

Waikato Regional Council Technical Series 2025/31



Waikato Region Trends and Opportunities

ISSN 2230-4363 (Online)



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Publication date	October 2025
Document ID	33419227

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Executive summary

Introduction

This discussion document explores global, national and regional trends across political, economic, social, technological, environmental and legal (PESTEL) themes, to help inform the strategic direction for Waikato Regional Council (the council). This document updates and builds on previous PESTEL trends published by the council in 2019 and 2022 and includes an additional section focusing on te ao Māori.

In this report, we explore each of the following.

- Forces of change that are shaping events, and social and economic development patterns.
- Political, economic, social, technological, environmental and legal trends globally, in New Zealand and the Waikato region, accompanied by an exploration of trends for te ao Māori.
- Opportunities for the region that were highlighted through the engagement process.
- Scenarios for the Waikato region in 2075.

This trends document has taken a more generative approach compared to earlier reports, incorporating the perspectives of community and business leaders, stakeholders and subject matter experts across a wider range of disciplines. This is supplemented by a wide-ranging horizon scan of published documents and data to explore trends across all seven areas.

Forces of change

Drawing on regional stakeholder engagement, and a review of national and international trend analyses, we see a range of influential forces of change shaping the region that present both challenges and opportunities in an increasingly dynamic global context.

- Global economic conditions remain uncertain, particularly due to trade tensions, geopolitical instability and fragmentation, and demographic change. The international rules-based order is under significant stress, and many governments are shifting focus toward national security and domestic priorities.
- Artificial intelligence (AI) is accelerating markedly, with widespread uptake and use across business, government and communities. AI has potential to lift economic growth, but the broader social, political, environmental and economic impacts, and the distribution of these impacts, are still unfolding.
- The way people are accessing information is changing through technological transformation, including AI and social media, and this increases exposure to misinformation and disinformation, with accompanying impacts on social cohesion and trust in institutions.
- Temperatures are increasing globally, driven by the La Niña to El Niño transition and human-induced climate change. International efforts to limit global warming are insufficient and greater reductions will be needed.
- New Zealand's population is changing in multiple ways: the population is growing and will likely reach nearly 6 million within the next decade; the population is ageing and becoming more ethnically diverse; and regional population patterns are changing, including significant growth in the Waikato region.

- There is a marked and rapid shift in government policies in New Zealand across a range of domains, including environmental regulation and climate policy, education, transport investment and economic management. In parallel, there is a clear effort to redefine the role of the Treaty of Waitangi and biculturalism in New Zealand.

Trends impacting our future

Political

The global political landscape that New Zealand navigates is increasingly marked by geopolitical rivalry, tension and conflict, placing stress on global cooperation and multilateralism. There is also a rise internationally of populist and extremist leadership, reflecting discontent with many mainstream political parties. However, New Zealand remains high-ranked in its democratic norms and transparency; we also have reasonably high voter participation, albeit much less so in local elections, including the Waikato. There is also an apparent trend of declining trust in public institutions in New Zealand.

Economic

The economic outlook is influenced by global volatility, technological disruption, and shifting and uncertain trade dynamics. In New Zealand, GDP growth is forecast to strengthen by late 2026, but with uneven recovery across regions, with agricultural-based areas showing the strongest signs of improvement. There is increasing demand for investment in basic infrastructure, but financial pressures on local government are likely to constrain their ability to invest in these areas to meet future demand. Waikato's economy is diversifying but remains exposed to commodity cycles and climate-related risks. Despite these challenges, the Waikato region retains strong growth opportunities in emerging industries alongside its established agriculture-based industries and has the highest concentration of agritech companies in the country.

Social

Social trends in Waikato reflect increasing cultural diversity, ageing populations, and changing household structures. New Zealand has made long-term gains in such areas as health, life expectancy, safety and wellbeing, but these gains are unevenly distributed, and there are also increasing levels of income inequality, housing deprivation, unemployment and social disconnection. Whilst New Zealand has made progress in lifting educational attainment, in recent years literacy and mathematics proficiencies are key areas of concern.

Technological

Artificial intelligence is transforming the global technology landscape, having rapidly moved from experimental use to widespread integration, and digital transformation is reshaping industries, services, and lifestyles. The Waikato region sits at the centre of agritech design and implementation, and agritech is one of our most significant innovative industries. At the same time, cybersecurity is an increasing challenge, influenced by technological advances, and rising incidents of cybercrime. Rangatahi youth are growing up in a digital world, engaging with technology earlier in life and in more complex ways, with increasingly easy access or exposure to harmful or influential content.

Te ao Māori

Themes in te ao Māori include the revitalisation of te reo Māori, the importance of whakapapa and whenua in shaping identity and decision making, and the role of iwi and hapū as partners in

governance. Mātauranga Māori is recognised as a valuable framework for sustainability, resilience, and holistic wellbeing, with emphasis on co-design and shared leadership. The Māori economy has grown substantially, and indicates a growing economic force. There is a fragmenting political consensus on biculturalism and the Treaty, which sits alongside strengthening political mobilisation of Māori.

Environmental

Environmental considerations are dominated by climate change, biodiversity loss, and resource management. The Waikato region faces challenges related to water quality, land and water use, and emissions reduction, with increasing pressure to adopt sustainable land management practices and nature-based solutions. New Zealand and the Waikato region face high exposure to natural hazards and the impacts of severe weather events, particularly for coastal and low-lying rural communities, Māori communities, and those reliant on agriculture, horticulture, forestry, fisheries, and tourism. Environmental stewardship is seen as essential for long-term resilience and prosperity, requiring collaboration across sectors and communities.

Legal

Legal trends are marked by an increasing pace of legislative reform, but at the same time raising concerns for public scrutiny and transparency. This is amidst a process of significant policy shifts across multiple fronts, including resource management, health, water resources, education, and climate and the environment. Yet concurrently, there is momentum for public involvement in shaping policy, highlighted by strong participation in consultation processes and protests over policy change.

Opportunities to shape the region's future

Drawing on feedback in the engagement process for this review, we highlight a range of opportunities to consider in regional policy-making and planning. These include the following.

- **Creating cohesive and connected communities** through fostering young people's potential and inclusive education; increasing housing supply and infrastructure; addressing food deprivation; enhancing civic, creative and cultural participation through digital and face-to-face engagement, and addressing barriers to inclusion.
- **A technology-enabled region** that leverages its strengths in the primary industries through bioeconomy, agritech and applied technology; better harnesses data to support technology industries; strengthens sector collaboration; promotes regional technology exemplars; builds venture capital; and fosters digital inclusion.
- **A resilient Waikato economy** that can adapt to global shocks, climate change, and technological disruption; transitions to a low-emissions and circular economy; and supports innovation and entrepreneurship.
- **Te ao Māori flourishing** through iwi partnerships; fostering multigenerational wellbeing; upholding cultural connections; growing the Māori economy; lifting rangatahi Māori skills and employment; and expanding Māori housing.
- **Environmental sustainability and energy resilience** through such areas as land use change; restoring natural water and sediment systems; embedding mātauranga Māori partnerships; incentivising environmental gains; and scaling up catchment improvements.

- **Engaged and participatory communities** through listening to community needs and aspirations; building civic trust and countering misinformation; building consensus on the scale of decision making; showcasing the Waikato identity in the international sphere; and making the legal and political systems more accessible and comprehensible.

Scenarios for the Waikato region in 2075

To conclude, we suggest a range of aspirational long-term scenarios for 2075, to achieve.

- An environmentally resilient and sustainable region, underpinned by flourishing ecosystems, climate-engaged communities and innovative and sustainable approaches to land, water and energy use and management.
- Regional excellence in technology and innovation, driven by a sustained commitment to digital innovation and applied technology leadership.
- Cohesive and participative communities, built on inclusive education, affordable housing, creative and cultural vitality and strong civic engagement.

These offer positive outlooks for the next generations of the region's people, which we can influence through decisions and actions we take in the present.

Introduction

To effectively plan for the future of the Waikato region, it is important to consider the evolving landscape of global and national developments, and how the region can proactively embrace emerging opportunities while navigating potential challenges.

This discussion document explores global, national and regional trends across political, economic, social, technological, environmental and legal (PESTEL) themes, to help inform the strategic direction for Waikato Regional Council. This document updates and builds on previous PESTEL trends reports published by the council in 2019 and 2022 and includes an additional section focusing on te ao Māori.

In this report, we explore each of the following.

- Forces of change that are shaping events, and our social and economic development patterns, both globally and in New Zealand.
- Political, economic, social, technological, environmental and legal trends in the world, and their implications for New Zealand and the Waikato region. This is accompanied by a specific section focusing on te ao Māori.
- Opportunities for the region highlighted through the engagement process.
- Scenarios for the Waikato region in 2075.

Previous reports have been based substantially on literature searches and testing themes with regional council staff and representatives. This trends document has taken a more generative approach, incorporating the perspectives of community and business leaders, stakeholders and subject matter experts across a wider range of disciplines. This is supplemented by a wide-ranging horizon scan of published documents and data to explore trends across all seven areas of the PESTEL.

This document in the first instance has relevance to the functions and responsibilities of the Waikato Regional Council but is also intended as a resource for other councils and organisations in the region to inform their own planning and strategies.

The review of global and national trends is primarily grounded in a desktop analysis of relevant literature, with certain directions explored in greater depth following in-person engagements. The opportunities for the region draw directly from key themes and insights generated through the workshops, as well as some desktop analysis.

Forces of change

In this section, we set out key global and national forces of change that cut across the political, economic, social, technological, legal and environmental domains explored in the subsequent sections. These forces of change are shaping events, patterns and policies that affect the Waikato region, and are likely to significantly shape New Zealand's trajectory over the next five to 10 years.

Drawing from stakeholder discussions and reviewing trends analyses internationally, we see a range of significant forces of change (as of August 2025) that offer both challenges and opportunities.

Geopolitical shifts and economic uncertainty

Global economic uncertainty: Global economic conditions remain heavily defined by uncertainty due to rising trade tensions, geopolitical instability and demographic changes (including ageing populations and migration patterns). Significant import tariffs implemented by the United States have prompted retaliatory measures from trading partners, pushing tariff rates to historic highs and creating significant uncertainty around access to export markets. Forecasts for global growth have been revised markedly down since early 2025, reflecting the century high tariff rates and an uncertain unpredictable environment. Climate policy shifts add further pressure, with commodity-based export industries such as agriculture particularly vulnerable to extreme weather and climate shocks. In response to high uncertainty, many governments are introducing policies to reduce global dependencies, create more stable supply chains and strengthen domestic industries.

Shifts in international diplomacy and alliances: New Zealand's long-held strategy of balancing ties between Australia, the United States, and China is being actively tested by intensifying distrust and fragmentation between international powers and global alliances. American foreign policy has significantly shifted geopolitical alignments. The current US administration's rollback of multilateral commitments, such as withdrawing from the Paris Climate Agreement and introducing aggressive tariffs, have stoked shifting alliances and trade tensions. In the face of growing political instability, many governments are shifting focus toward national security and domestic priorities, often at the expense of international collaboration. As a result, the cooperative spirit that underpinned international relations for decades is giving way to a more fragmented and competitive global landscape.

Technological acceleration alongside growing polarisation

Artificial intelligence is accelerating at unprecedented speed: While machine learning has been in development for decades, the tipping point came in late 2022, when generative learning language AI models such as ChatGPT became publicly available. Uptake was rapid, with 100 million active users of ChatGPT by early 2023, making it the fastest-growing consumer application in history.¹ Business uptake of AI products has also been rapid; some expect that generative AI alone could add up to \$75 billion in value to the New Zealand economy by 2038, increase GDP by 15 per cent above baseline forecasts, and free up to 275 hours per worker annually to focus on higher-value tasks.² This uptake and adaption of AI technologies in such a short period marks a shift in how knowledge and creative work is undertaken, but the broader social, political and environmental impacts, including the substantial energy demands of AI, are still emerging as challenges that are posed by AI.³

Information and news consumption is changing: Technological acceleration is transforming not only how information is produced, but also how it is consumed. Despite high levels of engagement with news media, there is less trust in the media being consumed. In 2020, 53 per cent of New Zealanders trusted "most of the news most of the time" while 62 per cent trusted the news they personally consumed. By 2025, general trust in the media had declined, and 45 per cent of New Zealanders reported that they trusted the news they consumed themselves.⁴ Here in New Zealand, as elsewhere, the growing reliance on social media and online platforms for news has increased exposure to misinformation and disinformation, often characterised by "polarising and violent rhetoric", with researchers and security leaders warning that this trend threatens trust in institutions and democratic processes.⁵ New Zealand retains relatively high levels of trust in public institutions compared to other countries, but these appear to be declining overall. Our election participation rate is also relatively high but is much lower at local and regional levels.^{6 7 8 9}

Climate disruption

The climate is changing: The IPCC's 2023 Sixth Assessment Report (AR6) highlights that human activities are the undeniable cause of global warming, with temperatures already rising 1.1° Celsius above pre-industrial levels to 2020. 2023 was the hottest year on record, marked by prolonged droughts and widespread floods, driven by both the La Niña to El Niño transition and human-induced climate change. Around New Zealand, average sea surface temperatures are warming at a faster rate than the global averages (0.22°C per decade, compared to 0.16°C) and will continue to increase under current trajectories.¹⁰ The annual average temperature in New Zealand has increased, with eight of the 10 warmest years on record occurring between 2013 and 2022. It is increasingly clear that international efforts are insufficient to limit global warming, and greater reductions are needed both now and in the future.

Climate change is a systemic disruptor: Climate change is no longer a discrete environmental risk, but a system disruptor, causing events with real-time social and economic impact for New Zealanders. The back-to-back 2023 impacts of the Auckland Anniversary floods and Cyclone Gabrielle have shifted conversations from theoretical to the need to plan for ongoing recovery and future resilience in the face of "increasingly severe and frequent" weather events.¹¹ These events delivered the costliest weather losses on record, with a cumulative total of \$3.75 billion spent on claims by early 2024 and subsequent changes to insurance risk appetites and coverage, as well as a shift to risk-based pricing.^{12,13} Climate change has tipped into system disruption for communities, requiring conversations about who pays, who moves and how to build back.

Changing demographics

The New Zealand population is growing: The demographic profile of New Zealand continues to change, with the next decade positioned to bring about significant shifts in population demographics. New Zealand's population (5.3 million in 2024) is likely to increase to between 5.5 and 5.9 million by 2031.

The New Zealand age profile is changing: As the population grows, it is also ageing. In 2024, the proportion of the population aged 65 and over was 16.5 per cent nationally and 17.2 per cent in the Waikato region in 2024. This is highly likely to increase to between 21-24 per cent in 2051, and to between 25-33 per cent in 2078.¹⁴ At the same time, the Waikato also has a relatively high percentage of its population aged younger than 15 years, at 20 per cent, compared to the national

average of 18.5 per cent. The dependency ratio (non-working-age vs working-age population) is projected to rise significantly, from 27.7 per cent to 37.9 per cent between 2000 and 2050. This means there will be greater economic pressure on the region's working-age population.¹⁵

The New Zealand population is becoming more ethnically diverse: Unlike the past decades, where fertility growth drove population increases, migration is now the dominant driver. Two thirds of the population growth by 2040 is expected to be due to net international migration.¹⁶ The population is projected to become more ethnically diverse in coming decades.¹⁷

Residential patterns are changing: Changing residential patterns will have demographic impacts for regional development and planning. Between 2018 and 2023, 86,000 people moved from the North Island to the South Island, signalling shifting preferences in where people choose to live. Growth has been particularly strong in Waikato, Bay of Plenty, Tasman and Selwyn, reflecting the growing appeal of regional areas, driven by housing affordability, lifestyle preferences, infrastructure investment and the ability for many to work remotely.¹⁸ Population dynamics are shifting; the population of the Waikato region is estimated to exceed that of the Wellington region by 2033.¹⁹ However, this will be affected by conditions in other regions, particularly Auckland; for example, if house prices continue to remain stagnant in Auckland, this could reduce the flow of residents to the Waikato.

Policy shifts and re-orientation

Government shifts in policy and prioritisation: The current government is leading a marked and rapid shift in policy, which is arguably less participatory in development and more directive in its approach. This is evident across a range of domains, including environmental regulation and climate policy, education, transport investment and economic management. Economic policy has shifted from previous growth strategies, with substantial cuts to the Government's operating allowance, indicating a greater responsibility is being placed on households and the private sector to drive economic activity. Measures reflect a strategy focused on lowering regulatory hurdles and promoting development and investment in priority sectors.

Redefining Te Tiriti and biculturalism: There is a clear effort to redefine the role of the Treaty of Waitangi in contemporary governance. Legislative and policy changes, as well as government and public discourse, are bringing into question what 'partnership under the Treaty' now means, how power should be shared and how we want Te Tiriti to be reflected in systems and institutions in New Zealand. This is highly contested ground in the modern New Zealand political and social culture. The proposed Treaty Principles Bill saw nationwide hikoī, or marches, attended by more than 42,000 people, and received more than 300,000 submissions – the largest number of submissions recorded for any piece of legislation.

Trends impacting our future

In this section, we explore key political, economic, social, technological, te ao Māori, environmental and legal trends, and their implications for New Zealand and the Waikato region. Each section also explores key opportunities for the region, and urgent areas of action identified in stakeholder outreach.

Political

Geopolitical rivalry, tension and conflict are growing, replacing global cooperation with national security objectives

Geopolitical rivalry and fragmentation are becoming defining features of the global landscape, with competition between major powers and regional actors increasingly shaping international relations. In recent years, we have seen notable increases in both the scale and frequency of state-based armed conflicts, including proxy wars, civil wars, coups and terrorism. State-based armed conflict ranks as the leading current global risk in the 2025 WEF Global Risks Perception Survey, with ongoing conflicts in Ukraine, the Middle East and Sudan being major contributors.²⁰ Long-standing maritime and land boundary disputes and zones of competing influence in places like the South China Sea and Taiwan Strait also risk sparking new conflicts, as seen most recently between Cambodia and Thailand.^{21,22}

Amid rising political uncertainty, many governments are prioritising national security and domestic objectives over global cooperation. This signals a marked erosion of the post-Cold War international rules-based order, a global system of multilateralism in which national states cooperated through processes grounded in collective action, shared responsibility and established international institutions.^{21,23} This shift away from multilateralism illustrates a growing distrust between nation states and diminishing institutional capacity to address critical global problems that require international cooperation, such as the climate crisis, biodiversity loss, human migration, terrorism and a potential future pandemic.^{24,25} New Zealand faces the challenge of navigating an increasingly complex and contested global environment, maintaining independence in our foreign policy whilst balancing the interests of competing dominant political and economic powers.^{24,26}

Populist leaders and movements are gaining traction

We are seeing a rise in populist and extremist leaders and movements, with 2024 dubbed a “global elections super cycle” that brought about significant governmental change in many countries.²¹ This rise reflects an expression of discontent with mainstream parties following deepening social and cultural divides and economic dissatisfaction, intensified by the global financial crisis, the global pandemic and inflationary pressures linked to international conflicts. A growing share of the world’s population (almost 40 per cent) lives under authoritarian rule (60 countries in 2024 compared to 52 in 2014), while 45 per cent live in any form of democracy, and only 6.6 per cent in a full democracy. Reductions in recent global democracy scores are not the result of weakening democratic societies, but rather increasingly entrenched authoritarian regimes.²⁷

Marked by trade protectionism, anti-immigrant sentiment and weakened democratic norms, rising populist and extremist agendas reflect the retreat from multilateral cooperation.²¹ New Zealand remains an outlier, ranking among the best-scoring nations at second on the 2024 Democracy Index,

and fourth on the 2024 Transparency International Index of Corruption Perception (although falling from top-ranked in the latter).^{27,28}

Climate as a multiplier of instability

No longer just a driver of environmental policy, the world's climate is increasingly emerging as a catalyst for political instability and resource competition. The accelerated frequency and severity of extreme weather events are disrupting supply chains, damaging infrastructure, threatening food security, and escalating the risks of civil and political unrest and democratic decline, particularly in nations where governments cannot adequately address citizens' needs.²⁹ Rising sea levels are likely to cause greater displacement, migration and potential conflicts.

From a policy perspective, climate considerations have become a key component of many trade agreements, for example, most recently between New Zealand and United Kingdom/European Union. As such, failure to adhere to climate targets may risk eroding nation state trade positions. However, climate policy is increasingly shaped by national security and economic interests.²¹ While there has been significant acceleration in the global uptake of climate-related policies, particularly since 2020, large variation exists in the regulation and alignment of national climate policies to net zero goals, and for many policymakers, economic competitiveness and fiscal considerations are likely to be prioritised over environmental goals in cases where conflicts arise.^{30,21}

As costs of oil and natural gas rose significantly following Russia's invasion of Ukraine, the dependency on foreign natural gas markets was revealed to many countries.³¹ However, rare earth elements have emerged as opposing strategic assets given their vitality in technologies and renewable energy sources.³² As the global energy transition progresses (the ongoing shift from a fossil fuel-based energy system to renewable energy sources), we are seeing growing strategic importance among the countries geographically rich in these elements and minerals, and who have invested in the capacity to process raw materials into high-technology refined products.^{33,34}

The evolving nature of security threats

Alongside climate pressures, new and fast-evolving security threats continue to emerge that extend beyond traditional military risks. Many states and organisations are reporting an increase in cyberattacks on critical infrastructure and other "grey zone" tactics targeting democratic societies.³⁵ Grey zone tactics are used by actors with malicious intentions to exploit societal fractures, subvert democratic practices and gain regional influence by undermining public trust.^{36,20} Nation states like China, Russia and Iran have been accused of using advanced grey zone tactics to interfere with election processes, largely enabled through 'deepfake' videos and other content generated and widely circulated through AI and large language models.³⁷ Maintaining international and domestic strategic intelligence partnerships that align with national interests, and strengthening domestic data and digital capabilities, have been identified as key steps to supporting New Zealand's national security interests.³⁸

Institutional trust remains low across democratic nations

Global attitude surveys report that democracy retains widespread appeal and value, however, many established democracies are facing growing public disillusionment in institutions and political and social disengagement.³⁹ Common reasons seen to underpin these trends include perceptions that governments are too remote to address or represent public needs at the grassroots, community

level, dissatisfaction with the outcomes of public services or their perceived ability to meet public needs, as well as dissatisfaction with the institutional decision-making processes that underpin them.^{39,27} The spread of misinformation and disinformation also plays a role in eroding institutional trust, intended to weaken democratic ideals or forward political agendas amidst an increasingly digitised political landscape.

In New Zealand, trust in public institutions remains above the OECD average, with OECD survey data finding 46 per cent of people hold high or moderately high trust in central government in 2023 (compared to 39 per cent across the OECD), although other New Zealand estimates indicate this proportion may be lower.^{40,41} The most recent central government election saw the highest enrolment rate (95 per cent) since 2008, with 78 per cent of those enrolled placing a vote.⁶ However, local election turnout is generally substantially lower; in the Waikato region, turnout since 2007 has fluctuated between 38 per cent (2022) and 44 per cent (2019).⁷ The 2024 NZ Social Cohesion Survey found that while 57 per cent of New Zealanders expressed confidence that central government elections were fair, less than half expressed trust in the government and the fair rulings of courts.⁸

Regionally, Waikato data mirrors national trends.⁹ Results from the 2024 Waikato Quality of Life survey captured notably lower levels of public trust in central and local government and the media compared to the science and education sectors and the police; and only 35 per cent of Waikato residents believed that the public has influence over decisions made by their local council. While this reflects a long-term decline from 62 per cent in the 2006 baseline year, perceptions of influence were higher among Pacific (51 per cent), Asian/Indian (51 per cent), Māori (40 per cent) and Waikato residents aged under 25 years (50 per cent) compared to the regional average (35 per cent) in these results.⁴² This differs from findings reported at a national level, with the Helen Clark Foundation 2025 Social Cohesion survey reporting lower levels of trust among Māori (34 per cent) and Pasifika (34 per cent) respondents in the Government's ability to act in people's best interests most or all of the time compared to Asian respondents (51 per cent) and the national average (42 per cent).⁸

Economic

Economic outlooks are highly uncertain

The global economy sits within a highly uncertain landscape, marked by escalating trade tensions, geopolitical conflicts, demographic shifts and a shrinking foreign labour force.³¹ The implementation of near universal import tariff measures by the US and countermeasures by trading partners have brought tariff rates to the highest levels in a century, made access to key export markets and supply chains unclear, and contributed to unprecedented levels of trade policy uncertainty.^{31,43,44,31}

Softened domestic demand and a decoupling between China and the United States is resulting in a significant increase in trade, investment and GDP held by 'connector economies', emerging markets with advantageous locations and preferential trade agreements, reflecting the growing complexity of the global operating environment.⁴⁵ An escalation in regional conflicts could disrupt global fossil fuel markets, leading to sharp price increases and supply shortages that would add to New Zealand production costs and inflation, at least in the short- to medium-term until alternative energy sources can develop further.⁴⁶ Shifting climate policies present further risks to resource availability and costs, with sectors such as agriculture especially vulnerable to extreme weather events and climate shocks. Access to and management of water resources remain an important issue for economic growth, and

this may be exacerbated by climate change.⁴⁷ In parallel, financial institutions, such as insurance companies, are becoming more cognisant of climate risks and are seeking to reduce their exposure through increased costs or premia, or in some areas, withdrawing coverage.⁴⁸

In this context, economic sovereignty remains a priority within populist government agendas, with many policies aiming to lower global risk levels and dependencies by enhancing domestic production and competition. We are seeing expanding trade protectionism and industrial policies targeted at products and sectors identified as critical to national security and international competitiveness, such as climate and digital technologies.²¹ International agencies have lowered global growth forecasts in the face of the elevated uncertainty, and Treasury has estimated reductions of 0.2 per cent in economic growth in New Zealand expected over the next two years, but the outlook for international trade is highly uncertain and forecasting the impacts is difficult.⁴⁹

The changing environment presents both opportunities and risks for New Zealand. The country remains dependent on a narrow range of exports, falling three ranks to 68th in the Economic Complexity Index compared to a decade earlier.⁵⁰ Increasing protectionist policy reduces the opportunity for innovation and technology transfers. Early 2025 trade data points to a positive outlook for agricultural exports reflecting favourable production conditions, strengthening global demand and weakening domestic supply.^{51,52} China remains New Zealand's top export destination (27 per cent), followed by Australia (13 per cent) and the United States (12 per cent). Exports to the European Union and United Kingdom rose more than any other trading partner (22.6 per cent and 21.2 per cent, respectively), likely reflecting the benefits of market diversification enabled through recently enacted free trade agreements. However, these current trading conditions cannot be relied on for long-term growth, which ultimately must come from improvements in productivity and competitiveness.

The Waikato region contributes around 13 per cent of New Zealand's total exports in goods and services, outstripping its share of the nation's GDP.⁹ The region is founded on primary industries, in particular the dairy industry, which underpins more than half of the region's export earnings (\$590 million), followed by meat and meat products (\$235 million) and horticulture and fruit growing (\$94 million).⁵³ However, regional exports fell 4.1 per cent in the year to March 2024, compared to a 4 per cent national increase, reflecting the vulnerability that commodity-based exports hold to market shifts and production conditions in the current global landscape.⁵² There is also the potential for innovations in agritech and biotechnology at the global scale to accelerate growth if the region is able to leverage its strengths, or to be a significant disruptor (discussed further in the technology section).

Government decision making within a constrained fiscal environment

Economic recovery from post-COVID recession and inflationary pressures has been slower than expected, continuing to constrain government revenues both in New Zealand and abroad.⁴⁶ Internationally, many governments face historically high requirements to stabilise debt and inflation remains above central bank targets in most advanced economies.³¹ In New Zealand, GDP growth is forecast to strengthen by late 2026. However, recovery is expected to be uneven across regions, with agricultural-based areas said to show the strongest signs of improvement.⁵⁴ The current government has also indicated a departure from previous approaches to driving growth, with

significant reductions in the government operating allowance placing more emphasis on households and the private sector to initiate economic activity.⁵⁵

There is increasing demand for investment in basic infrastructure such as water networks, roads and bridges as key public infrastructure is already due for renewal or nears the end of its service cycle. However, the ability for local governments to invest in renewed and replaced infrastructure assets is constrained by debt to revenue caps and political considerations, meaning that current investment rates will likely fail to meet future demand.^{56,57} Costs will continue to rise as requirements grow to respond to climate change and other demands such as rising road safety precautions and earthquake strengthening.

Fiscal constraints are compounded by sluggish labour productivity growth, which, nationally, has shown no growth between 2021 and 2024.⁴⁶ In the Waikato region, differences between total GDP and GDP per capita reveal that growth has been driven more by population increases than productivity gains over the past decade.⁵⁸ The regional economy contracted by 0.5 per cent in the year to March 2025, with declines in construction and retail trade outweighing gains in agriculture, public administration and utilities industries.

Despite these challenges, Waikato retains strong growth opportunities in emerging industries alongside its established agriculture-based industries. The region is home to the highest concentration of agritech companies in the country, linking biotechnology and digital-based technology with the region's roots in the food and fibre sectors.⁵⁹ Te Matarau (the Māori Technology Community) and rangatahi Māori are displaying growing leadership in the digital technology sector, and innovation remains a key driver of sustained growth for emerging areas of the Waikato aquaculture industry such as seaweed, warming coastal water fish varieties, and iwi, hapū and marae-led aquaculture aspirations.^{60,61}

Rising living costs are front of mind for New Zealanders

New Zealanders continue to expect living costs to increase, with inflation and cost-of-living concerns dominating public sentiment. The May 2025 Ipsos New Zealand Issues Monitor found that 55 per cent of respondents identified cost of living and inflation as their primary concern, followed by healthcare (43 per cent) and the economy (32 per cent).⁶² One in four New Zealanders reported finding it difficult to manage financially, with the majority expecting household spending to rise further and less than a quarter anticipating improvements in their standard of living.⁶³ Certain groups are feeling these impacts more acutely, as the cost of living has increased at higher rates for low-spend households, super annuitants and Māori. New Zealanders withdrew a total of \$300.5 million from KiwiSaver in the year 2023/2024 for financial hardship reasons, reflecting a 188 per cent increase since 2019, and a 66 per cent increase in the average amount withdrawn.⁶⁴

While price growth has slowed recently, cumulative increases mean overall consumer prices in June 2025 were 24 per cent higher than in March 2020. Since then, the largest increases in top-level categories of the Consumer Price Index were for hospital services (46 per cent), property rates and related services (45 per cent), home ownership (43 per cent) and tertiary education (40 per cent). Prices also increased substantially for food (28 per cent), household utilities (31 per cent) and insurance (35 per cent). Wholesale electricity prices spiked in winter 2024 and household electricity

charges are projected to continue increasing over the next five years due to rising material and labour costs, interest rates, and investment needed for network maintenance.⁶⁵

A changing workforce

Changing demographics, technological change and geoeconomic uncertainty are leading to significant shifts in global and national labour forces. Many developed economies are facing shrinking workforces and worsening dependency ratios as retirement-age populations grow faster than the number of younger workers entering the labour market.²¹ In New Zealand, the mandate to reduce government spending drove a 4.2 per cent reduction in public sector employment since December 2023, with an estimated 10,000 jobs removed by mid-2025.⁶⁶ Unemployment reached 5.2 per cent in June 2025, a rate last seen December 2020 during the pandemic.⁶⁷ Many New Zealanders appear to be seeking work elsewhere, with unemployment and cost-of-living pressures contributing to a net migration loss of 30,000 people to Australia in 2024.^{21,68} A larger proportion of New Zealanders are also reaching retirement age as our population ages. However, it is becoming more common for older adults to remain in the workforce beyond retirement age, with high job satisfaction cited more commonly than financial strain as the reason for continuing work.⁶⁹

The labour market in the Waikato region is also changing, with employment for Waikato residents falling 0.7 per cent in the year to March 2025, lower than the 0.9 per cent national decline.⁷⁰ The unemployment rate rose to 5.6 per cent, surpassing the national average, and the participation rate dropped to 70.9 per cent, the lowest since 2020, suggesting growing discouragement among jobseekers and a larger number of people moving into education, training, or leaving the labour force. Jobseeker Support recipients in the Waikato region rose by 11.1 per cent over the year, remaining below the national average of 12.6 per cent. Retail trade saw the largest employment declines, followed by agriculture and transport, while healthcare, education and wholesale trade recorded the highest employment growth. Across New Zealand, jobs filled by young people aged 15 to 24 dropped 6.5 per cent (compared to a 0.9 per cent average), with fewer employment opportunities available in current economic conditions.⁷⁰

Tourism is gradually recovering from the pandemic

The tourism industry continues to recover from the impacts of the pandemic, with international visitor arrivals reaching 83 per cent of 2019 levels and visitor expenditure at 85 per cent by late 2024. We are seeing fewer low-spending visitors from Australia or those staying with friends and family, but increased spending per visitor.⁵² While travel exports rose 11 per cent in the year to March 2025, adjusting for inflation over the 2020-2025 period shows that real tourism revenue remains lower than pre-COVID levels.

Holiday travel remains the main driver, while business and conference travel show the smallest recovery, reflecting the increased use of virtual meeting platforms and reductions in business and government travel budgets.⁷¹ Arrivals from Australia and the US have returned to near pre-pandemic levels, while visitors from China remain well below.⁷² Student visa approvals for the year 2024/25 have also returned to the level seen in 2019/20 at around 80,000, but remain below the 100,000+ approvals recorded consistently from 2015/16 to 2018/19.⁷³

The Waikato region continues to be a visitor destination for New Zealanders, with domestic tourism making up 88 per cent of total revenue in the past year. 2024 figures describe a trend of visitors

staying for less time but spending more compared to previous years, marked by decreased guest nights and expenditure from domestic visitors but increased spending from international travellers across the region.^{70,74} The region may be in a position to further develop its international status, for example having recently earned a place on Expedia's top 10 global 'detour destinations' for 2025.⁷⁵

Social

Demographic change continues to reshape community needs and opportunities

Aligning with global trends, New Zealand's population continues to grow and diversify. Communities continue to age and become increasingly diverse, with a growing proportion reaching retirement age and proportionally more Māori and Pacific people aged under 25.⁷⁶ The Ministry of Disabled People estimates that the disabled community represented 24 per cent of New Zealand's population in 2024, encompassing New Zealanders who have long-term physical, mental, intellectual or sensory impairments, with higher rates seen among older adults, LGBTIQ+, Māori and Pacific populations.^{77,78,79} While current immigration rates will offset slower natural population growth and alter trends in ageing, its future contribution relies on policy settings and effective social and economic integration and support provision in New Zealand communities.

In the Waikato region, demographic shifts will continue to influence workforce needs, housing demand, health provision and urban planning decisions. Overall, regional population growth has been higher than the national average, increasing by 8.9 per cent between 2018 and 2023 census years (compared to +6.3 per cent nationally).⁸⁰ The region's population continues to become more diverse, with 12.9 per cent born overseas, a 14.7 per cent growth in Māori residents (25 per cent overall) and a 26 per cent increase in the Pacific population (5 per cent overall).⁸⁰ Higher proportions of both young people (aged under 15 years, at 20 per cent) and older residents (65+ years, at 17.2 per cent) contribute to a dependency ratio that exceeds the national average, signalling greater economic pressure on the region's working-age population.¹⁵ Despite the magnifying needs of an ageing population, older adults in the Waikato report higher perceptions of sense of wellbeing, safety and community, and overall quality of life scores compared to younger groups; however, isolation and loneliness remain key issues impacting older adults across the country.^{42,81}

Rising social challenges

New Zealand has made long-term gains to improve the lives of its people, achieving substantial progress across areas such as health, life expectancy, safety and wellbeing.⁹ This mirrors patterns of human development around the world, with longitudinal statistics reflecting vast improvements across outcomes in longevity, health and education, and the protection of human rights.^{82,83,84}

However, the benefits of advancing human development remain unequally distributed, and material hardship and other social challenges are still rising for many people worldwide. Internationally, inequality in many countries is substantial and, in many cases has been rising, including in highly developed economies such as the United States. Where one is born is a key determinant of whether they live in wealth or poverty.⁸⁵

In New Zealand, there are increasing levels of income inequality, housing deprivation, unemployment and social disconnection. Between the years of 2014 and 2023, the prevalence of moderate or severe food insecurity in New Zealand increased from 10 per cent to 16.4 per cent, and

one in four New Zealanders reported experiencing food insecurity in 2024 (with higher rates among Māori, Pacific people and renters, all of whom are disproportionately and persistently represented in the lower end of the income distribution).^{86,8} Child poverty rates have remained unchanged since 2021, with successive governments failing to meet key reduction targets set for 2024.⁸⁷ In this year, 1 in 7 (13.4 per cent) children were found to be living in households experiencing material hardship, with higher rates seen among Pacific children (28.7 per cent), tamariki Māori (23.9 per cent), and children living with a disability (21 per cent).⁸⁸

Homelessness has also increased across the country, with 2025 data indicating that one in every 1000 people in New Zealand currently live without shelter, and 14 in every 1000 live in housing considered uninhabitable.^{89,90} The 2023 Census found that 8.9 per cent of the unsheltered population was based in the Waikato, the second highest rate in the country, and a disproportionate rate of homelessness was seen among Māori and those aged 65 years and over. It is also becoming increasingly difficult for New Zealanders to access emergency housing, with a 386 per cent rise in Ministry of Social Development application rejections since August 2024.⁹⁰ A variety of factors are seen to contribute to the rising levels of homelessness around New Zealand, including high unemployment, insufficient availability of appropriate housing, and the rising number of individuals presenting with complex or overlapping mental health and substance use needs.^{91,92}

Trends in the Waikato are consistent with national outcomes, with progress indicators capturing long-term decreases in perceived health scores, income inequality and physical activity, and high school non-attendance and youth suicide rates; however, Waikato residents averaged slightly above the national average in life satisfaction scores (77 per cent), with 79 per cent rating their quality of life positively in 2024.^{9,93,42} Waikato residents report high wellbeing scores, perceptions of safety and knowledge of how to manage their health. However, the 2025 Hauraki Opportunity Wellbeing Baseline Report also captured key areas to strengthen wellbeing across certain districts, including targeted support for those with disabilities and mobility challenges, increased accessibility to healthcare, uplifting social cohesion, trust and sense of community, and improved community and whenua protections from environmental and climate impacts.⁹⁴

Housing prices are stabilising, however, home ownership remains skewed

Housing expansion and affordability remain important issues in the Waikato region. Between 2002 and 2021, house prices rose by 372 per cent, outpacing the 114 per cent increase in rents, although this pace has flattened in recent years.⁹⁵ In 2025, the average house value in the Waikato region was 6.2 times its average household income. While rural districts are generally experiencing slower growth compared to urban centres like Hamilton, rising population growth is making it more common to see highly productive farmland used for residential housing expansions in the region.⁹ The relative affordability of Waikato median house prices compared to Auckland has also increased demand from first home buyers, investors and others looking to move to the region in recent years.

^{96,95}

National home ownership has increased according to Census 2023 data, with 66 per cent of households in New Zealand owning their own home or holding it in a family trust (compared to 64.5 per cent in 2018), reflecting a small but notable reversal of the falling ownership rates seen since the early 1990s peak.⁹⁷ While Auckland reported the lowest home ownership rate at a regional level (59.5 per cent), Hamilton city had the lowest district-level rate at 53.3 per cent. Home ownership

rates are higher among older adults, with over three-quarters of households in Thames-Coromandel owning their home at a median age of 55.2 years, compared to a median age of 35.6 years in Auckland.

Most Waikato residents report that their homes suit their needs (79 per cent) and are in suitable locations (81 per cent), but only one third consider their homes affordable and certain groups continue to be excluded from the housing market.⁴² Home ownership rates for Māori in the region remain below the national average. Within that, 24 per cent of Waikato-Tainui tribal members and 27 per cent of Maniapoto own homes compared to 30.9 per cent of all Māori.

High prices remain a barrier to young people progressing into home ownership, with housing ranked as the second most pressing concern among young New Zealanders aged 18 to 34.⁶² 2023 Census Severe Housing Deprivation data indicated that 15- to 29-year-olds were more likely than other age groups to be living in temporary accommodation or sharing someone else's home.^{98,9} Some predict renting or living with family will become increasingly common later in life, with projections from the Te Ara Ahunga Ora Retirement Commission estimating a 100 per cent increase in the number of New Zealanders aged 65 and over renting in the private sector by 2048 compared to 2022.⁹⁹ This has also been seen amongst the 'Boomerang Generation', a term describing the increasingly common global trend of young adults returning to live with family following a period of independence, commonly in order to enable financial saving; however, it is important to note that multi-generational living arrangements is not new to many non-Western cultures.¹⁰⁰

The growing need for retirement living aged care presents another shift in housing demands, with one forecast anticipating a national shortfall of over 23,000 units by 2048. Across the Waikato region, supply of retirement village capacity is projected to meet demand until at least 2048, however, availability is unevenly distributed, with spatial shortfalls in the Waikato and Matamata-Piako districts. The desire to remain in close proximity to bus routes, access to goods and services, and friends and whānau may see the conversion of large areas of land, typically rural land, on urban fringes near regional centres into retirement villages that more commonly offer wide spectrums of care options.¹⁰¹

Educational preparedness remains critical for younger generations

New Zealand has made progress in lifting educational attainment among young adults, with the proportion of New Zealanders aged 25 to 34 without upper secondary qualifications steadily declining at a similar rate to other OECD countries.¹⁰² However, literacy and mathematics proficiencies are seen to be worsening amongst both children and adults compared to previous years, with particularly large declines amongst students from lower socio-economic backgrounds that suggest a widening gap in skills proficiency across New Zealanders.^{103,104}

In the Waikato region, educational preparedness remains a priority as employer concerns about skill readiness overlap with economic uncertainty, hiring freezes and job cuts. In recent years, the region's NEET rates (people aged 15 to 24 not in employment, education or training) have fluctuated in a similar manner to national levels, with a regional peak of 14.7 per cent in the year to March 2014, and a regional low of 12.3 per cent in the year to March 2023.¹⁰⁵ 73.5 per cent of 2024 school leavers in the Waikato attained NCEA Level 2 or above, slightly below the national average (76.1 per

cent), and lower educational attainment remains for Māori school leavers compared to other groups.⁹

Despite this, tertiary participation is strengthening. The University of Waikato has seen a 45 per cent increase in international student enrolments in 2025 compared to pre-pandemic levels, alongside its largest domestic school-leaver intake to date, which includes significant Māori (26 per cent) and Pacific (9.7 per cent) representation.¹⁰⁶ Waikato Institute of Technology (Wintec) has reported similar growth, with a 44 per cent increase in full-time international students in May 2025 compared to May 2024, edging closer to but still below pre-COVID levels.¹⁰⁷ New programmes, such as the University of Waikato's Tupu Rangatahi, Tupu Ahuwhenua (Māori Agribusiness Programme) launching in 2025, look to strengthen pathways for young adults into future leadership and work roles in key regional industries that demand an increasing number of high-skilled workers.^{108,109} Local opportunities to tackle talent skills shortages are also emerging, such as through Wintec's new 'earn as you learn' NZ Certificate in Manufacturing Level 3 pilot programme, which provides hands-on experience for high school leavers with Waikato manufacturers, aiming to foster local relationship-building and career progression for youth while growing a skilled talent pool in the manufacturing industry.¹¹⁰

Opportunities exist to strengthen social cohesion and connection

National survey data from 2024 indicates high levels of pride and belonging, with over 80 per cent of people feeling a strong national identity and connection to New Zealand life and culture.⁸ However, fewer New Zealanders feel connected to and safe within their local communities compared to previous years, and incidents of discrimination continue to impact Māori, Pacific and Asian populations at higher rates compared to other groups.⁸ The Waikato region aligns, with similar declines in perceptions of cultural respect, community connectedness and local pride, however, most residents continue to feel comfortable expressing their identity in public, participating in cultural activities, and feeling accepted by people in their city or local area.⁴²

The transport network represents another area impacting social cohesion and connection, with increased public transport usage linked to outcomes such as improved road safety, efficiency in freight transportation, and positive environmental and individual health and social connectivity outcomes.

Regional public transport use per person per year has increased in the past two years (at 7.8 boardings per person per year in 2023/24) following a recent low in 2021/22 (4.8 boardings per person per year) but remains below peak levels seen in the late 2000s (11.1 boardings per person per year).¹¹¹ Similarly, around 9 per cent of respondents in the Waikato 2024 Quality of Life survey had used public transport at least weekly during the previous 12 months, and those who had access to public transport in their area reported mixed views on the affordability, reliability and safety of their local service. In 2019, Waikato was the first region in New Zealand to implement a 100 per cent accessibility concession, seen to be an important step in supporting pathways to independent mobility for people with disabilities and impairments in regional hubs.¹¹²

Progress can be seen in the resilience and efficiency of the transport network, such as through the 2024-2027 National Land Transport Programme. \$1.9 billion is forecast to be invested in the Waikato, targeting Roads of National and Regional Significance to support economic growth and

freight efficiency, local road maintenance and improvements to support community connectivity and safety, and public transport accessibility.¹¹³ The reinstatement of the Auckland-Coromandel town ferry, coined the 'blue highway', for the summer of 2025/26 reflects the most recent development in cross-regional service expansion and a new opportunity for local businesses, residents and tourists visiting and residing in the Coromandel region.¹¹⁴

Trust in the media is decreasing amid changing patterns of digital engagement

The ways that New Zealanders interact with the media reflect wider patterns of growing social disconnection and institutional mistrust. While interest in the news remains comparatively high, trust in the media has fallen sharply and news avoidance in New Zealand is amongst the highest in the world.^{115,4} Magnified by the widespread embrace of generative AI, it is becoming increasingly difficult to distinguish between trustworthy and untrustworthy content.^{4,116} The increased use and influence of algorithms on social media sites impact the type of information that users are most likely to see and engage with, driving the spread of online disinformation and misinformation.¹¹⁷ In 2023, one in every 71 social media posts from New Zealanders contained harmful, incorrect information.¹¹⁸ At the same time, trending digital platforms are reshaping how information is accessed, with visual and video-led platforms like TikTok, Instagram and YouTube allowing creator- and influencer-generated content to diversify, but also fragment, how people encounter and engage with information.¹¹⁶

Growth in community, artistic and cultural engagement

New Zealand's social and cultural landscape is showing signs of resilience and vitality in some areas. Community engagement through volunteerism continues to rise, with 53 per cent of New Zealanders reporting they engaged in volunteer activities in 2023 (up from 50.7 per cent in 2021), and average volunteer hours rising from 15.9 to 18.1 over four weeks.¹¹⁹ Charitable giving online is on the rise, with the online platform Givealittle, for example, receiving \$36.5 million in donations in the financial year of 2022, up 38 per cent from the previous year.¹²⁰

Engagement in arts and culture continues to grow across the country, marked by increasing rates of public attendance, stronger positive attitudes toward the arts, and expansions of major cultural events and festivals in urban centres.¹²¹ In 2023, 97 per cent of New Zealanders participated in at least one form of cultural activity (for example, listening to music, visiting galleries, attending festivals) over a three-month period.¹²² In 2023, 74 per cent of Waikato residents attended or participated in the arts in the past year, and many recognised the role that the arts play in improving society, raising awareness of environmental and social issues, and generating employment in creative industries.¹²¹ Ngā Toi Māori (Māori arts and crafts) is seen as key to defining national identity, and offers a pathway to fostering cultural learning and encouraging interest in te reo. Links between higher wellbeing and high levels of engagement or perceived access to arts, culture and creativity among Waikato residents reflect wider opportunities to support community wellbeing and cohesion in New Zealand.¹²³

Technological

Generative AI is revolutionising the technology sector

Artificial intelligence is transforming the global technology landscape, having rapidly moved from experimental use to widespread integration across the globe. Since the release of OpenAI's ChatGPT in late-2022, the adoption and development of large language models (LLMs, deep learning models trained on vast amounts of data to understand and generate human language) has surged, with both organisational and individual use increasing dramatically. ChatGPT obtained over 100 million users in its first two months and now regularly hosts between 800 million and one billion active users weekly.^{124,125} Gen-AI applications have become widely employed across all sectors of the global economy, including finance, healthcare, education, law, agriculture, software development and the media.¹²⁶ Investment in AI is a high priority for many businesses, with projections suggesting that gen-AI could add between \$1.7 trillion and \$3.4 trillion USD to global GDP over the next decade, meaningfully impacting over half of the global workforce.¹²⁷ However, the potential benefits of AI are unevenly experienced, with low-income economies showing significantly less uptake compared to advanced and middle-income economies.¹²⁸

Organisations are embracing these technologies for their vast potential to lift productivity, enhance services, and accelerate innovation. In March 2025, 82 per cent of New Zealand businesses stated they are using AI in some capacity (compared to 67 per cent six months prior).¹²⁹ Employees report notable improvements in efficiency, accessibility and decision making, recognising wider benefits in the reduction of time spent on mundane or repetitive tasks and access to wider problem-solving capacity and knowledge systems.^{130,124}

Despite the recognised benefits, public opinion is grounded in widespread unease about the broader implications of AI. New Zealand ranks among the lowest globally on 'acceptance, excitement and optimism' about AI technologies, with a 2025 KPMG study finding that only 34 per cent of New Zealanders trust AI systems, compared to a 46 per cent global average.¹³⁰ The WEF Global Risks Survey documents low concern of AI implications in the short term, however, the risk of adverse outcomes increases significantly by 2035.²⁰ Common concerns centre on job loss as a result of AI, deskilling, misinformation and malicious use, threats to cybersecurity, privacy and intellectual property, and reduced human connection.^{131,130}

The sheer scale of physical infrastructure required to run AI technologies, including data servers and energy generation plants, also produce adverse environment impacts, including electronic and hazardous waste, reliance on critical minerals often harmfully extracted, significant water usage for cooling requirements, and greenhouse gases due to high electricity demand that cannot yet be met by renewable energy sources.^{132,31} Recommendations from the United Nations Environment Programme to control the environmental consequences of AI include governments establishing standardised impact measurements, regulations on company disclosures of direct environmental impacts of AI-usage, advancements by technology companies on the sustainable production and maintenance of data centres, and AI-related policy integrated into broader environmental regulations.¹³³

New Zealand's governance of artificial intelligence is evolving quickly but still lags behind the pace of adoption. Recent progress includes the New Zealand Public Service AI Framework to support the

ethical adoption of AI across government agencies, guidance published on responsible AI investment for businesses, and the nation's first Strategy for Artificial Intelligence launched in July 2025.¹³⁴ This approach remains 'light-touch', relying on existing privacy, consumer protection and human rights laws while anchored to the OECD AI Principles, which are seen as foundational to international AI governance.¹³⁵ There is a strong public mandate for the regulation of AI, with 81 per cent of New Zealanders believing regulation is needed and 89 per cent wanting laws that tackle AI-generated misinformation in 2025. A human-centred approach with clear stewardship of AI into work and society is seen as crucial to mitigating the risks and challenges present with AI technologies.¹²⁴ Yet, awareness of current protections is low. Less than half of New Zealand businesses report having an AI strategy or policy in place, and fewer than a quarter of New Zealanders believe existing safeguards are sufficient.¹³⁰

Technology is a driving force in job creation, transformation and displacement

Technology is predicted to be the most divergent driver of change in the global labour force, marked by advancements in digital access, AI and information processing, robotics and automation, and energy generation. The Treasury has categorised the multifaceted impacts of automation and AI on the workforce into three areas: displacement, the removal and automation of certain manual and routine tasks; reinstatement, the creation of new skills and jobs through emerging technologies; and productivity, the enhancement of existing roles through technological support.¹³⁶ Anticipated global skill disruptions have reduced in 2025, with the WEF Future of Jobs Report 2025 stating that surveyed employers now expect 39 per cent of workers' core skills to change by 2030 (compared to 2023's report estimating 44 per cent by 2027 and 2020's report estimating 57 per cent). This is partially explained by employer adaptation following the pandemic period and the rapid advancements in frontier technologies, alongside a growing focus on upskilling and reskilling programmes that allow companies to better anticipate and manage future skill requirements.¹²⁸ The 2023 NZ Future of Work Survey estimated 55 per cent of the workforce will require training to meet evolving skill demands.¹³⁷

While fears of job displacement are high, evidence indicates that job losses as a result of AI in New Zealand are minimal, with 7 per cent of businesses reporting AI replacements in March 2025. More commonly, businesses are adapting, placing higher value in staff AI training and enduring human qualities such as empathy and creativity.¹³⁸ Technology has also allowed increased flexibility in work dynamics, with Census 2023 data showing that nearly one in five people in New Zealand now primarily work from home, a rise of almost 60 per cent since 2018.¹³⁹

The 2025 WEF Future of Jobs Report describes technology-related roles as the fastest growing worldwide, reporting high demand for specialisations across AI and machine learning, big data analysis, cybersecurity, financial technology (fintech) and green transition roles such as Autonomous and Electric Vehicle Specialists and Renewable Energy Engineers.¹²⁸ In the Waikato, the demand for skilled workers with advanced expertise continues, particularly due to the automation of the primary sector and the ecosystem of innovative technology start-ups present in the region.⁶⁰

Across New Zealand, the technology sector forms a notable part of our economy, with the top 200 technology companies generating close to \$18 billion in revenue in 2024, an increase of 7.7 per cent from the previous year.¹⁴⁰ In 2023, 45 per cent of technology roles in New Zealand held a work or resident visa, with a small but steady decline in the proportion of New Zealand citizens working in

the sector since 2012.¹⁴¹ The 2025 Workforce Development Plan for Digital Technologies by Toi Mai suggests that the impact of this trend is two-fold: demand for local technology talent is subdued by the availability of highly experienced international workers, and education providers do not face a sector demand to develop new, specialised technology training. Toi Mai also describes a domestic diversity deficit, noting that Māori, Pacific peoples, women and tangata whaikaha (disabled peoples) are groups currently underemployed in technology who offer strong potential to the industry.¹⁴¹

Cybersecurity, data privacy and surveillance are growing concerns

Cybersecurity is an increasingly critical challenge both globally and in New Zealand, shaped by technological advances, talent shortages, and rising incidents of cybercrime. Internationally, nearly four million professions are needed to fill the global cybersecurity workforce gap.¹⁴² Advancements in quantum computing and gen-AI hold the potential to disrupt complex encryption systems protecting sensitive information, and the normalisation of the large-scale collection and storage of citizen data by governments, technology and social media platforms, among other private corporations, is contributing to growing concerns around data sovereignty, privacy and surveillance, as well as the security of banking and payment systems.^{143,144}

The National Cyber Security Centre reported that in 2024, cyber incidents cost New Zealanders \$1.6 billion, impacting 54 per cent of the adult population.¹⁴⁵ Phishing, investment scams and ransomware remain common, often targeting small businesses and individuals with limited defences. Reflecting this escalating threat, many countries are prioritising domestic digital infrastructure investments, tightening data security and governance of IT systems.²¹ 88 per cent of Australian and New Zealand Chief Information Officers identified cybersecurity as their top technology investment priority for 2025.¹⁴⁶

The digital environment for young people is ever-present

Rangatahi youth are growing up in a digital world, engaging with technology earlier in life in increasingly complex ways. Online gaming is a normalised form of entertainment and socialisation, with approximately 93 per cent of New Zealanders aged five to 14 reported to play video games in 2023.¹⁴⁷ Youth19 data revealed that more than a third of New Zealand students engaged in online gambling activities such as online betting or gaming with monetary elements, leading to heightened public concerns over the increasing availability of online gambling opportunities and the convergence between gaming and gambling.^{148,149}

Social media is being used more intensively, with rising rates of problematic social media use overseas, and reliance on AI may be an emerging global issue, with 83 per cent of tertiary students reporting regular use of AI for study and over three quarters feeling they could not complete their work without the help of AI.^{124,150} The exposure of young people to the online world remains a key concern for New Zealanders, with the top concern in Internet NZ's 2024 annual report being young people accessing inappropriate or harmful content online (71 per cent).¹³¹

Digital infrastructure is advancing, but still excludes certain groups

New Zealand's digital infrastructure continues to gradually progress, with ultra-fast-broadband networks reaching 87 per cent of the population and internet penetration (capturing the proportion of individuals connected to the internet) standing at 95.7 per cent in early 2024.^{151,152} Cases of investment illustrate areas of ongoing growth, such as Microsoft's launch of its first hyperscale cloud

region (data centre) in Auckland in 2024, Amazon Web Services Asia Pacific (New Zealand) region in 2025, and the rollout of SpaceX's Starlink technology, which aims to achieve national cellular coverage by 2026.^{153,,154}

Despite this, certain groups still face digital exclusion, with studies finding that the disabled community and older New Zealanders are less likely to have fibre access in place of slower wireless connections, and experience heightened concerns around online security risks compared to other groups.^{155,156} While the Government's Digital Inclusion Blueprint described a strategy toward equitable digital access across the country, the conclusion of the Department of Internal Affairs' digital inclusion programme in 2023 has left a gap in coordinated efforts to address digital exclusion.¹⁵⁷

Applied technologies remain at the forefront of New Zealand innovation

New Zealand's technology sector is globally ranked for its agility and adaptability, placing 26th out of 139 economies in the Global Innovation Index (2025) and seventh in the Asia/Oceania region.¹⁵⁸ Our future-focused policy, regulatory settings, business-friendly environment, size and location in combination with domestic skills, expertise and technology capabilities have been identified as creating strong potential for innovation and research and development activities.¹⁵⁹

The nation's strengths span innovations in renewable energy, aquaculture, agritech, biotech and software development. The Zero Carbon Roadmap is guiding innovations harnessing clean energy sources to actively increase the nation's energy resilience and reduce greenhouse gas and biomethane emissions.¹⁶⁰ Accounting for around 7 per cent of New Zealand's total digital focus, Auckland has the highest number of game developers per capita in the world.¹⁶¹

In 2025, New Zealand ranked fourth out of 54 countries for Innovation Potential in Biotechnology.¹⁶² The strengths of New Zealand and the Waikato region in agritech and plant-based biosciences, and building on its economic foundations in primary industries, offers potential to be a world leader. This may be dependent on producers adapting to emerging technologies, which may require far less land than is currently utilised and would significantly change the nature of livestock farming.¹⁶³

Agritech is one of the country's most significant innovative industries, supporting the growth, productivity and resilience of New Zealand's pastoral, arable and horticultural sectors through automation and robotics technologies, data analytics and AI, biotechnology and smart farming digital platforms, whilst also having the potential to contribute to sustainability goals and enhancing regional export potential.¹⁶⁴

As New Zealand's primary dairy and agricultural hub, the Waikato region sits at the centre of agritech design and implementation. Robotics and automation technologies such as autonomous tractors, robotic apple harvesters, smart packhouse systems and automated milking systems are reshaping labour-intensive operations.^{165,166} Facial recognition is being used to monitor animal health and solar-powered collars allow for remote grazing and livestock management.¹⁶⁷ Ultraviolet light is being leveraged to enhance plant growth and yields, and precision agriculture integrates soil moisture data, satellite imagery, and predictive modelling software to optimise crop management, irrigation and fertiliser use.^{168,169}

While current government funds, such as the Primary Sector Growth Fund and 2025 Investment Boost, aim to encourage primary sector investment, industry leaders signal a lack of renewed national commitment to early-stage innovation that will support agritech ventures in the formative stages.¹⁷⁰ By contrast, countries like the United Kingdom are embedding agritech into national industrial strategies, explicitly linking it to food security, climate resilience and export competitiveness.¹⁷¹

Increasing pressure for sustainable innovations in agricultural systems

Global agricultural systems are under pressure by shifting consumer preferences, emerging regulation, and environmental limits. Premium markets are increasingly demanding traceable, low-emissions produce and deforestation-free supply chains.¹⁷² At the same time, innovations such as plant-based proteins, fermentation-derived dairy alternatives and lab-grown meat are reshaping the protein market.¹⁶⁴ In New Zealand around 91 per cent of our biogenic methane emissions is from the agricultural sector.¹⁷³ The Government has committed to cutting biogenic methane emissions by 10 per cent by 2030 (from 2017 levels), and by 24-47 per cent by 2050, with nitrous oxide emissions targeted to reach net zero by 2050.

These goals reflect growing national and international expectations for emissions reductions. To meet them, the sector is exploring changes in on-farm management, including reducing stocking rates to lower methane and nitrate loads, and adopting low-emission feeds such as forage brassicas that reduce nitrogen losses and methane emissions, while lowering irrigation demand.^{174,175} Further innovation in land use and food systems includes increased interest in dual land-use models and agroforestry (trees integrated with pasture), particularly on more marginal land, that combine grazing, biodiversity restoration and carbon forestry.¹⁷⁶

Te ao Māori

Shifting political landscapes

The Waikato region sits within a period of political transition shaped by national debates and local aspirations. Conversations about constitutional arrangements, co-governance and the place of Te Tiriti o Waitangi continue to resonate strongly with iwi, hapū, and hāpori Māori. Proposals such as the Treaty Principles Bill have drawn strong opposition from iwi across the Waikato, with leaders expressing concern that it would undermine the integrity of settlements and diminish influence in decision making.¹⁷⁷ For iwi in the Waikato, this moment reaffirms the need to protect co-management agreements, water interests and long-standing Tiriti rights.¹⁷⁸ With the political education and mobilisation of Māori strengthening, this is pointing to a more confident Māori electorate in years to come.¹⁷⁹

Māori wards and representation within councils and government are significant mechanisms to protect Māori rights and interests and provide dedicated local representation.¹⁸⁰ With upcoming local Māori wards elections, there is an opportunity to bolster the extent to which iwi and hapū voices are embedded in regional decision making across the country.¹⁸¹ In the Waikato, established Māori wards will continue to provide a strong Māori voice, with iwi and hapū involved in areas such as freshwater planning, coastal rights and marine governance.

Looking ahead, the bicentennial of Te Tiriti in 2040 marks a milestone seen by many as a time for renewed commitments, deeper recognition of iwi authority and clearer pathways for shared decision making.¹⁸² The region's iwi and hapū will continue to advocate for the protection of settlement mechanisms, stronger partnerships in environmental planning, and greater recognition of cultural connections to places of significance.^{183, 184} This ongoing involvement is reflected in the Waikato River Authority, a unique co-governance entity mandated to restore and protect the health and wellbeing of the Waikato and Waipā river catchments. Central to its work is Te Ture Whaimana o Te Awa o Waikato, the vision and strategy, which sets the long-term direction for a healthy river that sustains abundant life and prosperous communities. With Te Ture Whaimana now under review, its relevance is brought into sharper focus, reinforcing intergenerational responsibilities and the vital role of iwi and hapū in shaping the future of the river, the environment, and the communities it sustains.

Economic pathways show both strengths and vulnerabilities

Nationally, the Māori economy has grown impressively, from approximately \$17 billion NZD in 2018 to \$32 billion in 2023, with an asset base reaching \$126 billion, outpacing earlier forecasts.¹⁸⁵ TPK projections foresee the Māori economy escalating to approximately \$165 billion by 2040.¹⁸⁶

The Māori economy in the Waikato is significant, with a substantial asset base in agriculture, forestry, and fishing, as well as property. Regionally, Waikato ranks second in Māori-owned businesses (4062 businesses) and contributes roughly 13 per cent of Māori business sales. Māori enterprises are concentrated in construction, agriculture, forestry and fishing, reflecting strong historical ties to whenua and resource-based economies.¹⁸⁷ The primary sector encompasses around 40 per cent of the Waikato Māori asset base, with the majority of these assets being collective assets.¹⁸⁵ However, given their reliance on climate-sensitive production, there are vulnerabilities to extreme weather events, market fluctuations, and shifting global demand.

Despite these risks, Waikato Māori are well-positioned to diversify, and iwi-led strategies are reshaping the regional economic horizon. Investments in agritech, aquaculture (including seaweed farming), renewable energy and digital industries reflect iwi aspirations in economic development and progression toward intergenerational wealth creation. For example, Ngāti Maniapoto have set ambitions to build asset values beyond \$1 billion by 2050, alongside social procurement policies to grow Māori business participation.¹⁸⁸ Meanwhile, Waikato-Tainui are investing heavily in housing, energy and health initiatives.¹⁸⁹

The scale and diversification of the Māori economy in the Waikato creates opportunities for regional partnership models with council, business and community ventures. The Ruakura Superhub joint venture between Waikato-Tainui's TGH and Brookfield international investors (with a \$1 billion development pipeline) shows the potential for global capital to align with iwi land and long-horizon ambitions, creating platforms for local jobs, logistics, energy and services.¹⁹⁰

Demographics are changing

In general, an ageing population means the Māori population, aged 65 years and older, will grow both in absolute terms and as a share of the Māori population. Furthermore, by 2040 the Māori population will be living longer, at 78.2 years for Māori males and 81.6 years for Māori females (up 4.6 years for Māori males and 4.3 years for Māori females from 2019). These demographic shifts for

older Māori will have impacts for future superannuation policy, the adequacy of elderly care and related services, future employment, shared living arrangements, including multi-generational households, and increased expectations on families and whānau in terms of care roles.¹⁸⁶

The Waikato also continues to attract Māori from surrounding rohe and other parts of New Zealand, with the latest census data showing 137,742 people are of Māori descent, accounting for 27.6 percent of the regional population.¹⁹¹ Movement to urban centres like Hamilton reflect practical goals in education, employment and access to services. This urban growth is reshaping social networks with more whānau living, learning and working in urban centres while maintaining connections to their marae and whenua. The result is a more mobile, networked Māori population whose lives span both urban and rural spaces.¹⁸⁶

Housing and cost of living are key challenges

Housing access and security is under pressure and home ownership remains a critical focal point. Current figures show ownership rates of 23.8 per cent for Waikato-Tainui and 26.6 per cent for Maniapoto which is below the Māori national average (30.9 per cent).¹⁸⁸ Notably, a recent iwi housing release of 10 homes drew nearly 1000 expressions of interest, with data revealing high levels of unmet demand even among whānau with mortgage pre-approvals and savings.¹⁹²

Affordability pressures are interacting with tikanga and care roles to increase multigenerational living. For many whānau, this is a strength, sharing costs, childcare, elder care and cultural life, yet it can also signal the difficulty of securing stable, adequately sized homes. Demand is growing for housing models that fit whānau realities: papakāinga, mixed-tenure developments, and flexible dwellings that accommodate life-stage changes.¹⁹³

Cultural connection and technology offer significant opportunities

Māori culture in the Waikato remains vibrant. Te reo Māori and tikanga are increasingly embedded in digital storytelling, education, and governance. Iwi and hapū are also investing in ways to sustain cultural connection for members who live away from tūrangawaewae. Some iwi are reporting higher levels of te reo proficiency when compared to national averages, and marae across the region are growing into central hubs of identity, learning and collective action.

Technology and digital tools are increasingly central to maintaining cultural and social connection. Urban marae, kura, reo initiatives and digital platforms are increasingly central to identity, participation and access to tikanga. There is a circulating population who live across urban and rural communities and their ability to access needed services will depend on data-sharing, cross-agency planning and iwi-led service models that bring care closer to where people live, learn and gather (including marae-based and kaupapa-specific hubs).

The many Waikato iwi members living overseas, coupled with broader concerns of digital exclusion for Māori in rural, older, disabled or low-income communities, makes the importance of equitable digital infrastructure increasingly clear. Technology provides a bridge to maintain connection, identity and participation in iwi affairs, and Waikato iwi have been expanding digital whakapapa platforms to strengthen dispersed member connections. They also continue to build cultural infrastructure such as kura kaupapa and marae-based learning hubs.

Rangatahi education and employment offer strong potential

The Waikato's Māori population is both young and increasingly multi-ethnic, especially among rangatahi. Many identify across Māori/European/Pacific ancestries and move fluidly between cultural worlds. This diversity is reshaping how iwi engagement occurs, becoming more digital, more mobile and often centred around kaupapa (education, sport, creative sectors, tech) as much as place. It also signals long-term demand for early childhood services, schooling pathways (including Māori-medium), skills training and youth transitions into high-skill work.¹⁸⁶

The Waikato's young Māori population represents a demographic dividend, with potential to transform workforce employment. However, employment is largely concentrated in labouring and service roles and wāhine Māori are more likely to be employed in part-time or less secure employment.¹⁹⁴

Kaitiakitanga is a key role in taiao and responding to climate change

Climate change is already impacting on marae, urupā and other sites of cultural significance across the Waikato region. Hazards such as flooding, land instability, coastal erosion, higher temperatures and drought threaten the physical integrity of these places, and also compromises the cultural practices, connections and community roles they uphold. As a result, marae are increasingly called upon as safe spaces and centres of support during and after climate events, placing greater demand on already stretched facilities. Waikato Māori economy is also highly exposed to climate risks, with 93 per cent of Māori-owned businesses projected to face increased heatwave exposure and 13 per cent of businesses exposed to wetter conditions.¹⁸⁷

Iwi responses emphasise kaitiakitanga, both cultural obligation and economic strategy. Kaitiakitanga underpins iwi action, both as a tikanga-based responsibility and as a practical pathway for prosperity. In the Waikato, initiatives such as catchment restoration, climate-smart land use and iwi-led freshwater arrangements are shaping the region's environmental future. Increasing recognition of mātauranga Māori brings a distinctive view of biodiversity that centres relationships among whenua and wai, and between people and other living and physical systems. From this perspective, environmental care is more than resource protection: it sustains whakapapa, deepens connections to place and reinforces collective identity alongside material wellbeing.¹⁹⁵

In annual plans, iwi emphasise the protection, nourishment, and enhancement of the environment, including initiatives for conservation management, restoration projects, pest control, planting and fencing of waterways. These efforts contribute to preserving and improving biodiversity within the region. The council also has a clear role facilitating iwi-led kaitiaki interventions, allocating resources for restoration, co-management of catchments and embedding mātauranga Māori in regional environmental planning.

Future pathways

Looking beyond 2025, Waikato Māori futures are defined by both risk and resilience. Political struggles over Tiriti recognition, economic vulnerability in climate-sensitive sectors and persistent inequities in housing and health highlight key challenges. At the same time, demographic strength, cultural vitality, digital innovation and global indigenous alignment present profound opportunities.

The Waikato region, with deep iwi roots and forward-looking Māori strategies, remains central to the future of national Māori development. By 2040, Waikato Māori envision a future where economic sovereignty, cultural identity and environmental guardianship are not only protected but serve as the foundation for thriving, interconnected whānau and communities.

The Waikato's social future is defined by steady urban movement, pressure on housing access, growing multigenerational households and a youthful, diverse Māori population. These trends present practical planning challenges, but they also highlight enduring strengths. Working in sustained partnership with iwi, hapū and hapori Māori, the Waikato can shape neighbourhoods, services and housing to reflect how whānau live now and how they aspire to thrive in the decades ahead.

Environmental

Our environment continues to change

The IPCC's 2023 Sixth Assessment Report (AR6) highlights that human activities are the undeniable cause of global warming, with temperatures already rising 1.1°C above pre-industrial levels to 2020. 2023 was the hottest year on record, marked by prolonged droughts and widespread floods, driven by both the La Niña to El Niño transition and human-induced climate change.¹⁹⁶

Around New Zealand, average sea surface temperatures are warming at a faster rate than the global average (0.22°C per decade, compared to 0.16°C) and will continue to rise under current trajectories.¹⁰ The annual average air temperature in New Zealand has also increased, with eight of the 10 warmest years on record occurring between 2013 and 2022.¹⁰ NIWA data shows that 2023 was the country's second warmest year.¹⁹⁷ These and other data indicate that global efforts are to date insufficient in limiting global warming, and greater reductions are needed both now and in the future, alongside adaptation strategies.

In consultation undertaken through this project, it was identified that current planning and regulatory cycles are too slow and inflexible to respond to accelerating environmental change, creating long lags between problem recognition and action. Landowners lack accessible pathways, options, incentives and information for transitioning from high impact uses to sustainable alternatives.

Emissions, energy transition and transport decarbonisation

In 2019, New Zealand was among the first to set a long-term emissions reduction target, but while many countries have since raised their ambition, our targets have remained broadly unchanged.¹⁹⁸ Gross national emissions have remained relatively flat since 2006, and so limited progress has been made toward long-term reduction targets. Agriculture accounts for 49 per cent of gross emissions, primarily methane from livestock, and sits outside the Emissions Trading Scheme. Transport is the second-largest source, with road transport emissions rising 89 per cent from 1990 to 2021, now accounting for 37 per cent. New Zealand also has one of the highest per capita rates of road transport CO₂ emissions among developed countries.¹⁹⁹

Waikato is the country's largest source of overall greenhouse gas emissions when measured in carbon dioxide equivalents (CO₂e). In 2023, the region recorded the second-highest methane

emissions, the highest levels of nitrous oxide, and the second-highest carbon dioxide emissions. Greenhouse gas emissions from drained organic ('peat') soils make a significant contribution to the region's profile, estimated at around 11 per cent of gross emissions. These are reported separately and are not included in the official Waikato totals.²⁰⁰ Agriculture accounts for more than half of the region's total emissions, giving it a distinctive profile compared with other regions.²⁰¹

The Waikato has also achieved the largest recent reduction in emissions, with a fall of 772 kilotonnes (kt) CO₂e (-5.3 per cent) in the year to December 2023 compared with 2022 and a fall of 13.8 per cent between 2007 and 2023, well ahead of the national trend of flat or slightly reduced emissions over the period.^{202,9} Most of this decrease came from electricity, gas, water and waste services (down 521 kt between December 2022-23), with the fall largely reflecting a decline in natural gas use for electricity generation following earlier cuts in coal.²⁰² Reductions from agriculture and forestry (down 211 kt over the same period) also contributed.²⁰²

The 2024 drought compounded underlying energy vulnerabilities in the Waikato. Reduced hydro availability coincided with a sharp decline in gas from Taranaki where supply dropped over 20 per cent year-on-year in 2024, reaching the lowest levels since 2011.²⁰³ In turn, coal-fired generation at Huntly surged by 225 per cent, and coal imports rose over 300 per cent to support grid stability.²⁰⁴ These national resource and security pressures contributed to a reversal of the 2018 offshore oil and gas exploration ban.²⁰⁵ With agriculture responsible for the majority of Waikato's emissions (69 per cent), and with per capita agricultural emissions more than double the national average, further progress will depend on focusing more directly on reducing emissions from farming, particularly methane, alongside maintaining and expanding carbon removals through forestry.^{206,201}

Renewable electricity generation is strong, but broader energy transition lags. In 2022, 87 per cent of New Zealand's electricity was generated from renewable sources, hydro and geothermal.²⁰⁷ Yet, when considering total primary energy use, including transport, heat, construction and industrial demand, only about 44 per cent is renewable, with fossil fuels widely used for process heat in manufacturing, construction and food processing.^{208,199} Although current generation remains around 80-85 per cent renewable, continued focus on solar, wind and storage is needed to decarbonise sectors reliant on fossil fuels.²⁰⁹ Deep geothermal extraction also offers significant potential for increased energy yields, albeit with significant logistical and technological challenges.²¹⁰ Much of New Zealand's recent renewable capacity growth has come from geothermal developments in the Waikato, including major new projects at Tauhara and Te Huka near Taupō, and further planned expansions expected to lift geothermal generation by around 24 per cent to more than 10 terawatt hours annually by 2028.²¹¹ However, as the 2024 drought showed, renewable generation remains vulnerable to climate variability.

Transport decarbonisation is progressing, but challenges remain. Active electric vehicle (EVs) numbers grew rapidly following the introduction of the Clean Car discount in 2021, but momentum has faltered. The Clean Car discount was repealed in December 2023, and exemptions for road user charges for EVs and plug in hybrids was ended in April 2024. As a result, registrations of new EVs declined sharply, by 48.3 per cent over the year to June 2025, falling to 9081 from 17,561 in the year to June 2024, and from a peak of 23,739 in the year to June 2023.²¹² Despite the significant growth between 2022-24, EVs still accounted for only 2.4 per cent of the total light vehicle fleet in August 2023.¹⁹⁹ From July 2025, all new public transport buses must be zero-emission, with full

decarbonisation targeted for 2035.²¹³ Hydrogen fuel-cell trucks are showing promise for long-haul freight, and KiwiRail aims to grow rail's freight share to help meet the government's 35 per cent freight emissions-reduction target by 2035, and is transitioning to zero-emission locomotives by 2050 through expanded electrification and battery-electric and hydrogen technologies.^{214,215} However, road freight remains dominant and without substantial mode shift, overall emissions gains will be limited.

Rise in significant weather events

Human-caused climate change is already driving more frequent and severe weather worldwide, leading to widespread impacts and losses. The IPCC's AR6 report confirms greenhouse gas emissions have increased the frequency and intensity of events such as heatwaves, heavy rainfall, droughts and tropical cyclones.²¹⁶

The 2023 Auckland Anniversary floods and Cyclone Gabrielle were collectively the most severe and destructive weather events in New Zealand's recent history, causing major disruption to communities and key infrastructure, particularly across the North Island, and have led to the declaration of national states of emergency.²¹⁷ In Waikato, impacts included the collapse of a section of State Highway 25A and isolation of Port Waikato. These events highlight New Zealand's high exposure to natural hazards: around 750,000 New Zealanders and 500,000 buildings (worth more than \$145 billion) are near rivers and in coastal areas already exposed to extreme flooding.²¹⁸

The impacts of our changing climate will be extensive and uneven

While extreme weather events are becoming more frequent and severe, their effects are not felt equally. Globally and in New Zealand, exposure is shaped by geography, socio-economic status and resilience of infrastructure. Coastal and low-lying rural communities, Māori communities (due to existing socioeconomic and health inequities and cultural ties to land) and those reliant on agriculture, horticulture, forestry, fisheries and tourism face disproportionate risks.^{219,220}

Climate change is also likely to displace Māori from vulnerable areas, disrupting the transmission of location-specific mātauranga Māori and tikanga. The IPCC AR6 notes that vulnerable populations often face compounding impacts, where a single event (such as a flood) can trigger multiple losses – from homes and income to access to health and education access.²¹⁶ In the Waikato, communities in the Hauraki Plains, Port Waikato and the Coromandel Peninsula are especially exposed to flooding, storm surges and erosion, often with limited evacuation routes and infrastructure redundancy.²²¹ Socio-economic factors can further compound risks, as smaller rural communities may lack resources to prepare and recover from disruption.

Biosecurity and resilience will remain key challenges

The global impacts of harmful invasive species costs approximately US\$423 billion annually and play a key role in 60 per cent of recorded plant and animal extinctions.²²² Climate change is amplifying these biosecurity risks. The *Global Change and New Zealand Biosecurity Report* flags climate warming as one of several global megatrends likely to increase invasion pressure in New Zealand. More frequent extreme weather events, shifts in trade patterns and ecosystem vulnerabilities will all heighten future biosecurity risks.²²³

Warmer temperatures and changing rainfall patterns are expanding the range and survival rates of invasive pests, weeds and pathogens in New Zealand.²²⁴ For the Waikato, where agriculture is a dominant land use and sectors such as horticulture and forestry are significant in particular districts, biosecurity is a critical resilience measure. Innovations such as remote sensing, drones, GIS mapping, eDNA and automated detection systems for pest surveillance and control efficiency, along with community participation/citizen science and iwi-led programmes, are seen as essential for achieving effective long-term outcomes in the region.²²⁵

Global biodiversity loss is driving regulatory change and market shifts

Global wildlife population have declined catastrophically. WWF has reported a 73 per cent drop in the average size of monitored global wildlife populations between 1970 and 2020, with the steepest declines occurring in freshwater ecosystems (85 per cent).²²⁶ In New Zealand, many native species face ecological collapse, with 76 per cent of freshwater fish, 68 per cent of freshwater birds, 78 per cent of terrestrial birds, 93 per cent of frogs and 94 per cent of reptiles threatened with extinction or at risk.²¹⁸ In response, 196 countries adopted the Kunming-Montreal Global Biodiversity Framework (GBF) at COP15 in 2022, committing to halt and reverse nature loss by 2030, with four long-term goals for 2050.²²⁷

The GBF emphasises biodiversity accountability, requiring companies to assess and disclose biodiversity impacts across their supply chains, and to integrate these considerations into procurement, production and distribution. It is also driving the development of biodiversity-focused reporting frameworks, such as the Global Reporting Initiative's biodiversity standard, and spurring the emergence of financial instruments like biodiversity credits to help fund implementation.²²⁸

Sustainable land management is an ongoing transition

There are global moves toward regenerative principles, which aim to reduce the impacts of food production, restore ecosystem health, enhance biodiversity and sustain productive land use.²²⁹ This includes heterogeneous land systems or *mosaic landscapes*, where multiple land uses such as pasture, native vegetation, wetlands and forestry are integrated to balance production with ecological function. Internationally, certification schemes such as the United Kingdom's *Pasture for Life* show how regenerative grazing can be linked to premium market access, capacity building and verified sustainability credentials, and consumer trust.²³⁰ The Ministry for Primary Industries' *Regenerating Aotearoa* project is building the local evidence base through co-funding multiple field trials and frameworks to help diversify farm performance across environmental, social, economic and cultural dimensions.²²⁹

MPI recognises that many New Zealand farmers already consider themselves to be practising regenerative or sustainable agriculture, and emphasises that the priority is demonstrating measurable outcomes, such as improved soil health, water quality, biodiversity, carbon storage and animal wellbeing, rather than simply claiming 'regenerative' status. To support this, tools like on-farm soil health benchmarking are being developed for farmers to adopt.

Our extraction and disposal of resources has increased

Global extraction of raw materials, including biomass, fossil fuels, metals and non-metallic minerals tripled in the past five decades, and is projected to increase by 60 per cent by 2060, exacerbating climate change, pollution and biodiversity decline.²³¹ New Zealand mirrors these trends. Our

economy is relatively resource-intensive, with per-capita material consumption (22 tonnes) similar to the OECD average but roughly double that of developing countries.^{232,233} Resource use is increasing: between 1994 and 2019, natural resources embodied in imports more than doubled, while domestic extraction grew by around 25 per cent.²³³

The volume of waste generated in New Zealand is steadily rising. While recovery rates are slowly increasing, total generation continues to outpace diversion efforts. Growth spans all waste streams, driven by population growth, rising consumption and construction activity.^{234,235} A positive trend is the decline in average municipal landfill disposal per person from 747 kilograms in 2018/19 to 615kg in 23/24.²³⁴

Land and water resources are under pressure

Incremental climate change, such as gradual warming and shifting rainfall patterns, are compounding pressures on already stressed environments. These cumulative stresses steadily erode the resilience of ecosystems, even in the absence of extreme events.

Globally, water scarcity and soil degradation are interlinked crises threatening food security, biodiversity and climate resilience. Water demand is rising by 1 per cent per year and projected to continue to 2050, with 2.4 billion people now living in water-stressed countries.^{235,236} Agriculture consumes around 70 per cent of global freshwater, while one third of the world's soils are degraded, often lost tens to hundreds of times faster than they can regenerate.^{237,238} Soil loss, nutrient depletion and contamination reduce the land's ability to store water, grow crops and sustain ecosystems, reinforcing scarcity.²³⁹

In New Zealand, these global patterns are mirrored in freshwater and soil systems. Freshwater extraction is intensifying under climate change, land use change and economic drivers. Competition for the Waikato River's water is growing between urban supply (including Auckland's take, which provides 38 per cent of the city's water), dairy farming, horticulture, hydro and industry.²⁴⁰ Water quality is under strain, with nearly half of monitored groundwater sites in New Zealand testing above safe E. coli levels.²¹⁸ Levels remain elevated in the Waikato rivers, despite riparian fencing and planting.²⁴¹ These measures are widespread across pastoral areas used for dairying, but less so for dry stock and hill country areas. Nitrate levels are mixed, but trending upward.²⁴¹

At the Waikato River mouth, summer water allocation rose from 67 per cent in 2007 to 89 per cent in 2024, while river flows have declined due to reduced rainfall, increased evaporation and irrigation demand.⁹ Competition between urban, agricultural and industrial use are intensifying and the region's unique shallow lakes are under increasing pressure from nutrient loading, sedimentation and invasive species, although restoration efforts are underway in many catchments.²⁴² However, there are positive signs, including declining phosphorus levels, improved chlorophyll levels in the Waikato River, and Lake Taupō's water quality performing ahead of restoration targets.²⁴¹

These water pressures are closely linked to soil health. In 2019, New Zealand extracted about 78 million tonnes of biomass, primarily from pasture, fodder, forestry and horticulture, all reliant on healthy soils.²³³ In the Waikato, intensive land use, high nitrate fertiliser application, soil compaction from grazing and machinery and erosion from vegetation clearance are key threats. Erosion in hill country areas continues to contribute to sediment loads downstream, impacting water quality in rivers, lakes, and estuaries.²⁴¹

Right land use, right infrastructure, right investment

Globally, actions to protect, manage and restore natural ecosystems that address multiple societal challenges simultaneously have moved from the periphery of climate policy to the centre.²⁴³ Nature-based solutions (NbS) as a concept includes approaches such as green infrastructure, ecosystem-based adaptation, water-sensitive urban design and ecosystem-based disaster risk reduction.²⁴⁴ NbS are now embedded in major frameworks, including the European Green Deal, the UN Convention on Biological Diversity under the Kunming-Montreal Global Biodiversity Framework, and the World Bank's Global Program on Nature-Based Solutions for Climate Resilience.²⁴⁵ These frameworks recognise NbS as essential tools for climate adaptation and carbon sequestration, particularly where built or grey infrastructure alone fails or is cost-prohibitive.

In New Zealand, NbS are now explicitly integrated into central climate and biodiversity policies, including the National Adaptation Plan, Emissions Reduction Plans and the Zero Carbon Act.²⁴⁶ The Government's 2024 climate strategy lists NbS as one of five core pillars for achieving national resilience and emissions reductions goals.²⁴⁷

Crucially, NbS also reframe how we think about sustainable infrastructure provision. They highlight the true costs of grey infrastructure when land use and investment decisions are misaligned, and the opportunities for more resilient, cost-effective outcomes when natural assets are treated as infrastructure in their own right. Economic analysis of the value of the Kaimai Mamaku restoration area's diverse ecosystems, estimated to be \$568 million annually, is one example. On the ground, this shift is evident in projects that reduce long-term infrastructure demand and boost climate resilience and reduce flood risk by restoring wetlands and coastal ecosystems, reviving historic river channels, undertaking catchment-scale flood and sediment management and integrate large-scale native planting into urban development. These initiatives signal a growing recognition that the right land use, matched with the right mix of green and grey infrastructure, underpins sustainable investment and long-term regional resilience.

Shaping a positive trajectory

The environmental trends and challenges discussed above are serious and of concern. However, they are modifiable, and coordinated action provides opportunities to change the trajectory. One position is that coordination and technological innovation in energy, agriculture and urbanisation can offer a practical route to change without resorting to more extreme measures that might impact human prosperity.²⁴⁸ Others emphasise that lasting resilience and equity will require deeper structural and behavioural change alongside technology for broader transformation.^{249,250} Across positions is general agreement that there are solutions to the significant challenges we face and technological adaptation to low-carbon futures is likely to be a key driver. Some technological solutions already emerging and in use globally in the Waikato are Agritech innovation such as precision agriculture, artificial intelligence and Internet of Things (IoT) enabled monitoring. Potential directions raised in the development of this document are detailed further in the section titled 'Opportunities to shape the region's future'.

Legal

Increasing pace of legislative reforms

In the 2022 PESTEL report, the legislative environment was noted for the accelerating pace of reform, particularly in social, economic and environmental policy. This trend has continued, with the current government passing more bills through Parliament under urgency without a select committee process than any administration at this stage in their term.²⁵¹ By mid-May 2025, 24 laws had been enacted without select committee scrutiny. Since 1987, only two other New Zealand governments passed more than 24 bills under urgency in an entire term.²⁵²

While this approach enables rapid policy implementation, this reflects a broader trend of successive governments making greater use of ‘urgency’ levers, which some commentators note has implications for accountability, transparency and checks and balances within the lawmaking process, and the potential for unintended legislative consequences.²⁵³ Legislation introduced under urgency bypasses the public input and expert review gained through the select committee stage, and critics argue that this can lead to weaker legislative outcomes and an erosion in public trust in the legislative process through limiting opportunities for public scrutiny and debate.²⁵¹

Rollback and reorientation of policies

As is common following a change of government, the first 18 months of the new administration have seen significant reversals and reforms across a range of policy areas, and which in the case of local government, appear more directive in their approach. Key legislative changes and developments to date include the following.

- *Resource Management Act (RMA) reforms*: The previous administration’s RMA reforms have been repealed, with the current government proposing a replacement framework that emphasises private property rights and faster consenting for housing, farming and energy projects.²⁵⁴
- *Fast-Track Approvals Act*: Introduced under urgency, this Act has established a streamlined consenting process for development and infrastructure projects, aimed at accelerating approvals and boosting regional and national benefits.²⁵⁵
- *Regulatory Standards Bill (proposed)*: A proposed law seeking to establish benchmark principles for ‘good’ law-making, aimed at increasing transparency and accountability in the regulatory process.²⁵⁶
- *Overseas Investment Act (proposed)*: A shift to a more permissive, risk-based system is underway that operates on the assumption that investments in New Zealand can proceed unless risks are identified (while currently, investors must prove the benefit of their investment for New Zealand), aiming to streamline foreign investment, particularly in energy and infrastructure.²⁵⁷
- *Tobacco and vaping legislation changes*: Restrictions introduced in 2022, including the generational smoking ban, have been reversed. At the same time, new measures have been passed aimed at reducing youth vaping through firmer marketing restrictions and sales penalties.^{258,259}

- *Fair Pay Agreements Act repeal and the Equal Pay Amendment Act*: The Fair Pay Agreements framework has been reversed and new, increased thresholds for pay equity claims have been introduced.²⁶⁰
- *Local Water Done Well reforms*: To replace the Three Waters reforms, these retain local council ownership of water infrastructure assets and also enable the establishment of up to 40 new, financially separate “water organisations”, which will be set up as limited liability companies owned by councils individually or collectively, or by community trusts.²⁶¹
- *Education sector reforms*: A ban on cell phone use during school-hours, mandated literacy and mathematics programmes in primary schools, and a proposed shift to a new national curriculum and replacement of the NCEA qualification framework.²⁶²

The current administration has also introduced the Local Government (System Improvements) Amendment Bill 2025, with the intention to refocus councils to core services such as roading, core infrastructure, water and waste management in the face of increasing rates and significant cost pressures resulting from past underinvestment in local infrastructure.²⁶³

Taken together, these reforms and developments indicate a legislative approach orientated toward reducing regulatory barriers, discounting external costs of activities, enabling development and increased investment in key sectors, and centralising governance structures.

Climate and environmental policy shifts

The government has placed priority on reforming the RMA to accelerate infrastructure development and simplify regulatory processes. The proposed new legislation will separate land-use planning from natural resource management, whilst prioritising private property rights and faster consenting aimed at enabling quicker delivery of housing, farming and renewable energy projects.²⁵⁴ Other aspects of RMA reforms include reduced criteria for natural hazard risks, reduction of wetland use and development restrictions, and enabling councils to help ensure stable food supply.^{254,264} In parallel, the Going for Housing Growth reform programme seeks to free up land for urban development, improve infrastructure funding for urban growth, and provide incentives for communities and councils to support growth.²⁶⁵

A further notable element of potential freshwater changes within the RMA reform is a proposed ‘rebalancing’ of Te Mana o te Wai, a hierarchy of obligations that prioritises the health and wellbeing of waterbodies and freshwater ecosystems; this is a key element of iwi engagement with regional councils currently.²⁶⁶

Finally, the Government is also implementing approaches to enable greater commercialisation of the conservation estate, to support more economic activity on conservation land where the risks are deemed manageable.²⁶⁷

While local councils indicate cautious support toward the need for reform, concerns remain about the pace of change, potential impacts on local decision making and flexibility, and the potential weakening of environmental protections and Māori stewardship rights.²⁶⁸

Proposals for New Zealand’s second Emissions Reduction Plan (ERP2) signal a change to a ‘net-based’ policy approach, focused on offsetting emissions through carbon removals, plantation forestry and emerging technologies. Recent amendments removed agriculture from the Emissions

Trading Scheme (ETS) in late-2024, thereby removing the requirement for agricultural processors to report and pay for a percentage of their biological emissions, with a new on-farm pricing system proposed for 2030.²⁶⁹ Other key proposals for ERP2 include promoting private-sector investment in forestry, vehicle charging and agricultural emissions technology, alongside investing in technology to assist emissions reductions in the agriculture sector and infrastructure to dispose and process organic waste and landfill gas capture.²⁷⁰ While the aim is to balance emissions goals with economic competitiveness and production, some commentators argue that climate policy is becoming more symbolic than effective.²⁷¹

Review of Treaty-based and bicultural policy frameworks

The current government is also showing an openness to review many well-established and bipartisan approaches around Te Tiriti o Waitangi and partnership with Māori, across a range of areas. A case that provoked historic public controversy was the proposed Treaty Principles Bill, which sought to define in law the principles of Te Tiriti, replacing the principles developed over previous decades by the Waitangi Tribunal.²⁷² While the Treaty Principles Bill has not been progressed, a range of other areas indicate a retreat from previous partnership positions:

- progression of the Regulatory Standards Bill without reference to Te Tiriti²⁷³
- review of the Waitangi Tribunal and Treaty of Waitangi Act 1975, to refocus the scope, purpose and nature of Tribunal inquiries²⁷⁴
- review of Treaty principles in existing legislation
- disestablishment or reductions in independent Māori institutions, including merging the Māori Health Authority, reducing the role of Iwi-Māori Partnership Boards in local service design and delivery, and amending the Local Government Amendment Bill to allow councils to disestablish Māori wards established either by council vote or through a public referendum^{275,276}
- loss or relegation of government department naming in te reo and English, and funding cuts to Māori language programmes for primary school teachers.²⁷⁷

Emerging forms of civic participation

Current and emerging forms of civic participation in New Zealand highlight both the scale of public engagement and the evolving ways people are influencing decision making. The proposed Treaty Principles Bill catalysed one of the most significant public responses to date, with nationwide hiko, or marches, attended by over 42,000 people and more than 300,000 submissions received by parliament.²⁷⁸ This was the largest number of submissions recorded for any piece of legislation, surpassing the previous record of 107,000 submissions on the previous government's 2022 Conversion Practices Prohibition Legislation Bill.

The parliamentary submission process has become an increasingly visible method of civic participation, with recent legislation such as the Fast-track Approvals Bill and Regulatory Standards Bill also prompting surges in public responses (27,000 and 22,000 submissions, respectively).²⁷⁹ Digitised access, social media campaigns and activist groups are playing roles in amplifying responses, with almost 70 per cent of submissions for the ban on conversion therapy under the Conversion Practices Prohibition Bill made using online templates from activist groups.²⁷⁹

These shifts underscore a broader trend toward active public involvement in shaping policy and reflect an appetite for continual public consultation and participation in political affairs.

Opportunities to shape the region's future

Through the engagement with stakeholders across the region, a range of opportunities for action were suggested. The following reflect the key themes emerging from consultative process and are presented, not as a manifesto, but as a range of possibilities for the region's future strategic direction. These are presented under six overarching themes:

- creating cohesive, engaged and participatory communities
- a technology-enabled region
- a resilient Waikato economy
- te ao Māori flourishing
- environmental sustainability and energy resilience
- engaged and participatory communities.

Creating cohesive and connected communities

Fostering young people's potential: The future success of the region will be founded on its ability to harness the hope and potential of today's young people to be future leaders and innovators and equipped to respond to a rapidly changing world. An inclusive education system that fosters literacy, numeracy, creativity, science and technology will drive wealth creation in multiple spheres and deepen understanding of the natural world that we depend upon for our economic growth.

Housing affordability: Increased housing supply and associated infrastructure can make an important contribution to improved affordability; this in turn will increase disposable income and wellbeing of households as well as free up capital for investment in productive activities.

Economic stake and ownership: A thriving region requires broader participation in economic ownership, including homes, businesses and education, especially for populations who are younger, Māori or lower income.

Addressing food deprivation: Too many families in the region struggle to afford basic food needs; the issue is not the amount of food available, but the accessibility of affordable food that enables people to afford to live healthily. There are a range of levers that can address this, including food hubs, sector competition, and local growing and distribution initiatives.

Retaining community in face of disruption: In the face of climate disruption, and ongoing economic shifts, communities are likely to change significantly. As difficult choices are increasingly required, building resilience and adaptive capacity in communities will support ongoing transition processes.

Intergenerational communities: Supporting intergenerational connection and drawing on the skills, knowledge and insights of people at all ages to build growth and understanding in a technology-rich world.

Creative and cultural activity: Fostering creative activity is itself an important contributor to cohesion, supporting diverse and cross-cultural art forms around which communities can gather and participate.

A technology-enabled region

Accelerate the agritech economy: Enable the development of networks and relationships between investors, entrepreneurs, workers and the farming community to help support agritech businesses and innovations. Support agritech workforce development by connecting innovators with educational institutions to develop training programmes for rangatahi.

Leveraging our strengths in applied technology: The region's existing strengths in applied technology, such as in energy and agriculture, provide a springboard for a dynamic, inclusive and globally competitive ecosystem. There is an opportunity for the region to become a connected and collaborative centre of excellence in existing agritech, as well as emerging sectors such as environmental tech, AI and the blue economy.

Data capture and accessibility: More systematically gather regional data; use consenting processes to mandate data collection and sharing; foster data-sharing agreements across councils and private firms; and develop a regional data centre infrastructure to support applied technology industries in the region.

Collaboration and cluster development: Strengthening collaboration across sectors around technology clusters or rōpū could accelerate problem-solving and innovation in the region.

Promoting regional technology achievements: There are many positive stories of technology success in the region that can be promoted to move the dialogue from humility to pride; in parallel, there is the potential to leverage Māori cultural values and storytelling to enrich the technology narrative.

Fostering digital equity and inclusion: Digital equity and inclusive workforce development are key foundations to ensure that all communities, especially Māori and Pasifika, have access to digital tools and pathways into technology and data science careers. Gamification and storytelling are potential avenues to engage youth in technology careers, and Māori-led digital strategies and iwi data governance models can offer pathways forward.

Regional re-branding: Despite world-class companies and talent, the Waikato region lacks a cohesive narrative that celebrates its technology achievements. Rebranding the region through a unified Waikato technology identity with global resonance, supported by authentic storytelling and strategic marketing, will support its international positioning.

Venture capital: There is a lack of early-stage venture capital funding in the region. There is a need to align capital with talent and ideas, and to attract venture capital to the Waikato.

Infrastructure and spatial planning: Power and water are critical infrastructure needs, especially for data centres and technology growth. Spatial planning and regional coordination are important contributors to future-proof development. Councils can be positioned as strategic partners and advocates for the technology sector.

A resilient Waikato economy

Decarbonisation of transport and logistics: Invest in technology and knowledge to support decarbonisation that leverages the Waikato region's location in between New Zealand's two largest ports.

Broadening how economic outcomes are measured: Adopt and monitor alternatives to the GDP/capita metric and other economic indicators so that economic wellbeing seen as one part of holistic wellbeing.

Build economic resilience and adaptability: Increase the diversity of economic activity in the region by supporting high value employment in AI, robotics, tech and AI integration combined with cultural capital investment. Resilience and adaptability can also be supported by developing localised markets and SMEs, reducing dependence on international imports and neighbouring regions, and further developing clean, reliable and affordable energy sources (see also parallel themes under environment sustainability below).

Further enhance renewable energy sources and circular systems: Continue the development of clean, reliable and affordable energy sources, which is vital for human flourishing. Foster the development of a circular economy, where waste and by-products are repurposed to support industry and community needs.

Support economic activity: Reduce compliance costs where they are excessive and make it easier for businesses to grow, while supporting community-led upskilling, growth and development opportunities.

Manage risks and uncertainty: Exporters who face new and uncertain tariffs and increasing protectionism need help to understand and manage these risks. Some whānau are also newly unemployed and experiencing hardship due to current economic conditions.

Te ao Māori flourishing

Iwi partnerships: For the Waikato Regional Council, there will be opportunities to continue building trust and confidence with iwi through transparent and consistent engagement, and:

- reaffirm its commitment to Tiriti based governance
- embed mechanisms that include Māori voices in decision making across core policy areas such as water, climate, housing and regional development.
- recognise te ao Māori as not only a cultural foundation but a driver of identity, wellbeing and long-term resilience in Waikato.

Support multigenerational wellbeing: Encourage housing and neighbourhood designs that work for kaumātua, caregivers and tamariki together (walkability, accessible transport, green spaces, proximity to services).

Uphold cultural connection in an urban-rural era: Recognise cultural infrastructure as core social infrastructure in long-term planning. Co-design spaces and programmes with iwi, hapū and rangatahi. Support urban marae and kaupapa hubs as anchors for belonging, services, education and cultural activity.

Māori economy: Growing and strengthening partnerships with Māori to set shared targets, unlock barriers and align investment. This will help ensure that iwi, hapū and hapori Māori are central partners in shaping the region's future economic landscapes.

Skills and employment: Expanding rangatahi Māori participation in skilled professions, community services and management roles will be essential for intergenerational prosperity. Central to this expansion will be pathways through kaupapa Māori education, vocational training and iwi–industry partnerships.

Enable Māori housing at scale. Prioritise planning settings, consenting pathways and infrastructure sequencing that support papakāinga, mixed-tenure iwi developments and flexible whānau-sized dwellings. Enable development of Māori-led housing where demand is already evidenced (for example, oversubscription to iwi releases).

Environmental sustainability and resilience

Invest in environmental resilience: Economic activity in the Waikato region is highly dependent on the natural environment and the availability of natural resources. Ensure decisions about climate resilience investments consider the potential economic benefits that are enabled.

Enable land use change: Work with landowners to better understand and overcome barriers to change. Provide support through tailored extension services, partner-led demonstration sites on purchased high-risk land, and trials of innovative land uses (for example, paludiculture, agroforestry, solar on retired land).

Restore natural water and sediment systems: Retire critical source areas for sediment and pathogens, expand wetlands (especially peat lake buffers) and remove redundant stopbanks to reconnect rivers to their floodplains.

Embed mātauranga Māori partnerships: Increase joint management agreements and collaborating directly with iwi farming enterprises on restoration and monitoring.

Undertake urban and health initiatives: Emphasise linkages between environmental and human health and showcase benefits using health economics. Pilot 'healthy urban environment' projects in Hamilton and reinstate and adapt clean-heat schemes for the worst airsheds (for example, Tokoroa) with targeted behaviour-change campaigns.

Incentivise environmental gains: Layer agile tools on top of legislation/policy. Investigate/introduce biodiversity levies, targeted rates, or quota systems. Create a regional resource fund or climate adaptation endowment to finance transformation.

Invest in education and visibility Grow community involvement through expanding environmental education in schools and equipping youth with citizen science tools.

Scale up catchment improvements: Expand the capacity of Catchment Delivery Teams to accelerate riparian planting and stock exclusion (including leveraging virtual fencing technology), fish passage remediation and spawning habitat restoration in priority areas.

Engaged and participatory communities

Listening to communities, in their own words: Hearing the needs that communities themselves identify, so that wellbeing is not a slogan but a lived reality, grounded in dignity, opportunity and hope.

Building trust and countering bullying and misinformation: There is a need to continually build public connection and participation in democratic processes, to ensure governance that is representative of all interests in the region. Key elements include fostering community capacity, engaged civic dialogue and countering activities that suppress and challenge diverse voices.

Scale of decision making: Initiating a national conversation about the appropriate scale of decision making and representation between central, regional and local government, to ensure strategies and approaches that are aligned, responsive to needs and effectively positioned.

Civic engagement and diverse voices: Building a participatory mana-enhancing democracy, with diversity at the leadership table and supported by empowered community involvement.

Our identity in the international sphere: The diverse voices, culture, faces and landscape of the Waikato offer a clear point of difference in how we position our strengths and opportunities to the global community.

Decision-making stability: Building clear consensus to ensure stable and lasting reforms that give effect to the needs of the people and the environment of the region, and which enable investment cycles that extend beyond three-year imperatives.

Legal and policy systems that are more accessible and comprehensible: Legal and policy systems are too often a tool that is utilised by those with the resources to afford it, yet technology and open-source platforms offer the opportunity to make the legal system more open, engaging and accessible to people.

Scenarios for the Waikato region in 2075

Drawing on the trends and insights of earlier chapters, we take a long-term view of aspirational scenarios for the Waikato region in 2075, to achieve:

- an environmentally resilient and sustainable region
- regional excellence in technology and innovation
- cohesive and participative communities.

These offer positive outlooks for the next generations of the region's people, which we can influence through decisions and actions we take in the present. These also complement other long-term strategies, such as the regional infrastructure strategy.

An environmentally resilient and sustainable region

What forces and trends are shaping the future?

Our environment continues to change, with temperatures rising globally and in New Zealand, and driving more frequent severe weather events. Even incremental changes in temperature and rainfall are compounding stresses on ecosystems that are already under pressure. The effects of the changing climate will be felt unevenly, with variations in impact shaped by geography, socio-economic status and infrastructure resilience.

A high proportion of emissions in the Waikato are due to agriculture, and, at the same time, the region has achieved comparatively high levels of net emissions reductions. Renewable electricity generation is strong, but a continued focus on solar, wind and storage is needed to decarbonise sectors still reliant on fossil fuels. Land and water resources are under pressure, with water quality and quantity and soil health under strain.

What if we maintain current directions?

Without change, the economic and social impacts of environmental degradation and loss of biodiversity will become increasingly apparent, through compounding effects of human-induced climate change, biodiversity loss, and water and soil health decay. The productive base of the regional economy will be challenged as changing climate forces significant change on pastoral farming, which relies on consistent and predictable rainfall. These could be exacerbated by planning and regulatory cycles that are poorly targeted. Such factors are likely to pose a long-term threat to our economic viability, both regionally and nationally. In the absence of planning and preparation for resilience and adaptation, communities will be significantly disrupted and displaced through the effects of climate change.

What actions can we take towards a different future?

- Investing in environmental resilience that reflects the long-term economic benefits of a well-functioning region and supports human and ecosystem health.
- Enabling land use change that supports diverse and innovative approaches to agricultural production.
- Restoring natural water and sediment systems and scaling up catchment improvements to improve ecosystem health.

- Embedding mātauranga Māori partnerships and collaboration with iwi farming enterprises on restoration and monitoring.
- Growing school and community environmental engagement and scientific literacy and participation.

What could this future look like?

By 2075, the Waikato region is a leader in environmental sustainability and resilience. The region's approach is underpinned by flourishing ecosystems, climate-engaged communities and innovative and sustainable approaches to land, water and energy use and management. The Waikato region is internationally recognised for achieving economic transformation whilst preserving and enhancing its landscapes, soils and freshwater and marine ecosystems.

Land use in the Waikato region carefully balances the needs of productive agriculture, ecosystem services and restoration, and population health and wellbeing. Mosaic landscapes combine pasture, native vegetation, wetlands and forestry, supporting both economic activity and ecological health. Productive land is protected, and economic activity is supportive of the functioning of natural systems. Adaptive capacity has been embedded to adjust and transition to more economically and environmentally sustainable practices and technologies, and alternative land uses.

In parallel, there are effective systems of environmental monitoring and regulation enforcement. Catchment-scale restoration projects improve water quality, sediment control and habitats for indigenous species. Riparian planting, fish passage remediation and wetland expansion have revitalised rivers and lakes, ensuring clean lakes, rivers and wetlands, benefiting people and nature.

Environmental kaitiakitanga (stewardship) is grounded in mātauranga Māori, with iwi and hapū as central partners in decision making and management of local and regional planning and restoration efforts. Iwi in the Waikato are leading conversations about the environment, have tino rangatiratanga and acting in their full roles as kaitiaki. A commitment to integrating mātauranga Māori with scientific knowledge supports an inclusive approach to sustainability, which acknowledges human and environmental wellbeing as interconnected.

Communities in the region have embedded robust systems to manage and respond to extreme weather, drought, rising temperatures and shifting rainfall patterns. Flood-prone areas have been restored as wetlands and buffer zones, reducing risk of disruption and displacement, and enhancing biodiversity. Urban planning prioritises green infrastructure, with nature-based solutions integrated into flood management, stormwater systems and coastal protection.

The region has transitioned to a low-carbon energy system, with innovative energy storage and smart grid technologies supporting reliability and flexibility; the region is a lead producer of green transport fuels across land, sea and sky. The region's agricultural producers achieve market advantage through their environmental stewardship credentials. Agriculture and industry have adopted low-emission practices, including precision farming, methane reduction strategies and circular systems that repurpose waste and by-products.

Biodiversity is steadily improving across the region, with a broad spectrum of native species protected, and there are fully functioning ecosystems and habitats that are resilient to climate shifts. Community and iwi-led conservation projects and citizen science initiatives have been an important

contributor to reversing declines in indigenous species populations and strengthened ecological resilience. Iwi and communities are actively involved in shaping resource policies, monitoring environmental progress and contributing to local improvements in sustainability.

The region has embedded a circular economy approach, reducing waste and maximising resource efficiency. Materials are designed to enable reuse, recycling and repurposing, with innovative approaches constantly emerging to dealing with organic waste, construction materials and packaging.

Regional excellence in technology and innovation

What forces and trends are shaping the future?

We are seeing rapid progression of technological innovations, the latest of which is the growth of artificial intelligence and its application across government, business and community. Technology is a driving force in the creation, transformation and displacement of work. Our young people are growing up in an increasingly digital world, with rapidly changing ways in which information and entertainment is consumed. The bioeconomy is emerging as a growing force for sustainable development, using biological resources and innovative technologies to address global environmental and economic challenges.

What if we maintain current directions?

The benefits of technology have the potential to support human potential and economic growth, but the benefits remain unevenly distributed, particularly for Māori, Pacific and older people. A digital divide could become entrenched, constraining the potential for both our people and our region, restricting access to services and amenities that rely on online engagement.

Our applied technology industries may adapt to developing new offerings but may lack both the infrastructure and the skills required to take advantage of the rapidly changing technologies. Scarcity in our energy systems could undermine the potential for economic and social gains.

The region may lag in leveraging opportunities presented by developments in the bioeconomy, which advances in biotechnology and digital tools with circular economy approaches, and in so doing, lose pace with global growth and expectations in this area.

What actions can we take towards a different future?

- Fostering digital equity and inclusive workforce development so that all have access to digital tools and pathways into technology, engineering and data science careers.
- Working with iwi and Māori to build capacity and technological excellence.
- Leveraging our strengths in applied technology around technology clusters to be a global leader in agritech, environmental technology and the blue economy.
- Building a consistent and clear Waikato technology identity with global resonance.
- Long-term infrastructure and spatial planning that supports a future-proof region able to leverage technological change and opportunity.
- Ensuring energy resilience through access to clean, reliable and affordable energy sources to underpin the technology sector.
- Ensuring global interconnectivity and resilience with regional terminals for international data cables.

What could this future look like?

By 2075, the Waikato region is an exemplar of technology-enabled growth, resilience and capability development. The transformation has been driven by a sustained commitment to digital innovation and applied technology leadership, and underpinned by enduring partnerships between local government, businesses, iwi and communities.

Seamless digital connectivity spans all communities in the Waikato region, enabling equitable access to education, healthcare, business and civic participation. Residents of all ages and cultures are able to participate successfully in the digital economy.

The Waikato region is well-established as the leading region for agritech development. Advanced robotics, artificial intelligence and precision agriculture are in widespread use to optimise yields, reduce environmental impact and respond to climate variability. Real-time monitoring of soil, water and crop health support sustainable and productive land management.

Māori agribusiness and iwi-led ventures are leaders and active participants at the heart of the innovation ecosystem, integrating mātauranga Māori with cutting-edge technology to create enterprises that are resilient, prosperous and deeply grounded in culture. Iwi ventures are also spearheading and nurturing a thriving Māori technology workforce while also championing Māori data sovereignty. Knowledge and data are held, governed and used in ways that reflect tikanga, uphold rangatiratanga and deliver intergenerational benefit. It provides a foundation for innovation, safeguarding Māori intellectual property, guiding the ethics of artificial intelligence, and enabling iwi to shape the digital economy on their own terms.

Schools and tertiary institutions in the region offer personalised, technology-rich learning settings, preparing rangatahi for careers in digital industries, creative sectors and applied technology. Collaboration between industry, government, iwi and training providers, alongside streamlined training pathways, ensures that skills are aligned to global needs and opportunities. Technology supports real-time, tailored health and wellbeing plans for older populations, optimising people's ability to age independently and maintain good health.

Technology-enabled approaches to environmental management in the region are delivering significant gains in sustainability and resilience, and support the conservation, restoration and improved stewardship of land and natural processes. Smart sensors and data analytics monitor water quality, biodiversity and emissions, which inform and guide interventions and restoration. Renewable energy systems power homes, businesses and transport networks to underpin a prosperous low-carbon economy that delivers security of supply, and resilience to withstand environmental events.

A vibrant network of entrepreneurs, investors and innovators are continually lifting economic growth. Early-stage venture capital supports start-ups in agritech, environmental technology and creative industries.

Cohesive and participative communities

What forces and trends are shaping the future?

Communities in the Waikato region are becoming increasingly older and diverse, with particularly high growth in Māori and Pacific communities. There is growth evident in community, artistic and cultural engagement. Whilst there have been many improvements in health and social outcomes over the last century, in the last 10-20 years there are also increasing levels of deprivation, unemployment and social disconnection. New Zealand has made progress in lifting educational attainment, but literacy and numeracy proficiencies are seen to be worsening. New Zealanders have relatively strong civic participation but have a declining trust in media and are vulnerable to the polarising effects of online misinformation and disinformation.

What if we maintain current directions?

A continuation of current trends is likely to mean ongoing economic disparities, and untapped potential for people of all ages and cultures. Whilst there are many opportunities for cultural and creative expression, and for young people's growth and development, we may not reach our full potential to thrive in a rapidly changing world. Misinformation and social division could entrench existing divides and undermine social participation. Healthcare costs are increased by the failure to maintain long-term gains in population health.

What actions can we take towards a different future?

- Harnessing the potential and capabilities of young people to be future leaders and innovators, through supporting literacy, numeracy, creativity, science and technology.
- Broadening the opportunity for people to have a stake in the economy, in housing, business and education.
- Creating the conditions for rangatahi Māori participation in skilled professions, community and management roles through aligning of education, training and iwi-industry relationships.
- Integrating te ao Māori as a driver of identity, wellbeing and resilience in the region.
- Continually building public connection and participation in democratic processes.
- Addressing isolation and loneliness in older populations.
- Building adaptive capacity in communities to transition in the face of climate disruption and economic shifts.

What could this future look like?

By 2075, the Waikato region is recognised for its vibrant and cohesive communities, built on inclusive education, affordable housing, creative and cultural vitality and strong civic engagement.

Education systems nurture the potential of young people, fostering literacy, numeracy, creative and technological skills, providing a foundation for future success. Thoughtfully designed digital platforms and gamification engage rangatahi in safe and meaningful ways, building a pipeline into technology careers and community initiatives.

Neighbourhoods foster connection through accessible transport, green spaces and proximity to community resources and services. Housing is affordable and accessible, with a rich variety of housing models that reflect the diverse and multigenerational needs of whānau and communities across the region.

Older adults thrive in interconnected, age-friendly homes and neighbourhoods. Housing, towns and cities in the region respond proactively to mobility, sensory and cognitive needs, ensuring a region that delivers safety, social connection and active lifestyles for all ages.

People are actively involved in informing and shaping policy and decision making. Open-source platforms and digital democracy tools make legal and political systems accessible and transparent. There are high levels of trust in media, institutions and government, and policy settings reflect the needs of people, the environment and economy. Community pride and belonging is evident, with people feeling safe, respected and connected to their areas.

Local growing and food hubs provide focal points for community food production. Community distribution networks, alongside sector competition, have addressed food deprivation, ensuring that all families have access to affordable and healthy food.

Te ao Māori is celebrated as central to the region's identity and indigenous principles help to grow social cohesion and community resilience. Iwi-led initiatives promote kotahitanga, and the wellbeing of Māori communities is strong.

In parallel, a range of diverse art forms, festivals and cultural events connect communities and attract visitors to the region. Urban marae and other community hubs serve as anchors for belonging, connection and cultural activity.

Communities are resilient in the face of disruption, with strong community networks and collaboration with local and regional governments supporting collaborative action.

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Technical Series 2025/31

ISSN 2230-4363 (Online)
October 2025

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