve our aspirations for climate change and biodiversity. This isn't something we can do alone – nearly every challenge we face will require a team effort from everyone in the district. Our ambition is for Council to be a leader and learner and embed climate action into our organisational culture. This is why our first outcome is “QLDC demonstrates ambitious climate and biodiversity leadership”.

8.2 THE CHALLENGE OF URBAN GROWTH

Growth is a loaded term. For some it inspires optimism and aspiration, for others frustration and concern. From one perspective, growth means more carbon emissions, more waste, more congestion. From another it means improved urban design, greater access to services, and improved transport networks.

The Queenstown Lakes Spatial Plan¹¹ sets out how and where our communities will be developed to ensure our social, environmental, and economic prosperity.

The shape and form of our cities, towns and neighbourhoods influences how we live and get around, which can have a big impact on emissions and biodiversity, for example:

- > Higher density dwellings generally require less energy to heat.
- > Creating live-work-play neighbourhoods reduces the distance people need to travel.
- > Improving public transport and active transport opportunities will provide a genuine alternative to travelling by car.
- > Establishing indigenous vegetation corridors, healthy water networks and riparian plantings to support biodiversity and honour the mauri of our district.

¹¹ www.qldc.govt.nz/your-council/council-documents/queenstown-lakes-spatial-plan

8.3 THE CHALLENGE OF TOURISM

The economy in the Queenstown Lakes District has been dominated by the visitor economy for decades, but in recent years there has been increasing discomfort with the impact that visitors have on our communities and environment.

During the pandemic, there were calls from both businesses and communities for tourism to intentionally ‘build back better’.

Council has partnered with Destination Queenstown and Lake Wānaka Tourism to develop the district’s first Destination Management Plan, based on sustainable development principles. Destination management is a model that has been used internationally for some time and it relates to the coordination of infrastructure and amenities, visitor experience and marketing and promotion¹².

However, this traditional definition is insufficient in a time of uncertainty and climate change, so a more holistic approach also now incorporates te ao māori, resident experience, productivity, emissions reduction, and environmental protection.

The Destination Management Plan will take into account the needs of all of our people, employees, businesses, the climate and our environment¹³. Its focus will be on achieving regenerative tourism by 2030 – the right solution, in the right place, for the right people at the right time – for the benefit of the environment and our communities. It will be completed in mid-2022.

¹² Further information can be found at www.mbie.govt.nz/immigration-and-tourism/tourism/destination-management-guidelines/

¹³ Further information can be found at www.queenstownnz.co.nz/regenerative-tourism-2030

8.4 THE CHALLENGE OF PUBLIC TRANSPORT

Getting around by public transport helps reduce congestion on our roads and reduces the emissions from private cars.

We know that our community wants a better public transport service. The 2021 Quality of Life survey for Queenstown Lakes showed that while there has been an increase from the previous year in the proportion of residents who use the bus to commute on a weekly and daily frequency (11%, up from 9% in 2020), there has also been an increase in those who never catch the bus (71%, up from 65% in 2020). Only 20% of respondents agreed that public transport met the needs of the community.

The delivery of public transport is the responsibility of Otago Regional Council. We are partnering with the regional council to improve the bus service network for our residents, as well as advocating to decarbonise the bus fleet. Community bus trials are underway to better understand the need for public transport in the Upper Clutha.



8.5 THE CHALLENGE OF AGRICULTURE

Agriculture accounts for 32.4% of total emissions in the district.

The majority of these emissions are biogenic methane from the livestock in farms across the district, but fertiliser is also a contributor. Agriculture is the largest emitter of greenhouse gases for Otago and Aotearoa New Zealand, so it is a critical area of focus for the entire country.

Specific targets around biogenic methane reduction have been established and a five-year programme, He Waka Eke Noa, is underway to equip farmers and growers with the information, tools, and support they need to reduce emissions and build resilience to climate change.

Within our district there are many examples of leading advocates, farm carbon reduction programmes, and regenerative farming practices that are helping to enable this sector transformation. While Council has limited control to accelerate progress with this transformation, we fully support the local leadership that is being shown and will continue to explore opportunities to promote and advocate for this change.

8.6 THE CHALLENGE OF AIR TRAVEL

Aviation accounts for 17.34% of total emissions in the district. This is calculated from all departing flights from Wānaka and Queenstown airports (domestic and international).

Queenstown Airport is the fourth busiest airport for passenger numbers in the country and is the gateway to Central Otago and the Southern Lakes regions. This makes Queenstown Airport an important economic driver of the region's tourism industry and the wider local economy. Care must be taken however to ensure that aviation emissions do not undermine the local and national shift towards net-zero carbon.

Queenstown Airport Corporation (QAC) is a Council-Controlled Trading Organisation with two shareholders – Queenstown Lakes District Council (75.1%) and Auckland Airport (24.9%). The Council requires that sustainability and the reduction of QAC's carbon footprint are drivers for the strategic direction of Queenstown Airport. This includes a commitment to work with, and influence, strategic airline stakeholders in the pursuit of carbon reduction objectives and technologies. There is also a requirement to understand climate change risk, including the associated financial and legal issues.

The reliance of our district on aviation for our economy, including the tourism industry, and the contribution of the aviation industry to emissions will continue to be an important focus for the Council, and our community.



8.7 THE CHALLENGE OF WASTE

Managing waste is a major challenge across the world. Globally, we need to transition to a circular economy – where we keep items produced in use for longer, where waste and pollution is designed out of products, and where we keep organic waste out of landfill.

This transition will take time and we will still need to manage the district's waste while driving down greenhouse gas emissions.

Our main areas of focus are to reduce reliance on the landfill and divert waste that releases emissions, such as food waste, which can be composted.

The New Zealand Emissions Trading Scheme (ETS) regulates emissions for the waste sector. Scope Resources currently operates the Landfill at Victoria Flats, Gibbston. We ensure compliance with the ETS which includes payment of ETS levies for the emissions generated.

In 2021 a landfill gas capture and flare system was installed, which will significantly decrease emissions released into the atmosphere. In some landfills, it is possible to capture and reuse the gas emitted from the landfill. Currently the landfill does not produce enough gas for this to be possible, however we'll continue to assess the gas output for opportunities to reuse the gas in the future.

The National Emissions Reduction Plan¹⁴ (ERP) and National Waste Strategy (NWS) have a greater focus on waste emissions and Council will review its Waste Minimisation and Management Plan* to respond to these new targets and regulatory requirements.

8.8 THE CHALLENGE OF COMMUNICATION

We know that it's hard to keep up to date with everything that is happening in the climate and biodiversity space.

We also know that to help support community education and behaviour change you need more than a webpage and quarterly newsletters.

That's why we are committed to ongoing communications to make it easy and simple for people to find the latest information they are interested in. We also want to increase the visibility of the amazing work that is happening across the district and collaborate with community and partner organisations to run campaigns and education initiatives that are innovative, engaging and based around the best behaviour-change principles.

¹⁴ <https://environment.govt.nz/what-government-is-doing/areas-of-work/climate-change/emissions-reduction-plan/>

* The Waste Minimisation and Management Plan can be found here: www.qldc.govt.nz/your-council/council-documents/strategies-and-publications







9 How we will measure progress

Indicators framework.

To measure our progress we have developed an indicators framework.

The below table is a provisional set of measures to monitor progress towards the six outcomes defined in this plan. Once these measures have been finalised, initial data will be obtained, and monitoring targets will be set.

| OUTCOME | MEASURE | DATA SOURCE |
|---|--|--|
| All | District's gross and net greenhouse gas emissions | Otago Regional Greenhouse Gas Emissions Profile |
| | Number of complete and in progress actions across the Climate and Biodiversity Plan | Internal |
| QLDC demonstrates ambitious climate leadership | Community satisfaction with QLDC measures in protecting the environment | Quality of Life survey |
| | Community satisfaction with QLDC measures in protecting the biodiversity | Quality of Life survey |
| | Percentage of annual Council spend committed to climate adaptation, mitigation, and biodiversity initiatives | Internal |
| | QLDC organisational emissions | Annual Organisational Greenhouse Gas Emissions Inventory |
| | Emissions from landfill | Annual Organisational Greenhouse Gas Emissions Inventory |
| | Volumes of waste/materials diverted from landfill | Monthly reporting |
| Our transport system is low emission and better connected | Transport greenhouse gas emissions | Otago Regional Greenhouse Gas Emissions Profile |
| | Kilometres travelled by bus passengers within the district | Otago Regional Council |
| | Demand on active travel routes | Internal – Parks/Roading/Cycle/ Pedestrian counter portal, Ecovision |
| | Community satisfaction with public transport in the district | Quality of Life survey |
| | Percentage of community who regularly use an alternative transport method | Quality of Life survey |
| | Number of households within 400m of public transport | Internal |
| | Number of public EV charging ports in the district | Internal |
| | Number of EVs registered in the district | Waka Kotahi NZTA |
| | Number of public bike parking facilities | Internal – Transport & Parks |
| | Length of improvements/additions to active travel network | Internal |

| OUTCOME | MEASURE | DATA SOURCE |
|---|---|---|
| Our built environment is low emission and resilient | QLDC capex projects aimed at reducing greenhouse gas emissions | Internal |
| | Average household energy usage | Infometrics |
| | Emissions from infrastructure delivery compared to baseline | Internal |
| | Energy sources used for home and water heating | Quality of Life survey |
| | Water usage per capita | Internal |
| | Water network leakage | Internal |
| Our communities are low-emission and climate resilient | Percentage of community concerned with climate change | Quality of Life survey |
| | Percentage of community implementing actions to reduce their environmental impact | Quality of Life survey |
| | Number of community response groups formed | Emergency Management Otago |
| | Percentage of Community Response Groups completed emergency hub training | Emergency Management Otago |
| | QLDC funding for community projects that address the outcomes of this plan | Internal |
| Low-emission businesses thrive | Number of businesses in the district signed up to New Zealand Tourism Sustainability Commitment | Tourism Industry Aotearoa |
| | Greenhouse gas emissions reduction of businesses that have taken part in QLDC funded programmes | Data provided by programmes |
| | Number of events with a sustainability plan | Internal |
| A flourishing natural environment | Water quality | Otago Regional Council; Land, Air, Water Aotearoa |
| | Terrestrial and wetland biodiversity indicators | Otago Regional Council |
| | Bird counts | Department of Conservation |
| | Areas and type of biodiversity protection | Internal, Department of Conservation, Otago Regional Council, QEII National Trust |
| | Percentage of QLDC land with active regeneration work | Internal |
| | Funds committed to conservation trusts | Internal |
| | Carbon sequestered by vegetation | Land use, land use change and forestry (LULUCF) - Otago Regional Greenhouse Gas Emissions Profile |



10 How was the plan developed?

We began developing this plan in April 2021.

The development of the plan and the prioritisation of actions and ideas has involved extensive engagement with a wide range of community groups, experts, not-for profit organisations, and partner agencies.

We are immensely grateful to everyone who has contributed to this plan, including those who provided specific feedback to the draft plan.

| STAKEHOLDER ENGAGEMENT | SUMMARY |
|--|--|
| APRIL 2021 | |
| Submissions on the 2021-31 Ten Year Plan | Of the 504 submissions on the 2021-31 Ten Year Plan, 240 provided feedback and recommendations on climate action, showing an appetite for Council to take more action. |
| Review process kicked off | The Climate Reference Group provided recommendations on the outcomes and structure of the plan. A key recommendation was to create a sixth outcome for biodiversity. |
| JUNE 2021 | |
| QLDC internal climate action hui | Staff shared ideas for accelerating climate action both within the organisation and across the district. |
| JULY 2021 | |
| Blue-sky workshop with QLDC Councillors and Wānaka Community Board | Elected members shared their enthusiasm to see more climate action in the district. A topic of particular interest was the development of communities that allowed for live, work and play within neighbourhoods. |
| Climate Reference Group | Strong sentiments came through around both education for local communities and on the role of QLDC in advocacy to Central Government. |
| Regenerative Recovery Advisory Group | Suggestions included a focus on collaboration and cooperation between organisations, community groups and QLDC, and to look at a 100-year horizon. The group also presented their final report in July ¹⁵ , following a year of work in support of the district's recovery programme. Report recommendations were fed into climate action planning. |

¹⁵ www.qldc.govt.nz/media/rosjz4s5/regenerative-recovery-advisory-group-final-report.pdf

| AUGUST 2021 | |
|--|---|
| Community stakeholder hui | Council's Climate Action Team assisted the Climate Reference Group in organising a hui for local advocates and experts to provide input and ideas. The most popular topics were around transport mode shift and biodiversity. |
| QLDC staff suggestions | Numerous staff provided detailed input into the plan. Feedback was varied, ranging from technical infrastructure or planning suggestions to embedding climate action into culture and decision making. |
| Whakatipu Conservation Collective | Discussion focused on exploring actions in the new biodiversity outcome could look like. |
| OCTOBER 2021 | |
| WAO Summit | WAO Summit attendees voted on their priorities for the Plan. 'Regenerating our natural environment' and 'designing neighbourhoods where we can live, work, learn and play without getting in the car' came out on top. |
| Enviroschools Climate 101s | Council's Climate Action Team collaborated with Enviroschools to provide Climate 101 sessions. Climate action ideas from tamariki focused on transport, food, energy, and waste. Transport was a particular interest, with the students keen to see more active travel options for them. |
| NOVEMBER – DECEMBER 2021 | |
| Suggestions refined and prioritised | <p>All community and stakeholder input was collated into a list of 600 suggestions. These suggestions were prioritised, combined, cut and refined to a list of 134 actions.</p> <p>The Climate Reference Group identified 68 of these actions as priority actions and provided recommendations on the plan outcomes. A key recommendation was for the plan to be renamed the Climate <i>and</i> Biodiversity Plan.</p> <p>Council's Climate Action Team then further developed and refined the prioritised actions with action owners and partners.</p> |
| DECEMBER 2021 – JANUARY 2022 | |
| Stakeholder feedback received and benchmarking exercise undertaken | The list of actions was shared with key stakeholders and feedback sought. 30 stakeholders responded with comments. A benchmarking exercise was conducted against other local government bodies internationally, based upon Climate Emergency UK's checklist. |
| FEBRUARY 2022 | |
| Draft plan finalised | The plan was improved and finalised based on recommendations from the Climate Reference Group, Councillors and the Executive Leadership Team. |
| MARCH – APRIL 2022 | |
| Draft plan released for community feedback. | |
| APRIL – JUNE 2022 | |
| Feedback considered and plan finalised. | |



Climate action kōrero at the 2021 WAO Summit.



Queenstown Primary School's Enviro Group learning about the greenhouse effect in their tunnel house.

11 Action plan

OUTCOME ONE:

QLDC demonstrates ambitious climate and biodiversity leadership

Leadership



| # | ACTION | QLDC RESPONSIBLE TEAM(S) | PARTNERSHIP | YEAR OF DELIVERY | | | ESTIMATED COST (OVER 3 YEAR PERIOD) | GOAL |
|---|---|--------------------------|-------------|------------------|---------|---------|-------------------------------------|------|
| | | | | 2022-23 | 2023-24 | 2024-25 | | |
| Climate action is in our organisational DNA | | | | | | | | |
| 1.1 | <p>Pledge our commitment to the international effort to limit global warming to 1.5 degrees Celsius. Actions include:</p> <p>a. The district will join the United Nations Framework Convention on Climate Change Race to Zero campaign to accelerate the district-wide focus on emissions reduction.</p> <p>b. Council will join a certified carbon reduction programme which includes 2030 emissions reduction targets.</p> <p>c. The District Emissions Reduction Roadmap will be updated to align with the National Emissions Reduction Plan¹ and latest sector transition strategies.</p> <p>d. Council will partner with local organisations that are leading climate action and sector transformation e.g. Wao, WAI Wānaka, Wastebusters, Sustainable Queenstown, Destination Queenstown, Lake Wānaka Tourism.</p> | Strategy & Policy | | | | | \$ | |
| 1.2 | <p>Ensure climate change and biodiversity considerations are integral to all new Council business cases.</p> <p>a. Conduct an independent review on how effectively climate adaptation, mitigation and biodiversity are considered in business cases and construction programmes across all Council departments. Provide recommendations on how to improve our business case processes to align with our climate and biodiversity goals.</p> <p>b. Consider the recommendations and improve the business case process where necessary.</p> | All | | | | | \$ \$ | |
| 1.3 | Develop new frameworks, guidance and reporting templates to ensure that climate change and biodiversity considerations are embedded into all Council reports and decision-making processes. | All | | | | | \$ \$ | |
| 1.4 | <p>Establish an internal Climate Action Group with the purpose of supporting significant organisational culture change. Design and deliver a work programme for the group to lead. Example projects include:</p> <ul style="list-style-type: none"> > Staff travel (e.g. encouraging public transport, walking or cycling). > Energy saving programmes (e.g. staff behaviour change campaign). > Awareness raising and campaigns (e.g. Plastic Free July). > Waste minimisation and circular economy (e.g. reusables). > Sustainable catering and purchasing (e.g. sustainable stationary). > Staff volunteering activities (e.g. tree planting). | All | | | | | \$ | |

¹ National Emissions Reduction Plan (<https://environment.govt.nz/what-government-is-doing/areas-of-work/climate-change/emissions-reduction-plan/>)

| # | ACTION | QLDC RESPONSIBLE TEAM(S) | PARTNERSHIP | YEAR OF DELIVERY | | | ESTIMATED COST (OVER 3 YEAR PERIOD) | GOAL |
|---|--|---|-------------------------------|------------------|---------|---------|-------------------------------------|------|
| | | | | 2022-23 | 2023-24 | 2024-25 | | |
| Climate action is in our organisational DNA | | | | | | | | |
| 1.5 | Embed climate accounting into our long-term investment planning. a. Conduct a carbon baseline of the 2021-2031 Ten Year Plan. b. Develop and agree an approach to carbon accounting across key statutory plans. Include guidance for assessing the relative climate impact of proposed initiatives in the 2023-2024 Annual Plan and 2024-2034 Ten Year Plan. | Strategy & Policy, Finance, Property & Infrastructure | | | | | | |
| 1.6 | Regularly review the Procurement Guidelines to ensure they align with best practice public sector requirements for sustainability, carbon emissions reduction, waste reduction, biodiversity restoration and environmental protection. Focus areas will include: > Minimum supplier requirements for climate impact, biodiversity protection and waste avoidance/mitigation. > Proposal/tender assessment criteria for climate impact, biodiversity protection and waste avoidance/mitigation. | Procurement | | | | | | |
| 1.7 | Develop a QLDC internship pathway for students to support their career progression into the field of sustainability, biodiversity, or climate action. | Strategy & Policy, HR | | | | | | |
| We provide a springboard for district-wide climate & biodiversity action | | | | | | | | |
| 1.8 | Deliver integrated spatial planning decisions on land use, urban development, transport planning and natural corridor networks which help to reduce emissions, restore indigenous biodiversity, and improve climate change resilience across the district. The below is a focus of the joint priority initiatives: a. Higher density dwellings which generally require less energy to heat. b. Creating live-work-play neighbourhoods reducing the distance people need to travel. c. Locating more houses near quality public transport and active transport, providing an attractive alternative to travelling by car. d. Enabling active travel through provision of active travel networks and associated infrastructure. e. Designing compact settlements that reduce the requirement for new infrastructure, and the associated embodied carbon in construction. Encouraging mode shift to public transport to reduce emissions. f. Develop an interconnected network of open spaces, reserves, and natural corridors to support improved biodiversity outcomes that honour the mauri of our district. | Strategy & Policy | Grow Well Whaiora Partnership | | | | | |

| # | ACTION | QLDC RESPONSIBLE TEAM(S) | PARTNERSHIP | YEAR OF DELIVERY | | | ESTIMATED COST (OVER 3 YEAR PERIOD) | GOAL |
|---|--|------------------------------------|----------------------------------|------------------|---------|---------|-------------------------------------|------|
| | | | | 2022-23 | 2023-24 | 2024-25 | | |
| We provide a springboard for district-wide climate & biodiversity action | | | | | | | | |
| 1.9 | Assess potential obstacles to low impact living ² in QLDC's District Plan, Housing Strategy and policy framework. Utilise this assessment to inform and support households to reduce their emissions and improve their climate resilience. | Planning Policy | | | | | \$ \$ | |
| 1.10 | Embed climate mitigation and adaptation, waste minimisation and indigenous biodiversity protection into the Planning and Development Policy work programme. | Planning Policy | | | | | \$ \$ | |
| 1.11 | Develop and implement a standard method of assessment of climate and biodiversity impacts and opportunities in the review of policies and bylaws. | Strategy & Policy | | | | | \$ | |
| 1.12 | Partner with Otago Regional Council on a programme of climate change risk assessments, adaptation plans and natural hazard risk assessment studies to support community resilience projects and the implementation of a risk-based land use planning framework. | Strategy & Policy, Planning Policy | Otago Regional Council, Kai Tahu | | | | \$ \$ \$ | |
| 1.13 | Continue to integrate climate mitigation, adaptation, and biodiversity protection requirements into any future update of the QLDC Land Development and Subdivision Code of Practice. Include a review of: <ul style="list-style-type: none"> a. the Approved Materials, with a view to encouraging developers to use lower carbon construction materials and shift to circular economy options. b. requirements relating to managing the effects of climate change to ensure they reflect current climate change projections. c. ensure requirements are consistent with the ANZBS³ and current Implementation Plan⁴. | Property & Infrastructure | | | | | \$ | |

² *Low impact living: a way of living where a person makes intentional choices to limit their impact on the environment.










³ Te Mana O Te Taiao: Aotearoa New Zealand Biodiversity Strategy 2020 (<https://www.doc.govt.nz/globalassets/documents/conservation/biodiversity/anzbs-2020.pdf>)

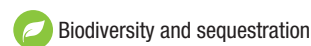
⁴ ANZBS Implementation Plan (<https://www.doc.govt.nz/globalassets/documents/conservation/biodiversity/anzbs-implementation-plan-2022.pdf>)

| # | ACTION | QLDC RESPONSIBLE TEAM(S) | PARTNERSHIP | YEAR OF DELIVERY | | | ESTIMATED COST (OVER 3 YEAR PERIOD) | GOAL |
|---------------------------------------|---|--|-------------|------------------|---------|---------|-------------------------------------|------|
| | | | | 2022-23 | 2023-24 | 2024-25 | | |
| We have our own house in order | | | | | | | | |
| 1.14 | Develop an Emissions Reduction Plan for QLDC operations. Establish the scope of the plan with the boundaries outlined in QLDC's 18/19 Carbon Footprint Report. Align targets with limiting global warming to 1.5 degrees. | Strategy & Policy | | | | | \$ \$ | |
| 1.15 | Integrate climate action into all levels of infrastructure delivery from planning through to completion of the projects. This will include: a. The Climate Action Team being a key partner in the development of the next 30 Year Infrastructure Strategy (which is aligned with the national infrastructure strategy ⁵). b. Embedding a Dynamic Adaptive Planning Pathways approach to infrastructure investment and renewal planning ⁶ . c. Requiring projects with moderate or high climate impact to value and assess the relative 'whole of life' emissions impact of shortlisted options, include sustainability in design, emissions-related tolerances for construction and ongoing operation of assets/services. | Property & Infrastructure | | | | | \$ \$ \$ | |
| 1.16 | Convert the water heating at Alpine Aqualand, Wānaka Recreation Centre and Arrowtown Pools from LPG to cleaner energy sources. | Sport & Recreation | | | | | \$ \$ \$ | |
| 1.17 | Manage all Council properties with a commitment to emissions reduction and sustainability: a. Develop a sustainability policy to require all QLDC commercial and community properties to develop and deliver waste minimisation, energy efficiency and water efficiency plans. b. Require commercial operators entering new leases on QLDC property to provide emissions reduction and waste minimisation plans. | Property, Parks | | | | | \$ \$ | |
| 1.18 | Deliver the actions in the QLDC Organisational Travel Plan. Review and update the plan annually or more frequently as required. | Strategy & Asset Planning, Strategy & Policy, Property, HR | | | | | \$ | |
| 1.19 | Apply eco-design and low impact principles to all QLDC build and refurbishment property projects, including thorough consideration of timber and sustainable construction methods and renewable energy technology. | Property, Strategic Projects | | | | | \$ \$ \$ | |

⁵ Rautaki Hanganga o Aotearoa: New Zealand Infrastructure Strategy 2022 – 2025 (<https://media.umbraco.io/te-waihanganga-30-year-strategy/mrtiklv/rautaki-hanganga-o-aotearoa.pdf>)

⁶ As per recommendations of National Adaptation Plan (<https://environment.govt.nz/what-government-is-doing/areas-of-work/climate-change/adapting-to-climate-change/>)

| # | ACTION | QLDC RESPONSIBLE TEAM(S) | PARTNERSHIP | YEAR OF DELIVERY | | | ESTIMATED COST (OVER 3 YEAR PERIOD) | GOAL |
|--|---|-----------------------------------|-------------|------------------|---------|---------|-------------------------------------|---|
| | | | | 2022-23 | 2023-24 | 2024-25 | | |
| We enable and accelerate community behaviour change | | | | | | | | |
| 1.20 | Communicate and engage with the public on the climate impacts we can expect in the district and the actions required to mitigate, adapt, and build resilience. Activities may include community workshops and displays about climate science, climate action, impacts on indigenous biodiversity, waste minimisation and the circular economy. Share and celebrate positive action and case studies across the district, promoting the good work of community groups, businesses, and others. | Communications, Strategy & Policy | | | | | \$ \$ |    |
| 1.21 | Design and deliver campaigns for the public that encourage emissions reduction, underpinned by behaviour change science. Use campaigns to inform and educate, enabling behaviour change through design (e.g., wayfinding on active travel routes) and incentives/disincentives. This may include active travel, waste minimisation, and recycling. Encourage others to share our campaign materials. | Strategy & Policy, Communications | | | | | \$ \$ |  |
| 1.22 | Develop a new website to improve our ability to communicate the progress of our Climate & Biodiversity action plan, celebrate the successes that are occurring across the district and share resources to support and accelerate change. Features may include: <ul style="list-style-type: none"> > A local evidence base for climate action and adaptation. > A household emissions calculator and reduction tool. > Resources for new builds and home improvement initiatives such as insulation, heating, and solar panels. > Links to biodiversity protection and restoration initiatives across the district. > Information about grants, subsidies, and funding information for community initiatives and case studies. | Communications, Strategy & Policy | | | | | \$ \$ \$ |    |
| We are committed to zero waste | | | | | | | | |
| 1.23 | Divert organic material from landfill. This includes: <ul style="list-style-type: none"> > Food scraps. > Garden waste. > Timber (construction waste). > Fats, oils and grease (trade waste). > Cardboard and paper. > Biosolids. | Waste | | | | | \$ \$ \$ |  |
| 1.24 | Increase funding for the Waste Minimisation Community Fund and continue to support local waste minimisation projects. | Waste | | | | | \$ \$ |  |

















OUTCOME TWO:

Our transport system is low-emission and better connected

Transport

| # | ACTION | QLDC RESPONSIBLE TEAM(S) | PARTNERSHIP | YEAR OF DELIVERY | | | ESTIMATED COST (OVER 3 YEAR PERIOD) | GOAL |
|---------------------------------------|---|--|--|------------------|---------|---------|-------------------------------------|------|
| | | | | 2022-23 | 2023-24 | 2024-25 | | |
| Our transport network is low-emission | | | | | | | | |
| 2.1 | <p>Collaborate with Otago Regional Council and Waka Kotahi New Zealand Transport Agency to plan and implement a local public transport system that is frequent, affordable, and meets the needs of local communities, comprising:</p> <p>a. Advocate for increased public transport frequency, coverage, and facilities in Whakatipu as part of Otago Regional Council's Public Transport Business Case (2022).</p> <p>b. Require only zero-emissions public transport buses to be purchased by 2025 (<i>National ERP⁷ action 10.3.2</i>).</p> <p>c. Promote public transport in QLDC master planning and business cases, including the Wānaka Network Optimisation Business Case (2022-23).</p> <p>d. Work with Waka Kotahi and Otago Regional Council to improve public transport infrastructure and services in the Whakatipu. This includes adding and upgrading bus shelters, improving Frankton transport hub, upgrading lighting and cycle facilities, and improving bus frequency and accessibility (2021-2027).</p> <p>e. Support local organisations to run public transport trials in the Upper Clutha (2022 – 2027).</p> <p>f. Identify and advocate for public transport connections within our wider region (2024 – 2027).</p> | Transport Strategy | Otago Regional Council and Waka Kotahi | | | | \$ \$ | |
| 2.2 | Increase investment in active travel networks and infrastructure, including improved access to public transport hubs, schools, and other popular destinations across the district. | Transport Strategy | Otago Regional Council and Waka Kotahi | | | | \$ \$ \$ | |
| 2.3 | Provide accessible cycle and secure cycle and micro-mobility parking in town centres. | Transport Strategy | Local organisations | | | | \$ | |
| 2.4 | Identify, prioritise, and improve road crossings for pedestrians, particularly in areas of high exposure to traffic, long waits at signals or significant distances between controlled crossing points. | Transport Strategy, Operations & Maintenance | Waka Kotahi | | | | \$ \$ \$ | |
| 2.5 | Develop a plan to expand electric vehicle (EV) charging infrastructure in the district. Incentivise electric vehicle uptake (e.g. dedicated parking) through the District-wide Parking Strategy and Comprehensive Management Plans. | Transport Strategy | EV charging infrastructure providers | | | | \$ | |

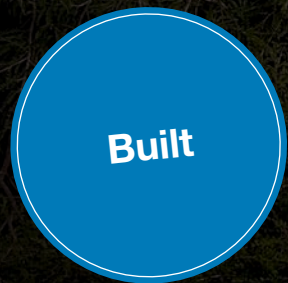
⁷ National Emissions Reduction Plan: <https://environment.govt.nz/assets/publications/Aotearoa-New-Zealands-first-emissions-reduction-plan.pdf>









| # | ACTION | QLDC RESPONSIBLE TEAM(S) | PARTNERSHIP | YEAR OF DELIVERY | | | ESTIMATED COST (OVER 3 YEAR PERIOD) | GOAL |
|---|---|--------------------------|--|------------------|---------|---------|---|---|
| | | | | 2022-23 | 2023-24 | 2024-25 | | |
| 2.6 | <p>QLDC expects the Queenstown Airport Corporation to action the following as defined by QAC Statement of Intent:</p> <p>a. Develop an emissions reduction plan to reduce its organisational greenhouse gas emissions in line with a 1.5°C science-based target (2022-23).</p> <p>b. Implement the emissions reduction plan and report on progress annually.</p> <p>c. Advocate to government for sustainable aviation emissions reduction strategies.</p> <p>d. Work collaboratively with the aero industry and airlines to maximise the opportunity to reduce the carbon footprint associated with flying into and out of the district.</p> | Corporate Services | Queenstown Airport Corporation | | | | |  |
| We work together to change the way we travel | | | | | | | | |
| 2.7 | <p>Reduce car use and encourage uptake of other transport options through the 'Traffic Demand Management' initiative. This will include:</p> <p>a. Behaviour change initiatives.</p> <p>b. Comprehensive Parking Management Plans.</p> <p>c. Promoting cycle and micro-mobility parking.</p> <p>d. Review of the car-pooling scheme, including providing priority parking and priority lanes.</p> | Transport Strategy | Otago Regional Council and Waka Kotahi | | | |    |  |
| 2.8 | <p>a. Partner with local organisations to promote active travel and public transport.</p> <p>b. Implement active transport plans around schools (<i>National ERP⁸ action 10.12E</i>).</p> <p>c. Support local organisations, businesses, and communities to develop their own low emission travel plans.</p> | Transport Strategy | Local organisations | | | |   |  |
| 2.9 | Partner with businesses to deliver active travel and shared transport solutions and innovations, such as community bike or car-share schemes. | Transport Strategy | | | | |   |  |
| 2.10 | Partner with the Government to deliver a light vehicle usage reduction programme in Queenstown (contingent on Central Government funding of <i>National ERP action 10.1.2A</i>). | Transport Strategy | Ministry of Transport | | | |   |  |

⁸ National Emissions Reduction Plan: <https://environment.govt.nz/assets/publications/Aotearoa-New-Zealands-first-emissions-reduction-plan.pdf>

OUTCOME THREE:

Our built environment is low emission and resilient



| # | ACTION | QLDC RESPONSIBLE TEAM(S) | PARTNERSHIP | YEAR OF DELIVERY | | | ESTIMATED COST (OVER 3 YEAR PERIOD) | GOAL |
|---|--|------------------------------------|--|------------------|---------|---------|-------------------------------------|---|
| | | | | 2022-23 | 2023-24 | 2024-25 | | |
| We lead the way with low carbon infrastructure and buildings | | | | | | | | |
| 3.1 | <p>Minimise the embodied carbon (carbon emitted in the production of the materials such as concrete and steel) in the design and construction of QLDC buildings and infrastructure. Transition towards more sustainable materials and construction techniques. Particularly:</p> <p>a. Investigate using reduced carbon cement for all QLDC property and infrastructure projects.</p> <p>b. Investigate whether regional demand could influence suppliers to provide lower carbon cement options, and work with the industry to enable these opportunities.</p> <p>c. Prioritise nature-based solutions in design and decision-making over solutions that do not enhance nature.</p> | Property & Infrastructure | | | | | \$ \$ \$ |  |
| 3.2 | Review the Energy Chapter of the District Plan to remove barriers to small scale and community scale renewable energy solutions. | Planning Policy | | | | | \$ \$ |   |
| 3.3 | Support energy demand management technologies, tools and behaviour change to decrease energy usage at peak times. | Strategy & Policy | Power companies | | | | \$ |   |
| 3.4 | <p>Increase the promotion and availability of sustainable building design expertise and education products to the community. This will include:</p> <p>a. Partnering with the NZ Green Building Council and Superhome movement to enable improved access to design expertise, technologies, and best practice techniques, to minimise waste and emissions in the design of new homes.</p> <p>b. Developing guides which go beyond the building code and promote sustainable and resilient housing and buildings.</p> <p>c. Public education about the upcoming changes to the Building Code and the introduction of the new MBIE Building for Climate Change regulations.</p> | Building Services, Planning Policy | NZ Green Building Council & Superhome movement | | | | \$ |   |
| 3.5 | Continuously measure and improve wastewater treatment emissions. | Property & Infrastructure | | | | | \$ \$ \$ |  |

| # | ACTION | QLDC RESPONSIBLE TEAM(S) | PARTNERSHIP | YEAR OF DELIVERY | | | ESTIMATED COST (OVER 3 YEAR PERIOD) | GOAL |
|--|---|-----------------------------------|--|----------------------|------------------|---------|-------------------------------------|--------|
| | | | | 2022-23 | 2023-24 | 2024-25 | | |
| Our infrastructure is resilient to the changing climate | | | | | | | | |
| 3.6 | Assess the vulnerability of our roading and three waters network to climate change impacts and use this evidence base to guide our infrastructure resilience programme. | Strategy & Asset Planning | | ████████████████████ | | | \$ \$ \$ | ☔ |
| 3.7 | Implement the National Adaptation Plan (NAP ⁹) critical actions for infrastructure that are relevant to our district. | Strategy & Policy | Te Waihanga, Otago Regional Council, Utility providers | ████████████████████ | | | | ☔ |
| 3.8 | Develop an adaptation framework with regional partners that specifically addresses future climate hazards and vulnerabilities. | Strategy & Policy Planning Policy | Otago Regional Council | | ████████████████ | | \$ \$ | ☔ |
| Our water resources are resilient and managed responsibly | | | | | | | | |
| 3.9 | a. Deliver an updated Water Demand Management Plan. b. Invest in ways to encourage sustainable water use, such as smart water metering, to help conserve water, reduce water network emissions and reduce the pressure on wastewater and stormwater systems. | Strategy & Asset Planning | | ██████████████ | | | \$ \$ \$ | ☔ 🌡️ 🌿 |
| 3.10 | Investigate options for incentivising the installation of residential rainwater collection tanks to help reduce the burden on stormwater networks and support water conservation. | Planning & Development | | | ████████████████ | | \$ | ☔ |



⁹ National Adaptation Plan (<https://environment.govt.nz/what-government-is-doing/areas-of-work/climate-change/adapting-to-climate-change/>)

OUTCOME FOUR:

Our communities are low emission and climate resilient

Communities

| # | ACTION | QLDC RESPONSIBLE TEAM(S) | PARTNERSHIP | YEAR OF DELIVERY | | | ESTIMATED COST (OVER 3 YEAR PERIOD) | GOAL |
|--|--|------------------------------------|--|----------------------|----------------------|---------|-------------------------------------|------|
| | | | | 2022-23 | 2023-24 | 2024-25 | | |
| We support the development of thriving, climate resilient communities | | | | | | | | |
| 4.1 | Identify any risks to the culturally significant Wāhi Tūpuna and heritage sites across the district arising from the effects of climate change. | Planning Policy | Kāi Tahu | ████████████████████ | | | 💰 💰 | ☔ 🌿 |
| 4.2 | ↳ Undertake a study of the socio-economic and community wellbeing implications of climate change for the district, to help support future planning around climate adaptation and an equitable transition for all members of our community. | Strategy & Policy | Public Health | | ██████████ | | 💰 💰 | ☔ |
| 4.3 | Promote community-led initiatives and energy sector partnerships to implement resilient, affordable, and sustainable energy solutions. | Strategy & Policy | | | ██████████ | | 💰 | ☔ 🌡️ |
| 4.4 | Continue the development of a Community Response Group network across the district. Provide training, resources, planning support and promotion to ensure these groups have the necessary capability and capacity to support their local community during emergency events. | Strategy & Policy | Emergency Management, Otago Regional Council | ████████████████████ | | | 💰 | ☔ |
| 4.5 | Build capacity, resourcing and relationship networks across the social services and health sector, to ensure that the welfare of our communities can be effectively supported during emergency events or periods of prolonged stress. | Strategy & Policy | Emergency Management Otago, Social Services & Health sector | | ████████████████████ | | 💰 | ☔ |
| 4.6 | Support our communities to prepare for and adapt to the impacts of climate change through community-centric climate adaptation projects. Key locations will include: a. Wildfire risk on Mt Iron, Ben Lomond and other “red zone” locations. b. Gorge Road Alluvial Fan risk. c. Glenorchy Head of the Lake natural hazard risk (Otago Regional Council-led). | Strategy & Policy, Planning Policy | Otago Regional Council, Fire and Emergency New Zealand, Emergency Management Otago | ████████████████████ | | | 💰 💰 💰 | ☔ 🌿 |

| # | ACTION | QLDC RESPONSIBLE TEAM(S) | PARTNERSHIP | YEAR OF DELIVERY | | | ESTIMATED COST (OVER 3 YEAR PERIOD) | GOAL |
|---|--|---------------------------------|------------------------------|------------------|---------|---------|-------------------------------------|------|
| | | | | 2022-23 | 2023-24 | 2024-25 | | |
| We grow a resilient and low carbon local food system | | | | | | | | |
| 4.7 | Launch a Queenstown Lakes Food Network that brings together community stakeholders to develop a shared vision of a resilient, low carbon and regenerative local food system. | Strategy & Policy, Parks, Waste | Food system key stakeholders | | | | \$ | |
| 4.8 | <p>→ Develop a roadmap of initiatives and funding opportunities to accelerate and scale up community food system projects across the district. These could include:</p> <ul style="list-style-type: none"> a. Community garden initiatives across all communities in the district. b. Supporting the Pataka Kai movement for community pantries. c. Increasing the commitment to urban edible planting. d. Mapping of fruit and nut foraging sites across the district. e. Supporting community education. f. Building the capacity of our food recovery and community food services network. g. Bringing trail building, conservation, and edible planting together where appropriate. | Strategy & Policy, Parks, Waste | Food system key stakeholders | | | | \$ \$ \$ | |
| 4.9 | Support composting, gardening skills, food growing hubs and the development of community composting. | Waste, Strategy & Policy, Parks | | | | | \$ \$ \$ | |
| We accelerate community-led action | | | | | | | | |
| 4.10 | Create a live schedule of all climate action and waste minimisation related community and QLDC projects underway in the district. Understand stage of development, barriers, opportunities and how QLDC can support. Develop clear criteria for assessment. | Strategy & Policy, Waste | | | | | \$ | |
| 4.11 | → Invest in a Council Climate Action contestable fund to support innovative community and business projects that respond to climate change (refer to Action 6.8 for the Biodiversity contestable fund). | Strategy & Policy | | | | | \$ \$ \$ | |
| 4.12 | Support and promote programmes that increase the engagement of young people and build their views into climate action planning. | Strategy & Policy | Education providers | | | | \$ | |

OUTCOME FIVE:

Low-emission businesses thrive

Business

| # | ACTION | QLDC RESPONSIBLE TEAM(S) | PARTNERSHIP | YEAR OF DELIVERY | | | ESTIMATED COST (OVER 3 YEAR PERIOD) | GOAL |
|---|---|--------------------------|-------------|------------------|---------|---------|-------------------------------------|------|
| | | | | 2022-23 | 2023-24 | 2024-25 | | |
| Our tourism system is regenerative by 2030 | | | | | | | | |
| 5.1 | Partner with the Regional Tourism Operators to create a Destination Management Plan to achieve regenerative tourism by 2030. The plan must take a whole of system approach and include: <ul style="list-style-type: none"> > Partnership with Kāi Tahu. > Emissions and waste reduction initiatives and measures across the visitor economy. > Capability building programmes for businesses, community, and the workforce. > A marketing model that attracts values-based visitors. > Visitor mode shift from private vehicles to public and active transport. > Tools to help visitors to give back e.g. to biodiversity enhancing initiatives. > Effective targets, data, and monitoring. > Strong community engagement. | Strategy & Policy | RTOs, QLDC | | | | \$ \$ | |
| 5.2 | → Implement the actions outlined in the Destination Management Plan. | Strategy & Policy | RTOs, QLDC | | | | \$ \$ | |
| We support businesses to transition to a low emission future | | | | | | | | |
| 5.3 | Develop a Diversification Plan that includes climate action as a key principle. | Economic Development | | | | | \$ \$ \$ | |
| 5.4 | Amplify and support programmes to assist businesses to be energy efficient, reduce greenhouse gas emissions, waste, and water use. | Strategy & Policy | | | | | \$ \$ | |
| 5.5 | Develop a sustainability plan template with guidelines for event organisers and embed this into the processes for QLDC's event approval and funding. | Strategy & Policy, Waste | | | | | \$ | |

OUTCOME SIX:

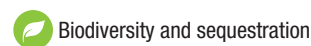
A flourishing natural environment

Environment

| # | ACTION | QLDC RESPONSIBLE TEAM(S) | PARTNERSHIP | YEAR OF DELIVERY | | | ESTIMATED COST (OVER 3 YEAR PERIOD) | GOAL |
|---|--|--------------------------|---|------------------|---------|---------|-------------------------------------|------|
| | | | | 2022-23 | 2023-24 | 2024-25 | | |
| We integrate native regeneration and carbon removal | | | | | | | | |
| 6.1 | Collaborate with regional partners to undertake a review of the impact of climate change on indigenous ecosystems in the district. | Strategy & Policy, Parks | QLDC, Otago Regional Council, Kāi Tahu | | | | \$ \$ | |
| 6.2 | Partner with Kāi Tahu, and work with our community, Otago Regional Council and Central Government to create an integrated work programme to deliver climate, biodiversity and wider environmental outcomes throughout our district. The work programme will align with the Pledge to Nature ¹⁰ , ANZBS ¹¹ , the Otago Biodiversity Strategy ¹² and consider: <ul style="list-style-type: none"> > The Grow Well Whaiora Spatial Plan Priority Initiative 15 (develop open space network plans). > Balancing competing objectives around carbon sequestration, fire resilience and regeneration of indigenous terrestrial and freshwater ecosystems. > Strategic direction and/or recommendations from the 2020 Sequestration Study, Tree Policy, the Otago Ecosystems and Habitat Mapping, the Blue-Green Network and other relevant plans and strategies. > Prioritising nature-based solutions in policy, planning design and decision-making (NERP¹³ Action 4.1). > Eco-sourcing native plant species and increasing nursery capacity. > Predator and pest control. > Catchment rehabilitation initiatives. > Protecting ecosystems and species of national or regional significance e.g. alpine tussock land, and wetlands and braided river bird species. > Collaboration with conservation trusts to achieve landscape-scale outcomes. | Parks, Strategy & Policy | Kāi Tahu, Otago Regional Council, Grow Well Whaiora Partnership, LINZ, DOC, Conservation Groups, Catchment Groups | | | | \$ \$ | |
| 6.3 | Use the work programme to direct QLDC's planting and plant and animal pest control programmes and to inform the biodiversity and sequestration actions for the next Climate and Biodiversity Plan. | Parks, Strategy & Policy | Otago Regional Council | | | | \$ \$ \$ | |

¹⁰ Leaders' Pledge for Nature: United to Reverse Biodiversity Loss by 2030 for Sustainable Development (<https://www.leaderspledgefornature.org/>)
¹¹ Te Mana O Te Taiao: Aotearoa New Zealand Biodiversity Strategy 2020 (<https://www.doc.govt.nz/globalassets/documents/conservation/biodiversity/anzbs-2020.pdf>)
¹² Otago Biodiversity Strategy (<https://www.orc.govt.nz/plans-policies-reports/strategies/biodiversity-strategy-and-action-plan>)
¹³ National Emissions Reduction Plan (<https://environment.govt.nz/what-government-is-doing/areas-of-work/climate-change/emissions-reduction-plan/>)

| # | ACTION | QLDC RESPONSIBLE TEAM(S) | PARTNERSHIP | YEAR OF DELIVERY | | | ESTIMATED COST (OVER 3 YEAR PERIOD) | GOAL |
|---|--|---|---|------------------|---------|---------|-------------------------------------|------|
| | | | | 2022-23 | 2023-24 | 2024-25 | | |
| We integrate native regeneration and carbon removal | | | | | | | | |
| 6.4 | Conduct a review of how Council can adopt more environmentally friendly methods of controlling pest plants to minimise and/or eliminate the use of agrichemicals such as glyphosate. This will involve trialling and monitoring new technologies and methods such as wilding, meadowing, alternative agrichemicals and weed control methods. | Parks | | | | | \$ \$ | |
| 6.5 | Integrate the protection, restoration and enhancement of blue-green networks and indigenous biodiversity corridors into stormwater management, infrastructure design and management of parks, reserves, and open spaces. | Parks, Property & Infrastructure, Strategy & Policy | | | | | \$ \$ | |
| 6.6 | a. Regenerate Coronet Forest as an exemplar of native biodiversity and a recreational hub. b. Develop and implement plans to protect, restore and enhance other Council land that has high biodiversity potential, including Mt Iron, Matakauri Wetland, Ben Lomond, and Queenstown Hill. | Parks | | | | | \$ \$ \$ | |
| We increase the impact of our local conservation organisations | | | | | | | | |
| 6.7 | Support capability building for staff, volunteers, and board members within local conservation trusts through initiatives such as governance training, conservation standards workshops, conference funding and knowledge sharing. | Strategy & Policy | Conservation Groups, Catchment Groups, Community Trusts | | | | \$ \$ | |
| 6.8 | Create a live schedule of all biodiversity related community and QLDC projects underway in the district. Understand stage of development, barriers, opportunities and how QLDC can support. Develop clear criteria for assessment. | Strategy & Policy, Parks | Conservation Groups, Catchment Groups | | | | \$ | |
| 6.9 | Invest in a Council Biodiversity contestable fund to support innovative community and business projects that respond to biodiversity loss and restoration. | Strategy & Policy | Conservation Groups, Catchment Groups, Community Trusts | | | | \$ \$ | |



This decade is crucial.

So are our collective

next steps.



