

TARANAKI

2050

TARANAKI 2050 ROADMAP

OUR JUST TRANSITION TO A LOW-EMISSIONS ECONOMY

JULY 2019

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1. Context

New Zealand, as a nation, is moving towards a low-emissions economy.

In April 2018, the coalition Government announced it would grant new exploration permits only for onshore Taranaki and nowhere else. This decision has the potential for significant impact on the economies of both Taranaki and New Zealand if we do nothing. This is particularly true for Taranaki, given the energy sector represents 28% of the regional economic output¹.

The exploration decision is part of a much wider picture. The world has committed to taking action to lower greenhouse gas emissions. In 2016, New Zealand ratified the Paris Agreement and made international commitments to support the global response to the threat of climate change. Under this agreement, New Zealand needs to reduce emissions to 30% below 2005 levels by 2030.

The New Zealand Productivity Commission completed its final report on transitioning New Zealand to a low-emissions economy in April 2018. The Productivity Commission found that three particular shifts must happen for New Zealand to achieve its low-emissions goals:

- A transition from fossil fuels to electricity and other low-emission fuels across the economy;
- Substantial afforestation; and
- Changes to the structure and methods of agriculture production².

The Interim Climate Change Committee released reports in July 2019 on Agricultural Emissions and Accelerated Electrification. Both recommend a series of actions the Government can take to reduce greenhouse gas emissions in agriculture and electricity, including using electricity to reduce transport and process heat emissions³. The Committee's report highlighted that reducing emissions is a complex task requiring careful planning.

In 2016, New Zealand's two largest contributing sectors for emissions were agriculture and energy (including transport)⁴. These sectors are a key part of Taranaki's economy, and while forestry has considerable growth potential, a significant transition to a low-emissions economy will be required.

The past shows us that the impact of large transitions, such as what we need to do to lower our emissions, can lead to a legacy of negative impacts for some. A just transition is about managing these effects to continue to build a fair and inclusive New Zealand. For Taranaki it means ensuring we keep what

is great about our region. A transition is likely necessary, including system-wide behavioural and institutional change to ensure more parity in outcomes for people. Co-creation with communities, iwi, local and central government, businesses, educators, unions and workers is the cornerstone of the approach we are taking in Taranaki.

1.1 Tapuae Roa: our regional economic development strategy

Prior to the inception of the Taranaki 2050 Roadmap project, Taranaki developed a regional economic development strategy and accompanying action plan, *Tapuae Roa: Make Way for Taranaki*. This encompassed the views of iwi, business, central and local government.

Tapuae Roa identified four futures to be developed and strengthened over time, to diversify Taranaki's economic base and cement its position as the powerhouse regional economy in New Zealand. The futures are:

- Energy
- Food
- Tourism
- Māori Economy.

Tapuae Roa could be described as a top-down planning exercise. The creation of the Taranaki 2050 Roadmap could be described as a bottom-up, transparent, inclusive exercise capturing new information from a far more diverse group of stakeholders within a changed economic context due to Government policy amendments in relation to climate change.

While the Taranaki 2050 Roadmap is an ongoing piece of work yet to deliver a set of tangible, bankable initiatives, it is worth noting that many of the themes and emerging opportunities articulated by 2050 Roadmap workshop participants align well with Tapuae Roa. For example:

- Its four futures;
- Its focus on sustainability, diversification, science, and economics-based decision making;
- The desire for Taranaki to continue to attract investment and sustain a high quality of life for our people and a high-value economy; and
- The importance of underpinning the above with innovation, as well as investments geared towards ensuring the region continues to be a net contributor to New Zealand's social and economic wealth.

¹ *Tapuae Roa: Make Way for Taranaki Strategy, August, 2017, p.52*

² *The New Zealand Productivity Commission, Low-emissions economy: Final report, August 2018, p.2*

³ *Interim Climate Change Committee Action on agricultural emissions Accelerated electrification Summary Reports and Recommendations 30 April 2019, p.1, 6, 12, 13.*

⁴ *The New Zealand Productivity Commission, Low-emissions economy: Final report, August 2018, p.30*

2. Our vision for 2050: a low-emissions economy like no other

Our vision for Taranaki in 2050 has been co-designed by the region. It considers not just how our economy will change, but all aspects of our lives, and provides the opportunity to plan for inclusive growth as we transition to a low-emissions economy.

The Taranaki 2050 Roadmap was launched as a draft on 9 May at the Just Transition Summit in New Plymouth. Public feedback to the draft was open from 9 May to 30 June 2019 and has helped shape the final Roadmap.

The Roadmap is the first step we have taken as a region in developing our transition plan to a low-emissions economy. The draft was the culmination of 29 workshops on 12 transition topics, plus surveys and community outreach, as well as a creative challenge and specialist workshops/engagement for youth. More than 14,000 people viewed the introductory online video, and the process engaged ideas from more than 1,000 people. The workshops mixed the diversity and talent of our region with specialist expertise from around the country.

Following the launch of the draft Roadmap, public consultation included visits to more than 40 locations with over 1,000 people. Twenty-five separate email submissions were received from individuals and organisations that represented thousands of individuals, as well as 135 submissions via our online interactive tool.

Themes

The people of Taranaki have a vision for 2050 that includes:

- A strong, sustainable environment;
- Education options that move and flex with a changing world;
- Attractive jobs;
- A similar lifestyle to the one we enjoy now;
- Leading the way in sustainable, low-emissions energy; and
- A region that looks out for and cares for itself and its people.

Our vision for 2050 is centred on our understanding of our past. This is a past where we used hard work, ingenuity and our natural resources to become one of the wealthiest regions in the country. But it is also a past that includes pain and conflict,

especially for the first people to live in Taranaki: Māori. The vision our community has created is about reconciling and moving forward as one, giving everyone a fair opportunity to participate in society and reach their potential. A central focus is also about moving to a more sustainable relationship between people and environment.

While there were some divergent views for the future of Taranaki across participants, there were also many common themes. We can truly say that what unites us as a region is stronger than what divides us as a region. The main consistent themes were grouped into the areas below: sustainability, inclusivity and enterprise.

In many ways, these themes reflected the Māori values of guardianship of people and our environment (similar to kaitiakitanga), the importance of community and caring (similar to manaakitanga), and the need for collective action in our move forwards (similar to kotahitanga). They also signified a focus on long-term outcomes that span generations.

2.1. Sustainability

There was a strong recognition of the concept of sustainability – that we should meet the needs of the present, without compromising the ability of future generations to meet their own needs. This not only related to just making a contribution to a low-emissions future, but also to how to reduce waste, enhance biodiversity and have cleaner rivers and oceans.

As part of this, there was a desire to maintain the elements of the lifestyle we value (e.g. artistic and cultural vibrancy, good-quality services, ease of getting around, access to the environment), and make investments and use technology to reduce our environmental footprint. This included how we use transport, energy, water and other resources.

There was also a desire to keep and grow meaningful, secure and well-paid jobs and our work/life balance, while reducing the impact of our economy on our environment. This included, over time, moving away from sectors reliant on the non-renewable use of natural resources. To achieve this, we would need to use the talents and skills of our people, invest in using natural resources more efficiently and make use of existing infrastructure.

There was an acknowledgement of the importance of conservation and people had a strong desire to protect and restore the environment. There was the understanding that many of the projects around conservation are not only valuable

for environmental outcomes, but also provide meaningful jobs and a sense of purpose for people.

“A hub of green-energy tech and innovation from transport to education to agriculture and horticulture.” – Survey respondent

2.2. Inclusivity

There was broad agreement that people want a modern and inclusive economy, where no one is left behind. There was an acknowledgement of the current disparity for some people, and that the transition is an opportunity to plan for inclusive growth. There were a number of messages about reconciling our past, growing our cultural awareness and moving forward together as one region.

There was a desire to create enough meaningful, secure, and well-paid employment that anyone could live in Taranaki if they chose to. This included helping young people identify a future in Taranaki and making the most of the diverse people and talent in our region so that our skills and talent stay here. A desire to raise living standards and strengthen rural communities was also identified.

In addition, people wanted vibrant cities and rural communities, with an engaging arts and cultural life, as well as affordable and healthy housing. Accessibility for all parts of the community was linked to this.

“A culturally inclusive, supportive community where all people are valued and encouraged towards their potential.” – Survey respondent

2.3. Enterprise

The importance of diversifying our economy featured across the Roadmap engagement. There was a desire to be less reliant on commodities with the transition to a low-emissions economy seeing us harness our natural resources in a more sustainable way than the past. People wanted the region to move towards an increased value-add economy, while retaining and growing meaningful, secure, and well-paid jobs with a work/life balance where people have the means and money to enjoy the natural environment. This included taking advantage of social and technological trends, and excelling in commercialising people’s ideas, e.g. in technology, or high-value niche areas of food production or tourism. It also included attracting people to the region.

It was recognised that successful changes require investment, regulatory change, specialisation and in some cases, sufficient scale. Where specialisation is needed, linking industry and research together to commercialise opportunities was seen as crucial.

There was also recognition that as industries change, people will need to be supported through the transition to broaden their existing skills, or develop new skills and move into new careers. This requires having strong and contemporary education and training options to give relevant and flexible skill development. It also needs to link to financial support and seamless transition pathways into employment and to support

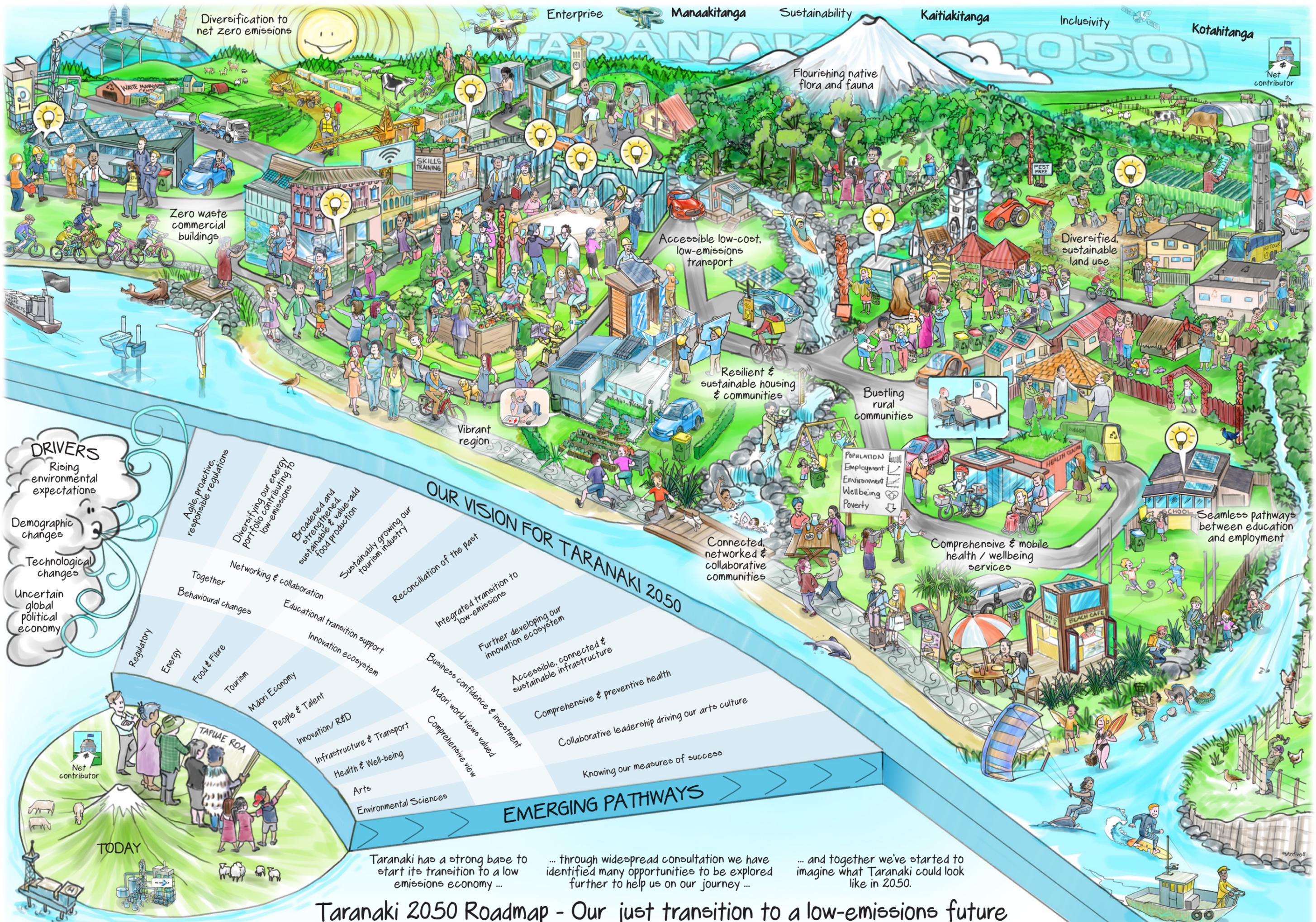
mid-career changes for those affected by transitions during their careers.

“Sustaining and valuing the simplicity of a Taranaki lifestyle, while underpinning this with ideas born out of innovation, R&D, entrepreneurship, boldness, investment in schools, education, and talent.” – Survey respondent

2.4 Common emerging opportunities across the different topics

There were some concepts and themes that commonly appeared across the co-design process:

- **Ensuring the Māori world view and values are incorporated as we move forward:** Through all workshops, there was an overwhelming desire for Māori values to be woven through our transition to a low-emissions economy – as a region adopting a multi-generational outlook to our economy, people, and the environment.
- **Moving forward together:** This process of creating a Roadmap for our region is about a deep partnership and collective action across Taranaki. No one group of people can create this change on their own. We need everyone involved to help deliver our vision for 2050, and encourage others to join as well.
- **Sustainable employment:** Ensuring that companies support, and are supported to achieve, long-term employment that is well-paid, secure, healthy, and safe.
- **Focus on vocational education, providing employment transition support and pathways:** People are at the centre of the Roadmap – we need to have agile, flexible and local vocational skill development, alongside strong pathways and transition across jobs or careers as required.
- **Education and behavioural change:** Delivering the vision requires education and behavioural changes across a wide range of areas – for example, improving energy efficiency, refining agricultural practices, reducing waste, embracing new ways of working and new technology, or diversifying land use.
- **Supporting an innovation ecosystem that fosters collaboration and turns new ideas into enterprise:** This needs to be underpinned by strong research capability, with ideas including a new energy development centre, and the presence of other research institutions, as well as the opportunity to leverage unique environmental science insights.
- **Taking a broad view supported by depth of understanding:** We need to recognise that successful transition considers the whole picture for people and their environment – cultural, physical, mental and spiritual health, social factors and foundational determinants, such as access and housing, while acknowledging that these issues are complex and are not uniquely faced by our region. It takes into account income and lifestyle factors, as well as future opportunities for the children of today who will become the workers of 2050.



Diversification to net zero emissions

Enterprise

Manaakitanga

Sustainability

Kaitiakitanga

Inclusivity

Kotahitanga



Net contributor

Flourishing native flora and fauna

Zero waste commercial buildings

Accessible low-cost, low-emissions transport

Diversified, sustainable land use

Resilient & sustainable housing & communities

Bustling rural communities

Vibrant region

POPULATION
Employment
Environment
Wellbeing
Poverty

Comprehensive & mobile health / wellbeing services

Seamless pathways between education and employment

Connected, networked & collaborative communities

DRIVERS
Rising environmental expectations

Demographic changes

Technological changes

Uncertain global political economy

Agile, proactive, responsible regulations

Diversifying our energy portfolio contributing to low-emissions

Broadened and strengthened sustainable & value-add food production

Sustainably growing our tourism industry

Reconciliation of the past

OUR VISION FOR TARANAKI 2050

Regulatory

Energy

Food & Fibre

Tourism

Māori Economy

People & Talent

Innovation/ R&D

Infrastructure & Transport

Health & Well-being

Arts

Environmental Sciences

Together

Behavioural changes

Networking & collaboration

Educational transition support

Innovation ecosystem

Integrated transition to low-emissions

Further developing our innovation ecosystem

Accessible, connected & sustainable infrastructure

Business confidence & investment

Māori world views valued

Comprehensive view

Collaborative leadership driving our arts culture

Comprehensive & preventive health

Knowing our measures of success

EMERGING PATHWAYS

Taranaki has a strong base to start its transition to a low emissions economy ...

... through widespread consultation we have identified many opportunities to be explored further to help us on our journey ...

... and together we've started to imagine what Taranaki could look like in 2050.

Taranaki 2050 Roadmap - Our just transition to a low-emissions future

TODAY



Net contributor

TAPUAE ROA

Motive8

- **Diversification:** Supporting the regional economy to lower emissions and/or to extend and expand upon traditional areas, by helping to remove barriers and provide incentives.
- **Networking and collaboration:** Sharing inspiring success stories, ideas, and lessons learned across the region, New Zealand, and the world to produce a culture of excitement, growth, and innovation.
- **Business confidence and investment:** Having confidence in the unique aspects of our region, backing ourselves to succeed, and recognising significant change will require investment.

2.5. The Roadmap

The Roadmap follows. In preparing it, the Taranaki 2050 team would like to thank everyone who has been part of the process. Your contribution has made a real difference in defining our vision for Taranaki in 2050. We recognise your time commitment, but more importantly, your respect for the value of manaakitanga during the process. By showing respect, generosity, and care for others, you helped create an environment where people felt comfortable sharing diverse opinions.

3. Next steps

Now that the Roadmap has been finalised, a programme of work is being developed to determine the short-term actions and medium-term strategy needed to achieve the region’s long-term goals and vision for 2050.

4 This work will take place progressively from August 2019 to mid-2020, published sequentially as Action Plans to support the Taranaki 2050 Roadmap.

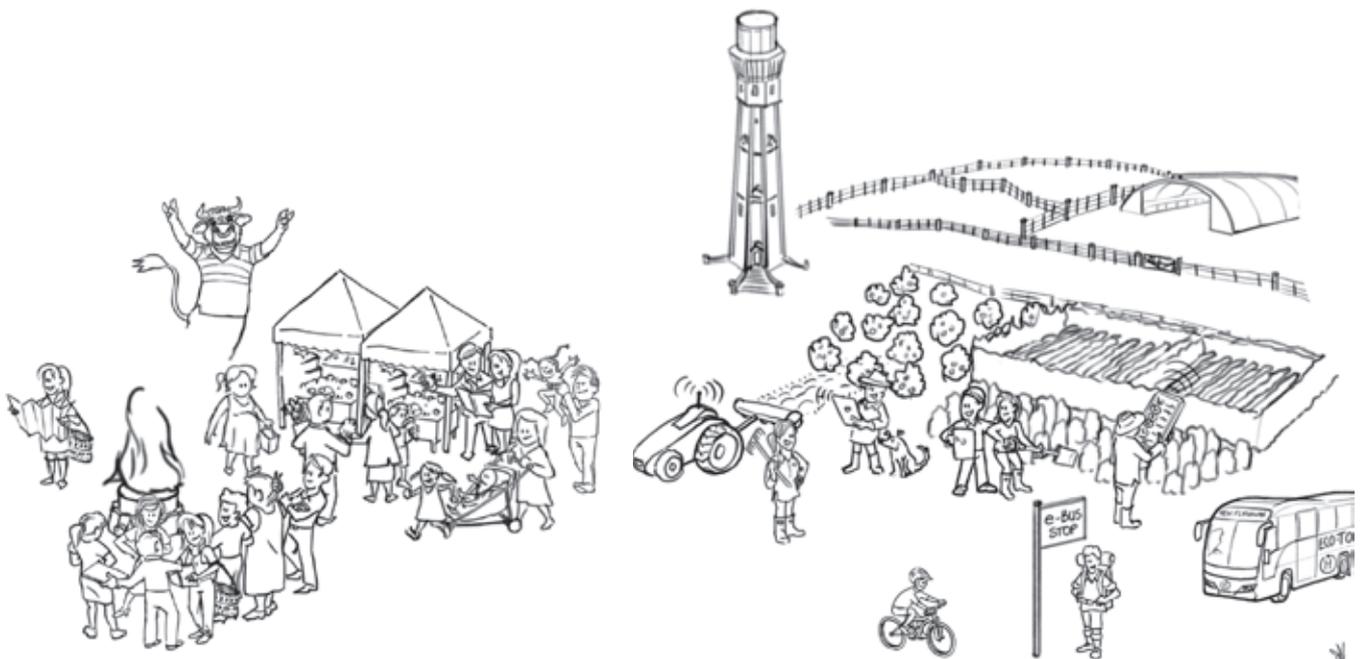
The Roadmap Action Plans will take into consideration and help guide other plans and programmes. This includes:

- How the work under Taranaki’s current economic development strategy, *Tapuae Roa: Make Way for Taranaki*, best supports the vision and direction of the Taranaki 2050 Roadmap;

- Other important regional documents, such as council planning documents and iwi environmental management plans;
- Alignment with government work programmes and initiatives.

Our work here is also helping the Government inform how it could partner with other regions, sectors or communities planning for, and undergoing, transitions in the future.

You can keep updated on the progress of the Action Plan(s) via <https://taranaki2050.org.nz>.



4. The powerful process of co-design

The following sections describe how the Roadmap was prepared.

4.1. Introduction

Taranaki could be significantly impacted by the move to a low-emissions economy. The transition must be carefully planned and managed, in order to retain the flourishing, vibrant and economic diversity we have today.

As a region, we need to determine our own destiny and set our own vision. We also need to look beyond traditional thinking and processes.

Rather than a conventional approach – a small number of people developing a strategy, and then consulting on it – we started with a blank sheet of paper with no preconceived ideas. The people of Taranaki have created the content of the Roadmap through a co-design process. This approach has been demanding and thought-provoking. It has created a vision and pathway that we can say we truly own.

4.2. What is co-design?

Co-design reflects a fundamental change to orthodox approaches. It enables a wide range of people to make a creative contribution in the formulation and solution of a problem. This approach builds and deepens collaboration between people who are affected by, or attempting to resolve, a particular challenge. The co-design process aims to incorporate all voices. A core belief of co-design is that diversity and inclusiveness builds strength. Trained facilitators provide ways for people to engage with each other, communicate, be creative, share insights and test out new ideas.

In order to generate this Roadmap, a Lead Group of 27 people from local business, iwi, community, unions, and local and central government was created to guide the co-design process. Their role was to be the custodians of the integrity and authenticity of the process. This included recruiting a wide range of participants, determining the methods of engagement, and the process used to translate ideas, principles, and values into a cohesive roadmap.

4.3. Defining the transition topics

The Lead Group identified 12 transition topics or pathways important to our region. The selection of these was informed by a range of analysis into sectors and enablers of our economy, as well as international research on factors impacting economic transformation.

These 12 topics were broken into six working groups and six exploration groups. Working groups ran over three sessions of three hours each. Exploration groups each ran for five hours over one session and explored topics important to our region.

Working group pathways that can transform us to a low-emissions economy included:

- Energy
- Food and fibre
- Tourism
- Māori economy
- People and talent
- Innovation, research & development.

Exploration group pathways that support the achievement of a low-emissions economy included:

- Infrastructure and transport
- Health and well-being
- Arts
- Environmental sciences
- Regulatory
- Metrics and evaluation.

4.4. The workshop process

To complete the co-design process, 23 workshops on the 12 transition topics or pathways, were held between February and April 2019. More than 700 people signed up to participate. The workshops were held in venues around the region, including New Plymouth, Hāwera, Stratford, and at Aotea and Ōwae marae.

A broad range of people were invited, including specialists with expertise in different areas from around the country. The workshops were publicised, and all members of the community were welcome to attend. Local, trained facilitators helped blend specialist expertise with unique insights of the diversity of our region.

At the workshops, everyone followed a number of principles of working together – the kawa. The main principle of manaakitanga included showing respect, generosity and care for others, as well as actively listening to others and keeping an open mind as ideas were generated.

During the sessions, discussion topics included people's vision for Taranaki, what is unique about Taranaki, the major challenges ahead and what we need to do to move forward.

4.5. Community workshops

Not everyone could or wanted to attend the topic-specific workshops. Therefore, five community workshops were held during the evening around the region, two in North Taranaki – New Plymouth and Waitara, and three in South Taranaki – Hāwera, Stratford, and Opunake.

At the community workshops people were able to:

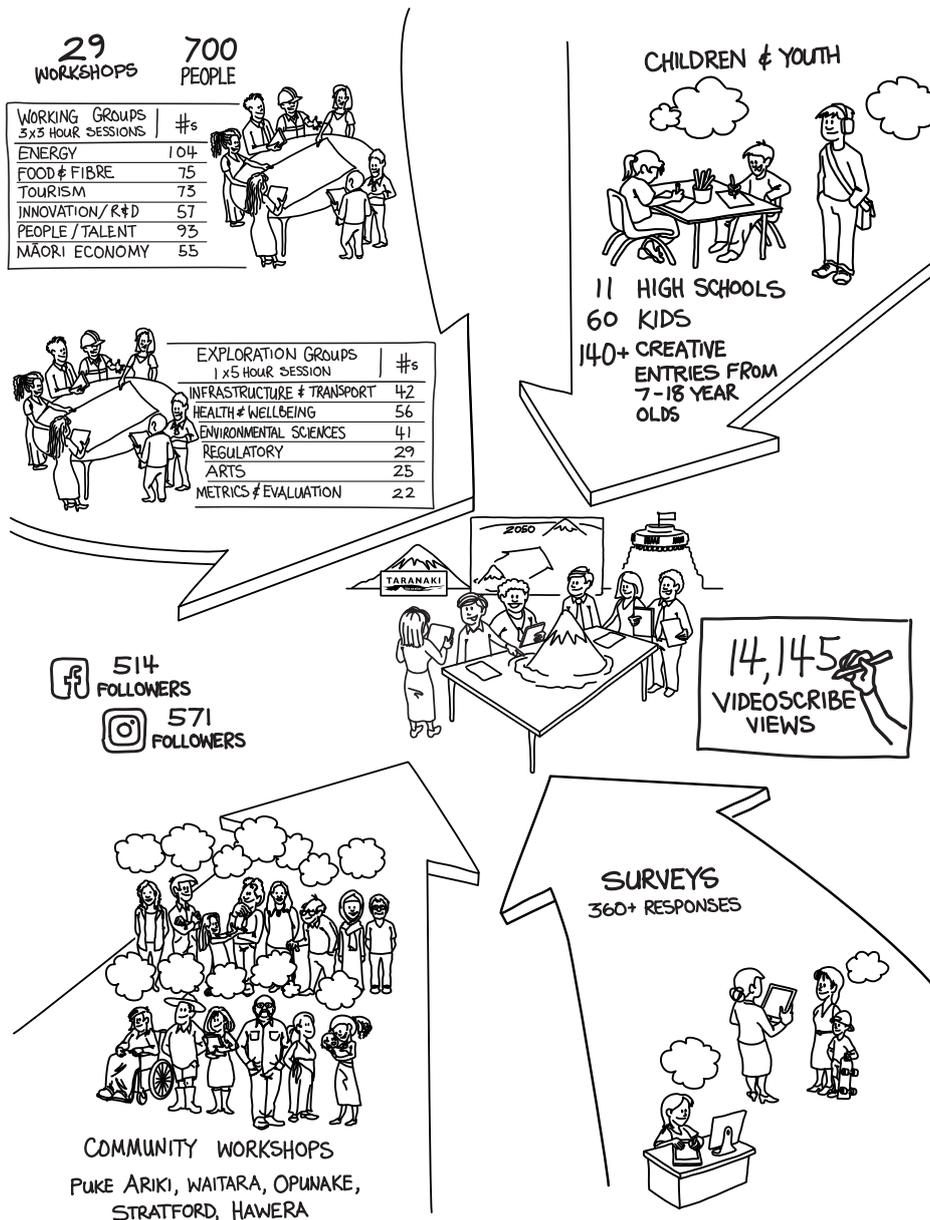
- Share what is great about Taranaki and what is important to maintain, as we move to a low-emissions economy;
- Read about the emerging thinking on the 12 topics, and contribute their own thoughts and ideas;
- Contribute ideas on how to move forward on the pathway to 2050;
- Look at artwork submitted to the youth creative challenge and complete their own artwork; and
- Complete a survey on their vision for Taranaki and ideas on what the Roadmap should include.

4.6 Young people’s voices

It is important to reflect the aspirations of the youth of Taranaki in the Roadmap, as they will be impacted by the success of a transition to a low-emissions economy. Sixty young people registered to participate in a specialised youth workshop, and more than 140 children entered a creative competition to describe their vision for 2050. In the creative competition, students aged 7–18 compiled their ideas in a picture, generated a piece of creative writing, or created an infographic or video.

4.7 The Roadmap survey

Over 360 people completed a short survey, either online, at a community workshop, or via a street or event survey. The survey asked what people love about Taranaki, what they think our province should be like in 2050, and how we can reach this vision for a low-emissions future. Survey information was collated, along with workshop outputs, and this has helped shape the Taranaki 2050 Roadmap.



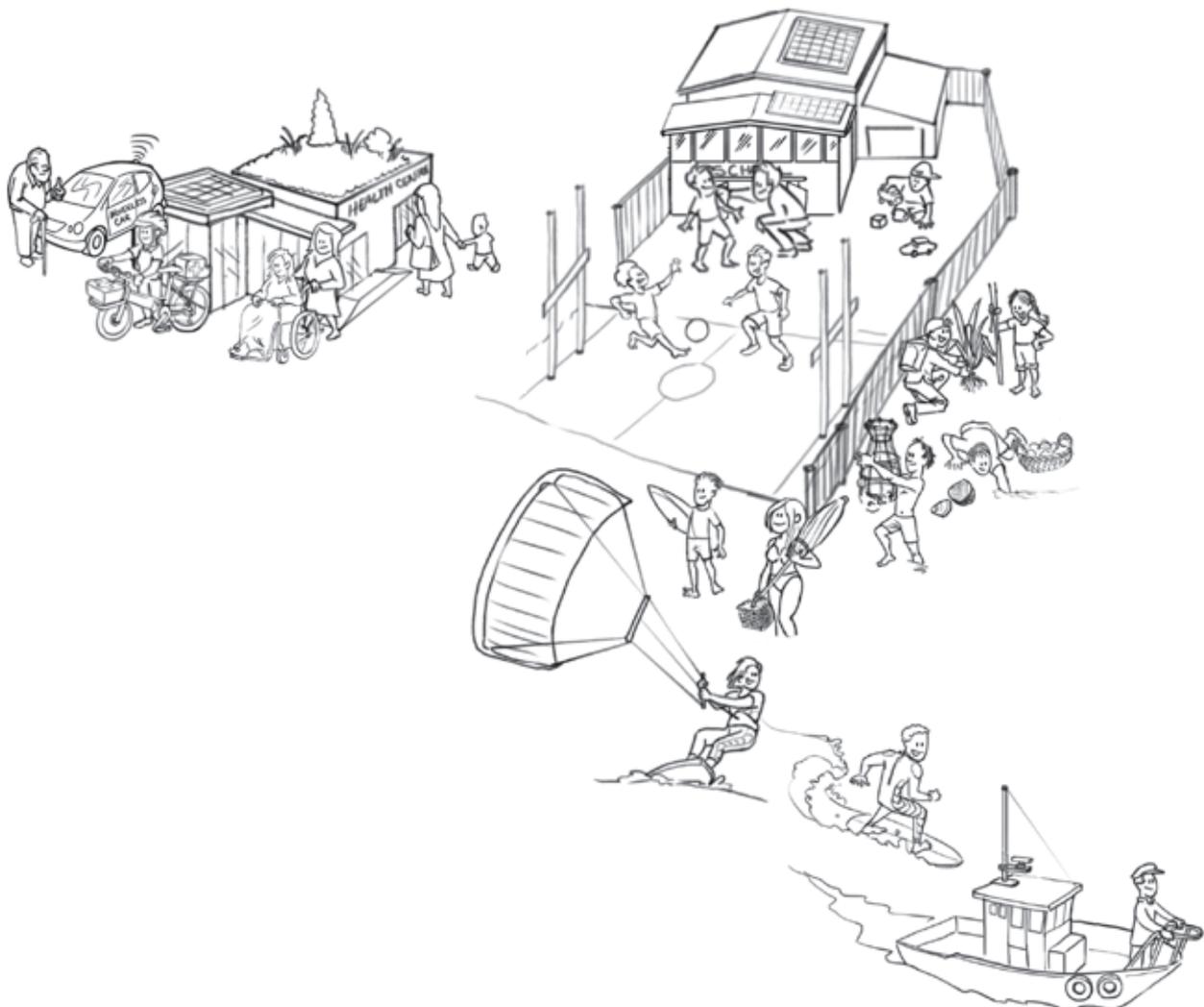
4.8 Consultation on the draft Roadmap

Following the launch of the draft Roadmap on 9 May 2019, public consultation included visits to more than 40 locations with over 1,000 people. Feedback was received via an online interactive tool, via email or by writing to Venture Taranaki.

Over 25 email submissions were received representing over 4,000 individuals and organisations, and a further 135 submissions via our online interactive tool were recorded. Feedback was analysed, and key themes were considered by the Lead Group. Largely, the contents of the Roadmap were endorsed by submitters. Some changes were made, particularly around:

- The inclusion of conservation – in protecting the environment, but also as an enabler to a low-emissions economy through conservation projects providing meaningful jobs;

- Acknowledging the required planning throughout the transition to ensure vulnerable people who currently experience disparity have a greater share of and higher participation in the region's prosperity and success/future;
- The need for Māori input and perspectives continually to be sought;
- The role for workers that unions will have in this transition;
- Strengthening the importance of education for tamariki, as well as workers transitioning in their careers;
- The need to protect and repair the environment and infrastructure as we move towards low-emissions; and
- Specific areas across many of the topics in the Roadmap.



5. Significant trends expected to impact the future

During the Roadmap process, a number of significant trends were identified that will impact how Taranaki will look in 2050. These included:

- Rising environmental expectations such as lowering our emissions, reducing waste and increasing our biodiversity;
- Increased climate volatility, such as sea level changes and increased frequency of storm and drought events that will affect communities and infrastructure;
- Demographic change – for example, an ageing population and Māori forming a larger proportion of the working age population;
- Technological changes, impacting everything from how we work and produce food, to how we live and travel – disruptions that will create challenges but also opportunities;
- A more volatile and uncertain global political economy, as well as the continued growth of the BRIC countries – Brazil, Russia, India and China;
- Digitisation and mental augmentation, which will create new digital solutions and businesses;
- The emerging social and sharing economies, which will drive significant investment, job creation and community social benefit; and
- A global shift in the energy sector from using less energy to changing when energy is used. This will be driven by looking to maximise the use of surplus renewable energy, if and when it is available.

8

6. How the change will impact on different parts of the region

The past shows us that the distributional effects of large transitions can have a lasting impact and lead to a legacy of inequality and poverty. It is important to understand how changes might impact on different communities, sectors and generations in Taranaki. We can then make choices about how we manage these impacts in a fair and inclusive way.

Without mitigating approaches, different impacts include:

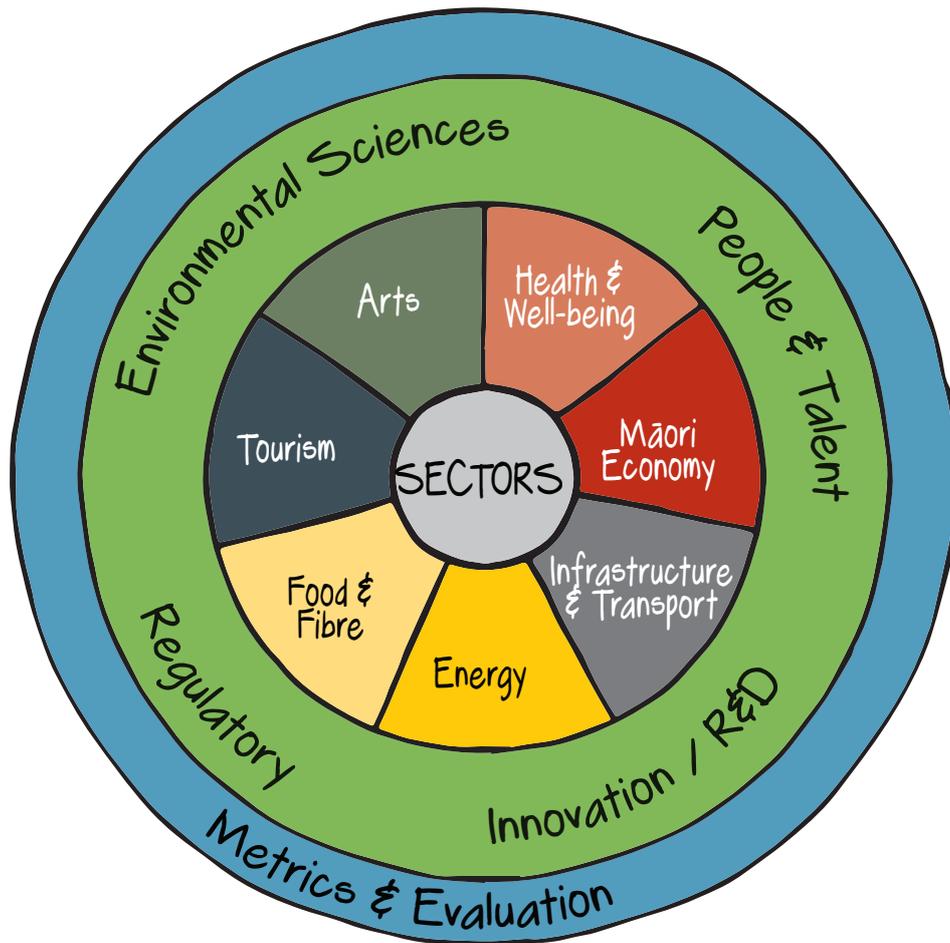
- Workers in industries with high emissions, and supporting industries, may be impacted more than those in industries with low emissions;
- Vulnerable people who currently experience disparity may be further impacted;
- People with lower and less transferable skills may be impacted more than highly mobile people with sought-after skills; and
- The costs and benefits vary between the generation of today and those of tomorrow.

The approach of the Roadmap is not about picking winners or focusing on specific affected industries. Rather, it concentrates on people, and considers what is needed to support those impacted as they navigate the transition to a low-emissions future. This may be developing different skills, finding new opportunities, and being ready for the new future of work.

7. The 12 transition pathways

The diagram below shows the 12 transition pathways. There are a range of connections between them. Some pathways are sectors, such as 'tourism' and 'food and fibre'. Some pathways are enablers, such as 'people and talent' and 'regulatory'.

Some are both sectors and enablers, such as 'energy' and 'infrastructure and transport'. Metrics and evaluation sits across all pathways as it is part of measuring our progress.





10

The above 'capture cards' are a random selection of participants' thoughts at the Energy working group workshops. To view the workshop cards in full, please visit: <https://about.taranaki.info/taranaki.2050/Working-and-Exploration-Groups/Energy.aspx>.

8. Energy

8.1 Introduction

- The energy sector dominates Taranaki's economy, producing 28% of our GDP and generating \$2.08 billion annually⁵.
- The fossil fuel component of the energy sector, including transport, is a significant contributor to greenhouse gas emissions. It is widely recognised the global energy system will undergo a fundamental transformation over the coming decades – away from carbon-intensive towards low-emissions energy sources.
- Efforts have begun in Taranaki and across New Zealand to transition our economy to low emissions. These efforts include reducing emissions from existing infrastructure and making sure we have a secure, affordable and sustainable energy sector (the energy trilemma) over the medium and long term.

- There is no silver bullet. We need collaboration across all sectors.
- We start from a good space, as New Zealand is currently ranked 8th in the World Energy Council's trilemma index⁶.
- Taranaki has existing assets to help drive new clean energy innovations for New Zealand. These include high-quality energy infrastructure, strong engineering and health and safety skills and knowledge, international networks, established energy firms and supply chain, and a natural resource base to support new energy developments.

5 Tapuae Roa: Make Way for Taranaki Strategy, August 2017, p.52

6 <https://trilemma.worldenergy.org/>

8.2. Energy vision for Taranaki 2050

- In 2050, Taranaki has positioned New Zealand as a leading light on the world stage for new energy developments and is a top priority place to visit for those wishing to learn how best to transition their communities towards productive, sustainable, and inclusive low-emissions economies.
- In 2050, Taranaki is recognised as a centre of new energy excellence where deep investments flow and talent rushes in to participate, where innovations in clean energy production and applications involve and benefit communities, and where new knowledge gained is shared with those who come to learn and trade.
- In 2050, Taranaki makes a significant contribution to a coherent New Zealand energy system that is secure, affordable, and sustainable.
- Our existing resources help support a transition to renewable energy while using existing infrastructure.

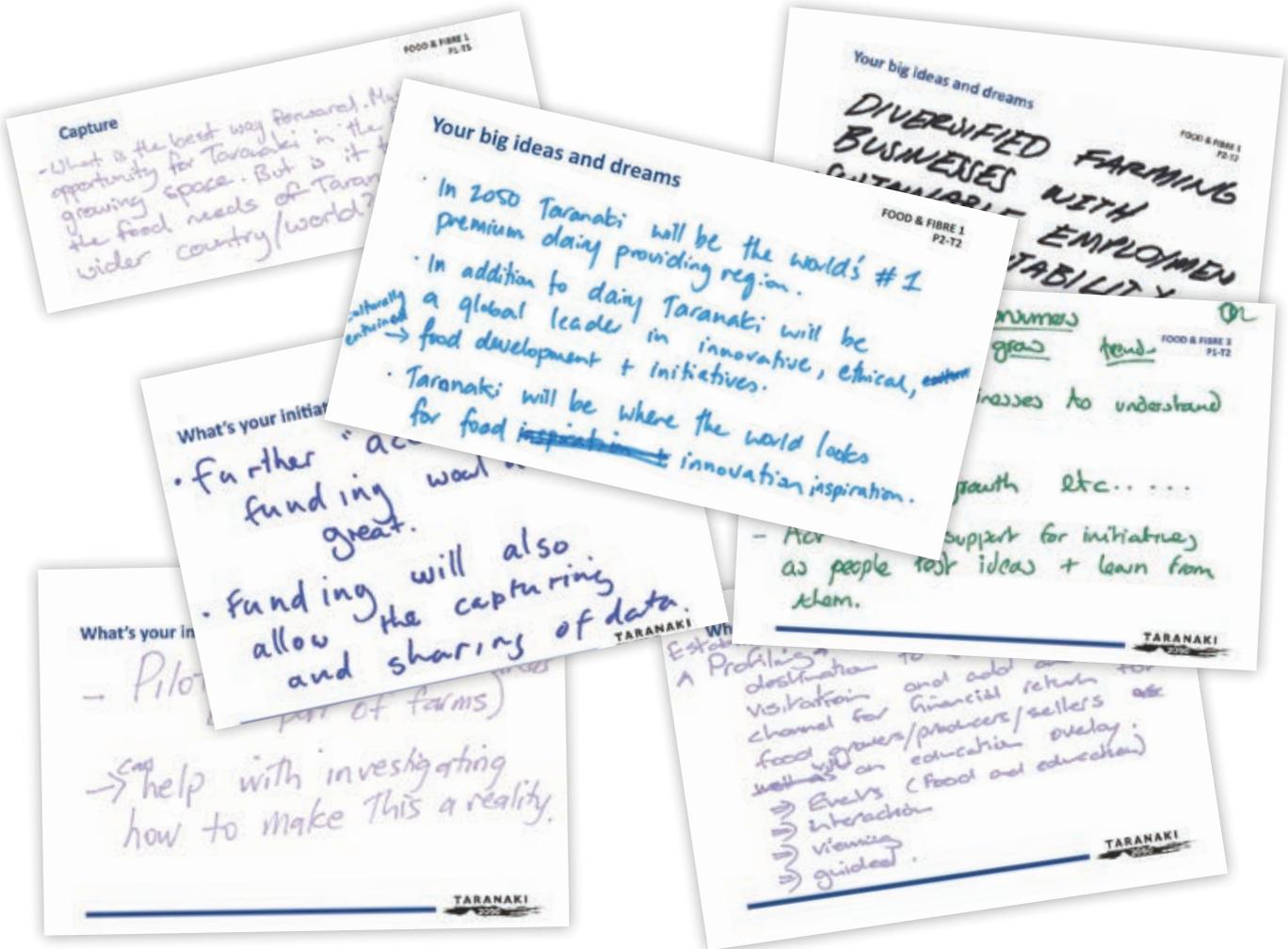
8.3. Co-design themes

- Taranaki will be proactive in lowering New Zealand's national emissions by displacing high emissions from coal, enabling multiple new sources of energy such as wind, solar, wave, biofuel and related technologies.
- Taranaki can make use of existing infrastructure, which will result in affordable, reliable energy, especially electricity, e.g. rebrand & repurpose.
- Businesses will play a key role in the energy transition, and need to be supported along with communities, to consider how their own behaviours can contribute to reduced emissions. The existing petroleum industry can contribute with continued emission reduction and potential carbon capture through the transition.
- The transition is not just about 'new energy' creation but also the retention of jobs and expertise in Taranaki and the development and attraction of new skills to underpin the transition. It is about recognising and responding to the impact of moving to clean energy on current electricity markets, services, and systems. At the same time, taking meaningful steps to lower emissions in the short and medium term using currently available technologies, along with the development of new technologies to deliver further emissions reductions over the longer term.
- It is important for the region's citizens to be aware of, and educated about, the role of energy in their lives and its impact on their families (whānau) and communities.
- Local and central government play important roles in the region's energy transition, including a focus on regulations, funding support of key initiatives, sharing knowledge, and attracting and developing skills and investments.
- Investment is made across a number of opportunities, without overly investing in any single energy technology. Energy security is about developing a basket of solutions so the right technology can be selected for the appropriate solution, versus picking a winner.

- It is important that key decisions are evidence-based and that the impacts on the whole energy system are assessed.
- These transitions to a low-emissions economy will help Taranaki build its stance as a new energy centre of excellence and position the region to trade successfully on its comparative advantages.
- Current transportation and building options need to be more energy efficient. New housing plans by councils must have economically viable, renewable energy systems, and houses should be built from sustainable products such as wood or other fibres and construction materials.

8.4. Emerging opportunities

- Work to make business and household energy innovations and usage more transparent, to transfer knowledge and better educate communities on ways to reduce consumption and lower emissions and waste.
- Coalesce efforts from industry and the research community to test and trial new energy technologies, and disperse the innovations across the energy sector and into applied industries.
- Explore carbon capture and storage (CCS), where economically viable, to deliver meaningful short-to-medium-term reductions in net emissions.
- Continue to advance the region's renewable energy efforts that include wind, wave, and solar, biofuel, as economics dictate.
 - People also suggested other forms of energy, harnessing energy from waste such as farm and forestry waste – and developing low-heat geothermal energy from existing wellbores.
- Process hydrogen (H₂) testing and development, which could leverage the region's talent and physical assets into a local hydrogen economy. This could also play an important role in realising New Zealand's green hydrogen vision.
- Taranaki is THE example of a significant hydrocarbon economic sector moving towards a low-emissions economy.
- Relocation of energy institutions to Taranaki, to support an energy innovation hub and focus on demand-side management, education, and behavioural change required to drive down emissions.
- Opportunities to combine existing structures with technology.
- Evaluate the economics and potential to decentralise and grow a community grid for renewable energy and infrastructure.



12

The above 'capture cards' are a random selection of participants' thoughts at the Food and Fibre working group workshops. To view the workshop cards in full, please visit: <https://about.taranaki.info/taranaki.2050/Working-and-Exploration-Groups/Food-and-Fibre.aspx>.

9. Food and Fibre

9.1 Introduction

- Taranaki’s economy has a significant food and fibre industry. It contributes more than \$1.5 billion annually to Taranaki’s economy, sustains over 10,200 jobs in 3,813 businesses and comprises more than half of Taranaki’s manufacturing base⁷. Taranaki has the second highest food production GDP per capita in New Zealand.
- However, agricultural emissions, methane and nitrous oxide, make up about half of New Zealand’s reported emissions, which needs to be addressed⁸.
- The efficient use of resources will be critical to the sustainable production of food as land usage, water availability, emissions, processing and food packaging are increasingly challenged by climate change, consumer and public expectations, and population density. Ensuring the

environmental sustainability of food production will need to underpin our research and development activity.

- It is important for New Zealand and Taranaki producers to understand what the global food industry might look like in the future, and the opportunities this presents. Innovation will play a significant role in the future success of the food sector for New Zealand.
- Current protein production in New Zealand, including Taranaki, is largely focused on those sourced from dairy, and meat. Discussions must be had on the role plant-based proteins could also play in our future foods. Taranaki starts from a good place, with our grass-based systems being some of the best for low-emissions in the world. This will continue to evolve, to further reduce our emissions footprint.

⁷ Statistics from Infometrics, 2018 Taranaki Economic Analysis.

⁸ Interim Climate Change Committee – Action of agricultural emissions, Evidence, analysis and recommendations, 30 April 2019, p. 6

9.2 Food and Fibre vision for Taranaki 2050

- Taranaki in 2050 includes many different types of land use. There is a sustainably balanced mix of sheep, beef, poultry, dairy, forestry, wetlands, food crops, native bush, and farms. The changes to land use were supported by information that enable people to identify low-emissions land use options. The changes were also supported by having the necessary finance and investment required to make the transition. The land use changes occurred in a way that ensured the practices used and the products being grown are sustainable, marketable, and support the protection and restoration of the natural environment.
- Taranaki in 2050 has farms with multiple farm outputs that promote diversified land use, provide long-term stable employment opportunities, and use low-emissions practices. Investment in appropriate technology supports improvements in productivity and secure, high-wage employment.
- Taranaki's food and fibre sector in 2050 is made up of a collaborative community that shares ideas, best practice, and lessons learned. The sector works together to ease the risk of entry into new markets and help grow market share in existing markets.

9.3 Co-design themes

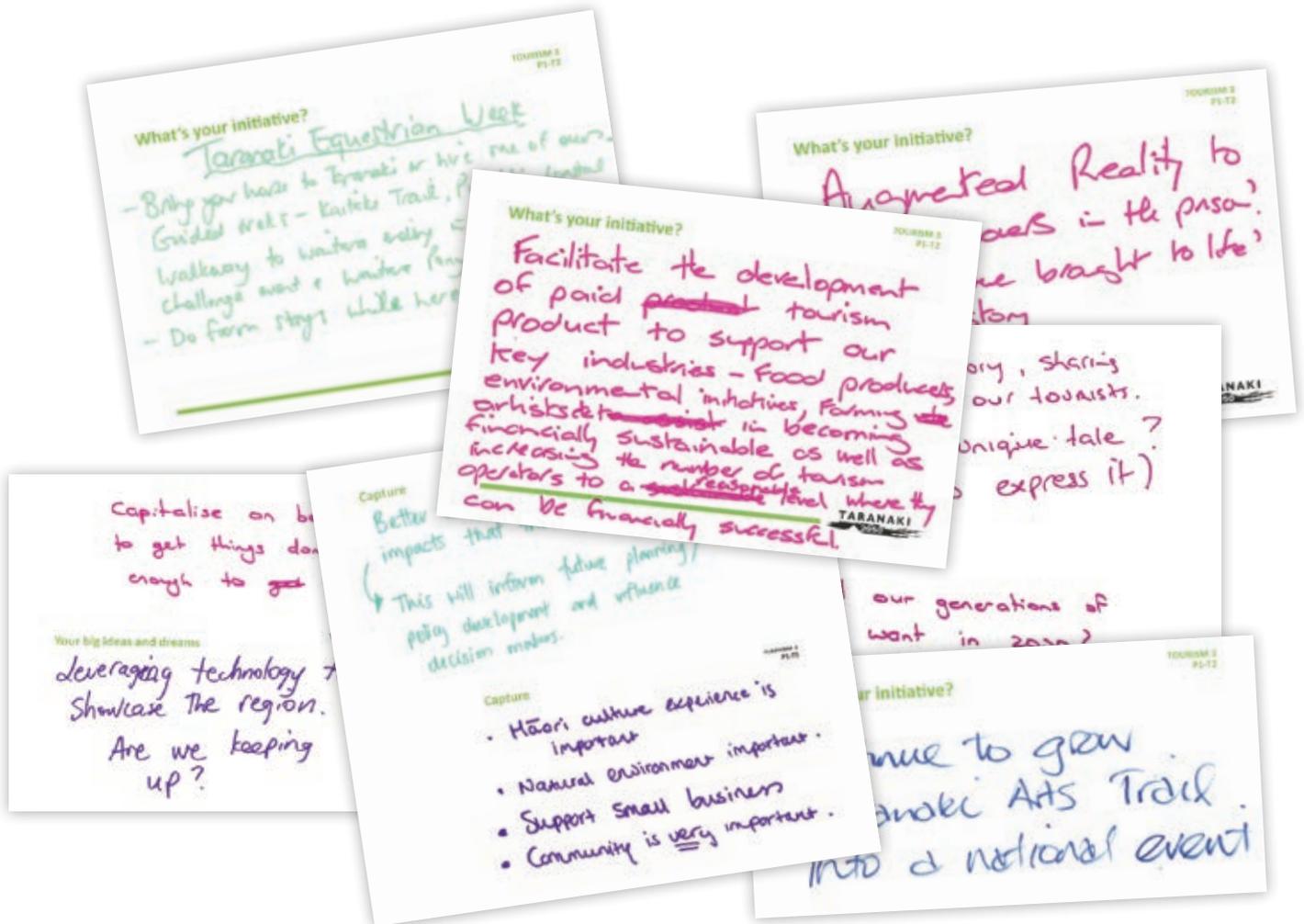
- Taranaki will be proactive in lowering its emissions in the food and fibre sector by investigating how to diversify its land use. Land use change will be sustainable, including making incremental changes and improvements to existing practices and processes used, the products developed and preserving natural resources.
- Growing a collaborative community and developing a shared model for resources will further support de-risking land use changes and entry into the food industry. Sharing stories and lessons learned between producers/land owners, processors/marketers, and communities will strengthen the collaborative culture and identify opportunities between operations.
- Research and monitoring will provide a clear pathway to transition and support informed decision making. Financial support will de-risk land use changes to lower-emissions land use options, such as diversifying livestock farming to also include producing crops such as kiwifruit, nuts, medicinal herbs, flax fibre, or hemp.

- People will have access to the necessary education, training and capability development that will enable them to make the most of opportunities that will arise in the food and fibre sector.
- People may choose to develop premium/niche products.
- By having a better understanding of the target markets for food and fibre offerings, people will be informed and can make more strategic decisions about how they use the land and what products they develop and take to market.
- Incentives to move to low-emissions opportunities are needed particularly to support shifting attitudes and behaviours where changes are challenging the current paradigm. Enablers that underpin these themes include innovation, investment, and infrastructure that will drive emissions reductions in the region.

9.4 Emerging opportunities

- Development and improvement of value chains. This could include sharing market insights, processing and packaging investment for new products, exploring channels to market and investing in low-emissions options for infrastructure such as cool stores, rail, road, and shipping.
- Develop a pilot farm, or trial areas on part of existing farms, to help research how to make new ideas and practices a reality.
- Develop a strategy for how to de-risk farm diversification or the extension of current farming practices to include new ventures⁹.
- Plant tree crops, market gardens, wetlands, native bush, and high-value forestry on marginal land to increase carbon capture.
- Ensure Council planning documents support the initiatives above – for example, in not restricting particular types of land use or business development that can facilitate changes desired in the transition.
- Share examples of success stories from local food companies and communicate the lessons learned.
- Provide incentives to encourage emissions reductions and drive the uptake of low-emissions opportunities.

⁹ Risk is a concept that denotes a potential negative impact to an asset that may arise. In professional risk assessments, risk combines the probability of an event occurring with the impact that event would have and with its different circumstances.



14

The above 'capture cards' are a random selection of participants' thoughts at the Tourism working group workshops. To view the workshop cards in full, please visit: <https://about.taranaki.info/taranaki.2050/Working-and-Exploration-Groups/Tourism.aspx>.

10. Tourism

This section is a description of the tourism workshops and feedback. While there was rich discussion, further work is required on how this sector can best help us transform to a low-emissions economy. This work will include planning to ensure the tourism industry is sustainable and provides high-value jobs and economic opportunities.

10.1 Introduction

- Taranaki has many attractions, including the mountain, the surf, and our vibrant and historical towns and cities.
- Tourism is important to Taranaki – it can help grow our economy, bring prosperity to communities and improve quality of life. Visitor numbers are growing, bringing significant opportunities.

- Visitor growth also has the potential to create infrastructure pressures, overcrowding, and increased emissions. International and domestic air travel and road travel is a significant generator of greenhouse gases that contribute to our emission levels.
- Some employment in the tourism and hospitality sector can be low wage, seasonal, and insecure. It should be noted this means there are fewer opportunities for this sector to provide employment opportunities for those transitioning out of high-wage, secure jobs unless there is an alternative approach to employment within the sector.

10.2 Tourism vision for Taranaki 2050

- The tourism sector in Taranaki 2050 is prosperous. Sustainability, of the environment, workforce and sector, is at the heart of our tourism. Tourism growth is regenerative, not degenerative, to our natural and human resources, and retains the authenticity of our offering. Energy efficient transport and other infrastructure is well established and enables easy access in and around the region for everyone.
- The region has lots of diverse, high-value, sustainable and exciting tourism jobs and offerings, products and services available for everyone to experience.
- In Taranaki 2050, our story and what we stand for is well known, communicated, and shared. We are known for our manaakitanga across all cultures and for our commitment to low-emissions practices as a 'green' region.

10.3 Co-design themes

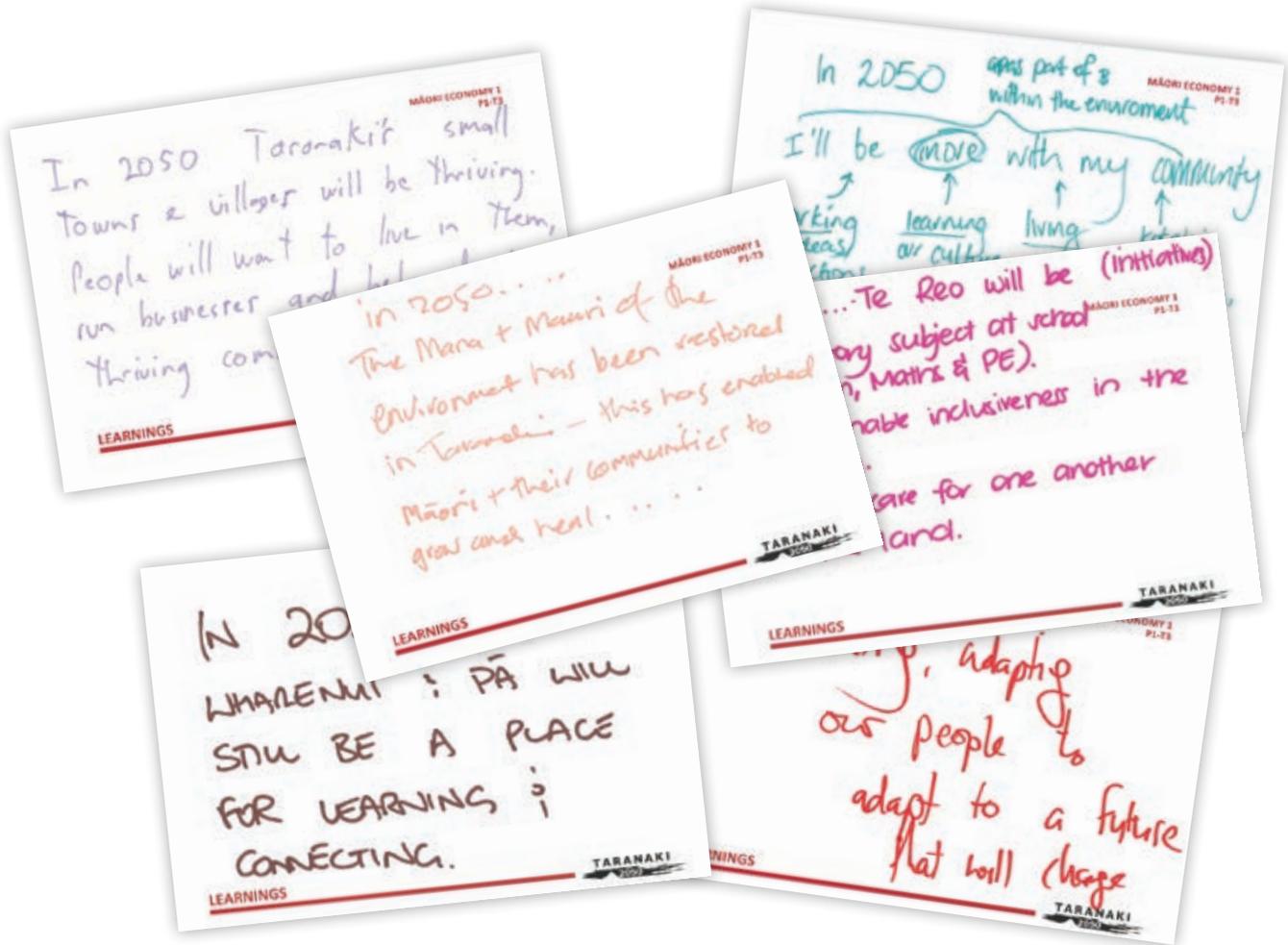
- Taranaki is rich in natural resources that are attractive to visitors and can be experienced freely, such as the maunga, coast, bush walks and lakes. This needs to be balanced with the development of paid visitor experiences and increasing visitor numbers, while protecting and preserving the environment and growing the tourism sector in a low-emissions way.
- Taranaki will be proactive in developing products and services based around its natural resources, assets and industries in a way that not only ensures a sustainable and valued tourism sector, including a sustainable workforce, visitor numbers, and culture, but provides additional economic benefit/support to these resources, assets, and industries.
- Underpinning a sustainable tourism sector is appropriate transport and other infrastructure so visitors can access these products and services. Further consideration is needed about the types of transport and other infrastructure required to develop the tourism prospects for the region, particularly as the nation transitions to a low-emissions future.
- Increasing communication to visitors and telling the 'Taranaki Story' will help to draw people into the region and ensure they are well informed of all the visitor experiences the region has to offer.

10.4 Emerging opportunities

- Specific development of tourism experiences or offerings, including hero experiences such as the 'Taranaki Crossing'¹⁰.
- Grow visitor numbers to an appropriate level to support sustainable tourism businesses. Support 'green certification' of businesses.
- Prioritise investment in improving access to the region, low-emissions transport and other infrastructure.
- Encourage tourism operators to collaborate, share ideas, and work together within the industry and with the wider business sector, e.g. utilising/selling local products to promote the region. A 'Team Taranaki' approach is essential to success.
- Provide resources and toolkits to underpin manaakitanga and promote knowledge of global cultures, to ensure all visitors are welcome and we are sharing our unique culture and regional history.
- Further develop and market the 'Taranaki Story'¹¹. Storytelling is essential to the tourism sector – our Māori culture and unique history, and strong creative sector will be a key component of Taranaki's tourism future.
- Investigate the option of reduced-emissions cruise-related tourism.
- Explore ways to balance tourism growth against aims for reduced emissions e.g. equine tourism, e-buses and bikes all offer potential to move towards a more sustainable model.

¹⁰ A hero experience is a flagship tourism offering that a region becomes well known for and people travel to, as it can't be experienced elsewhere.

¹¹ This concept may be related to the New Zealand Story – an initiative aimed at "enhancing New Zealand's reputation beyond natural beauty." The New Zealand story aims to tell "a broad, compelling and aspiration story about NZ, that's grounded in our values and resonates with the world".



16

The above 'capture cards' are a random selection of participants' thoughts at the Māori Economy working group workshops. To view the workshop cards in full, please visit: <https://about.taranaki.info/taranaki.2050/Working-and-Exploration-Groups/Maori-Economy.aspx>.

11. Māori Economy

This section is a description of the Māori economy workshops. While there was rich discussion, further work is required on how this focus and worldview can best help us transform to a low-emissions economy. Māori input and perspectives will continually be sought.

11.1 Introduction

- Māori make up a larger component of the Taranaki population than the New Zealand average (17.4% compared with 15% nationally). Māori are also a young population and will make up an increasingly large portion of the workforce between now and 2050.
- The relationship of the eight iwi of Taranaki and their rohe is rich in history and tradition. The history of Taranaki holds controversial and divisive issues too – it is where the New Zealand Land Wars began, and where Te Whiti o Rongomai and Tohu Kakahi's vision of self-determination, cooperation, and peace was instead met with Crown force at Parihaka in the late 1800s.

- Despite the events of the past, Māori people and enterprises in Taranaki today hold significant assets in primary industries (agriculture, horticulture, forestry, tourism, health, and fisheries). Māori enterprises operate from a strong platform of cultural values, take an intergenerational perspective on economic development, and have a particular focus on enduring relationships.
- The Māori potential in Taranaki is one of the strongest pathways to a successful 2050. By growing Māori leadership, business, and well-being, all people in Taranaki could benefit.

11.2 Māori Economy vision for Taranaki 2050

- Taranaki's economy in 2050 is diverse, vibrant and thriving and delivers economic, social, cultural, and environmental prosperity for all whānau. The Taranaki 2050 economy delivers region-wide well-being in all domains. The environment has been restored and provides a clean and healthy moana (sea) that is full of kaimonana, clean and healthy awa (rivers), forests are regenerated, and a restored and healthy whenua (land) provides abundant food and resources. Like the environment, people are physically healthy, connected, and thriving – papakāinga and collective living is practised and supported.
- Taranaki in 2050 is made up of bilingual and bicultural communities that offer a welcoming place for people from all backgrounds. These are healthy communities where local centres are used as community resources that give people the ability to stay where they live and have access to medical services, education, and communications.
- Māori in 2050 will enjoy proportionate levels of parity, with increased levels of employment, prosperity and well-being.
- The Māori culture in Taranaki 2050 is revitalised, and expression of culture is normal. Everyone in Taranaki understands the history of the region, especially the relationship between Māori and the land, and how that has changed over time. Te Reo Māori and tikanga are understood and respected by all. Our shared stories – both the good and the bad – are remembered and acknowledged.
- In 2050, organisations, businesses, and government use a Māori lens in the way they approach issues and make decisions relating to a low-emissions future. Māori are meaningfully partnered with.

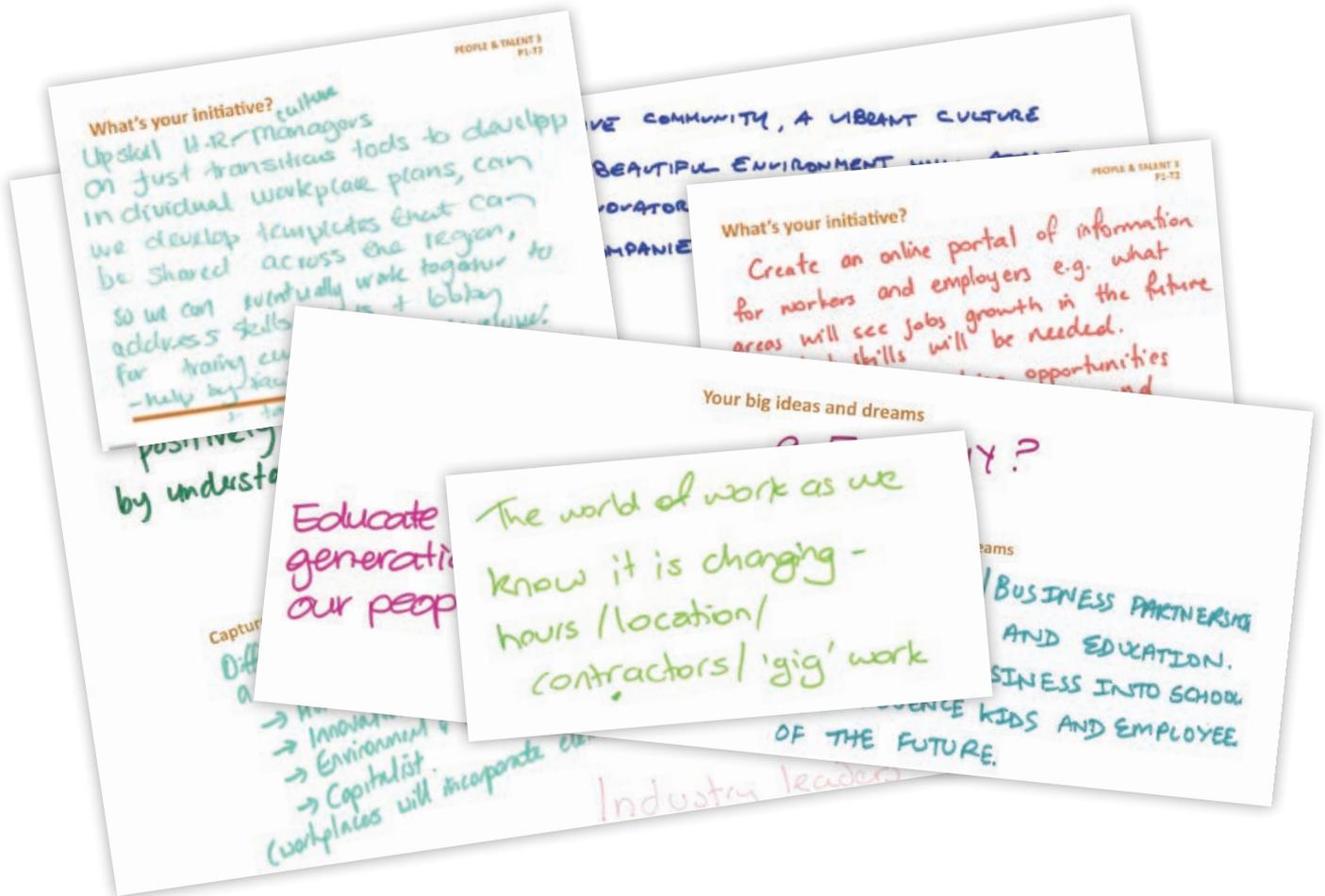
11.3 Co-design themes

- Māori have always considered themselves as kaitiaki of the taiao (environment). Ensuring the sustainability of the environment and natural resources of the region is critical so that our taonga are regenerated, protected and preserved for future generations.
- Reconciliation and acknowledging the shared history of Taranaki is a cornerstone for 2050 success. Largely stemming from historical injustices, understanding the past is necessary to move forward for both Māori and Pākehā in the region. Reconciliation will mean addressing the diverging views about the underlying tension and ignorance of the region's history, particularly regarding the land loss, and how it still impacts on people's options and well-being in life today.

- Māori perspectives and values being sought when planning for the future of our people and talent, and health and well-being in the region.
- The Māori economy is about more than pūtea (financial return). It's about delivering economic, social, cultural, and environmental prosperity for all whānau.
- Taking pride in being and celebrating Māori. Working towards having Te Reo Māori spoken and understood by more people, and having tikanga Māori understood by everyone in the region, will help build success and support the rest of the transition pathways.
- Self-determination – we need to enable and support everyone to get on the waka. There will be many entry points along the way, and we need to give people the support they require, providing many opportunities for them to get involved, join in, and have a voice.
- Key values raised in the Māori economy workshops were consistent with many of the other workshops held to develop the Roadmap. These values included environment/natural resources, lifestyle and people, culture and history, community and connectedness, and adaptability and opportunities.

11.4 Emerging opportunities

- Organisations and businesses can examine their own policies and ways that they work to check for alignment with Māori values and ways of working. They can also look for any barriers that might exist to engagement and inclusiveness for Māori and take steps towards reducing these barriers.
- Undertaking analysis and development of ideas as to how the region can better include a Māori lens in the way things are done in Taranaki and how the system is run. As the region moves through the transition to low-emissions, a Māori world view should be incorporated.
- The history of Māori and Pākehā in Taranaki should be more widely shared and understood by everyone in the region – there is an opportunity to develop a strategy for sharing and dispersal of knowledge across people living here.



18

The above 'capture cards' are a random selection of participants' thoughts at the People and Talent working group workshops. To view the workshop cards in full, please visit: <https://about.taranaki.info/taranaki.2050/Working-and-Exploration-Groups/People-and-Talent.aspx>.

12. People and Talent

12.1 Introduction

- The people of Taranaki are at the heart of our region's transition to a low-emission economy. The well-being of our people, access to relevant and high-quality education, and good job opportunities for all is of the utmost importance.
- The transition to a low-emissions future will bring challenges and opportunities for our people. Workers will need to be adaptable and empowered to transition between sectors and careers over their lifetime, and employers will need the tools to manage this transition.

- Changes to the way we work, where we work, and the skills that will be needed in the future will all impact on our workforce. This will bring opportunities, such as the ability to work flexibly and remotely from anywhere in the region, and challenges, such as the need to adapt to an increase in automation and digitisation.
- Taranaki has deep skills and expertise in certain areas, such as food, logistics, health and safety, and engineering. We want to build on these strengths in the future. Retaining and attracting people to the region, and increasing diversity and inclusion, will continue to be priorities.

12.2 People and Talent vision for Taranaki 2050

- In 2050, Taranaki is a region that values its people, provides pathways to high-quality education (early childhood education to tertiary), good job opportunities, and a lifestyle to be proud of.
- Young people in Taranaki will understand all their options for career pathways. Higher education, vocational education, and on-the-job options will all be attractive choices for people to consider.
- The Māori population in Taranaki is projected to grow to 36,000 by 2050 and make up 28% of the Taranaki population¹², resulting in an increase in Māori businesses and employees.
- Everyone in Taranaki has access to develop core skills including critical thinking and digital skills, as well as social skills such as empathy, generosity, and cooperation. Subjects such as science, technology, engineering, arts, and maths are actively pursued through primary, secondary and tertiary education.
- Businesses in Taranaki 2050 share resources and possibly workers across industries, and have created a highly skilled and adaptable regional workforce. Training and education are understood to be an investment in business, industry, and the region.

12.3 Co-design themes

- We will build greater connections and collaboration between education providers, employers, workers and their unions, and local and central government.
- Businesses need support to develop transition plans for their businesses and workers – in particular, small-to-medium sized enterprises who may face economic challenges in the transition.
- Māori views and perspectives should be continually engaged on how best to plan the transition.
- Training and education need to be seen as an investment, rather than a cost to businesses.
- We utilise skills and talent in existing sectors such as agriculture, health and safety, food processing, logistics, and engineering as we transition to low-emissions.
- All workers' voices need to be heard. Their ideas will help their transition be more just and fair. Workers should not bear the full costs of change. Employers and unions should be supported to empower workers to manage their own transition.

12.4 Emerging opportunities

- Create a network that facilitates connection, collaboration, and sharing of resources across the region. Workers can connect with employment and education opportunities, and businesses can access talent.
- Co-design learning and career pathways for young people, the growing Māori population and retraining opportunities for existing workers. Focus in particular on developing career pathways in key low-emissions sectors, such as renewable energy, agriculture, horticulture, and sciences.
- Develop educational infrastructure including modern learning environments to support Taranaki as a clean energy environmental science education hub. Attract, retrain and grow the best thinkers and innovators.
- Investigate the feasibility of establishing a specialised outpost of an existing New Zealand university in Taranaki, specialising in the key sectors above.
- Industry to consider trialling more innovative ways to share and grow people and talent, e.g. job swaps, employer speed dating, regional work experience programmes, collaborative projects.
- Local government to support businesses in developing transition plans, and starting pilot programmes with a few local businesses.
- Provide training for people in charge of hiring in how to recognise transferable skills.
- Provide tools and material support for workers to determine their own skill development and recognition (including access to qualifications and micro-credentials), identify their skills, and learn about future job opportunities, so that they are empowered to manage their transition.
- Provide the infrastructure for people and businesses to embrace the future of work, e.g. by providing city-wide free digital access (wi-fi), more co-working spaces, and training in digital technology.
- Provide support and connections for vulnerable people to upskill and find pathways to meaningful lifestyles including employment.



20

The above 'capture cards' are a random selection of participants' thoughts at the Innovation and Research & Development (R&D) working group workshops. To view the workshop cards in full, please visit: <https://about.taranaki.info/taranaki.2050/Working-and-Exploration-Groups/Innovation-R-and-D.aspx>.

13. Innovation and Research & Development (R&D)

13.1 Introduction

- R&D and other forms of innovation are key enablers of economic development and are necessary to move to a low-emissions economy. They facilitate the uptake of new technology and knowledge.
- R&D is original and planned investigation, undertaken with the prospect of gaining and applying new knowledge or understanding to new or improved materials, devices, products, processes, systems, or services.

- Innovation is about a process of creating, adopting, and adapting knowledge into new or improved design, marketing methods, business models, processes, products, or services.
- Taranaki already has a number of innovative local businesses and deep technical expertise in certain sectors. These can generate R&D activity that contributes to the transition to a low-emissions economy.
- Taranaki sponsors investment into economically sustainable opportunities.

13.2 Innovation and R&D vision for Taranaki 2050

- Taranaki 2050 has developed an innovation ecosystem that connects people, facilitates collaboration, provides investment and support for existing businesses and new start-ups, and is linked into the education system.
- Taranaki fosters a culture of innovation that encourages new ideas and ways of doing things. This culture incorporates Māori values and reflects regional values around environmental and economic sustainability, well-being, and protecting the Taranaki lifestyle.

13.3 Co-design themes

- A desire to grow the region's innovation ecosystem to support thriving local businesses and to contribute to Taranaki's transition.
- Taranaki can look to build on and leverage its existing strengths and identify adjacent areas of competitive advantage for the region – for example, pockets of innovation are happening around the region, particularly with iwi.
- Access to investment is crucial to support innovation and R&D. Lack of investment is a current challenge for Taranaki.
- Innovation and R&D activity aims to contribute to increased environmental and economical sustainability, and the transition to a low-emissions future. In particular, it can be used to de-risk land use changes and drive emissions reductions in the region.

13.4 Emerging opportunities

- Businesses move to adopt technology and workers need to be supported to know how to use it.
- Support the development of incubators, accelerators, or a physical or digital innovation hub by championing the greater innovation ecosystem.
- Facilitate more connections across the community, particularly between industry and schools to coach innovation from a young age. Investigate cultural change and innovative schooling models in the region.
- Establish a partnership fund for innovation and R&D activity in the region.
- Use research expertise to de-risk the transition to more diverse land use (this opportunity links with the Food and Fibre topic).



22

The above 'capture cards' are a random selection of participants' thoughts at the Infrastructure and Transport working group workshops. To view the workshop cards in full, please visit: [https://about.taranaki.info/taranaki.2050/Working-and-Exploration-Groups/Infrastructure-and-transport-\(1\).aspx](https://about.taranaki.info/taranaki.2050/Working-and-Exploration-Groups/Infrastructure-and-transport-(1).aspx).

14. Infrastructure and Transport

14.1 Introduction

- Infrastructure refers to assets that allow our society and economy to function. This includes roads, pipes (water, wastewater, and gas), and wires (electricity and telecommunications). Transport covers any means of travel, including by vehicle, ship, aeroplane, train, bus, bike, scooter, or foot.
- Freight connectivity is a significant enabler of important sectors in Taranaki, especially food and fibre and other manufacturing. The use of roads, rail, and shipping to move products in and out of the region is essential to how well the region can function.
- There are a number of trends impacting infrastructure and transport. These include:
 - An increasing need for investment in low-emissions infrastructure due to ageing assets and growing population;

- A need to lower emissions from transport;
- A need to make infrastructure resilient to extreme weather events;
- Technological disruption making alternative options more attractive, such as putting solar panels on buildings, battery or hydrogen-powered transport, and autonomous vehicle; and
- A shift to smart digitalised systems that requires a fast and secure Internet connection and improved efficiency of delivery.
- Some Councils have already started to grow a culture of recycling and sustainable waste management that can be leveraged.
- Taranaki has a leadership opportunity to encourage the uptake of low-emissions vehicles and encourage other low-emissions technology, while ensuring that any remaining fossil-fuelled vehicles are as efficient as possible.

14.2 Infrastructure and Transport vision for 2050

- The passenger vehicle and roading system in 2050 looks totally different to 2019. Private cars are fewer and zero emissions, and use has decreased as public transport options are abundant (autonomous vehicles, electric buses, high-speed rail) and digital connectivity has increased. Video conferencing is widely used. Roads have been re-designed to support safety and enjoyment for active transport types like scooters, bikes, and e-vehicles. As a result, there is less need for parking spaces, so many areas in the CBDs have been repurposed into green and vibrant community places.
- Taranaki will have well connected access to the rest of New Zealand, and enjoy connectivity with the world. Our port will be New Zealand's key west coast link, our rail network will be low-emissions with links south and east to the main truck line. Our airport will provide a reliable connection to the rest of the country.
- Infrastructure in Taranaki in 2050 is resilient, low-emissions and future-focused, including energy for building and transport, water systems and treatment, waste and recycling centres, and digital connectivity. The region has replaced infrastructure over time using comprehensive cost-benefit decisions that have enabled innovative and low-emissions infrastructure assets to be procured and deployed.
- In 2050, Taranaki has accessible, safe, low-cost, and low-emissions transport options for the majority in the region – including people in rural communities, people with special transport requirements (such as the elderly or those less able), and for visitors to the region.

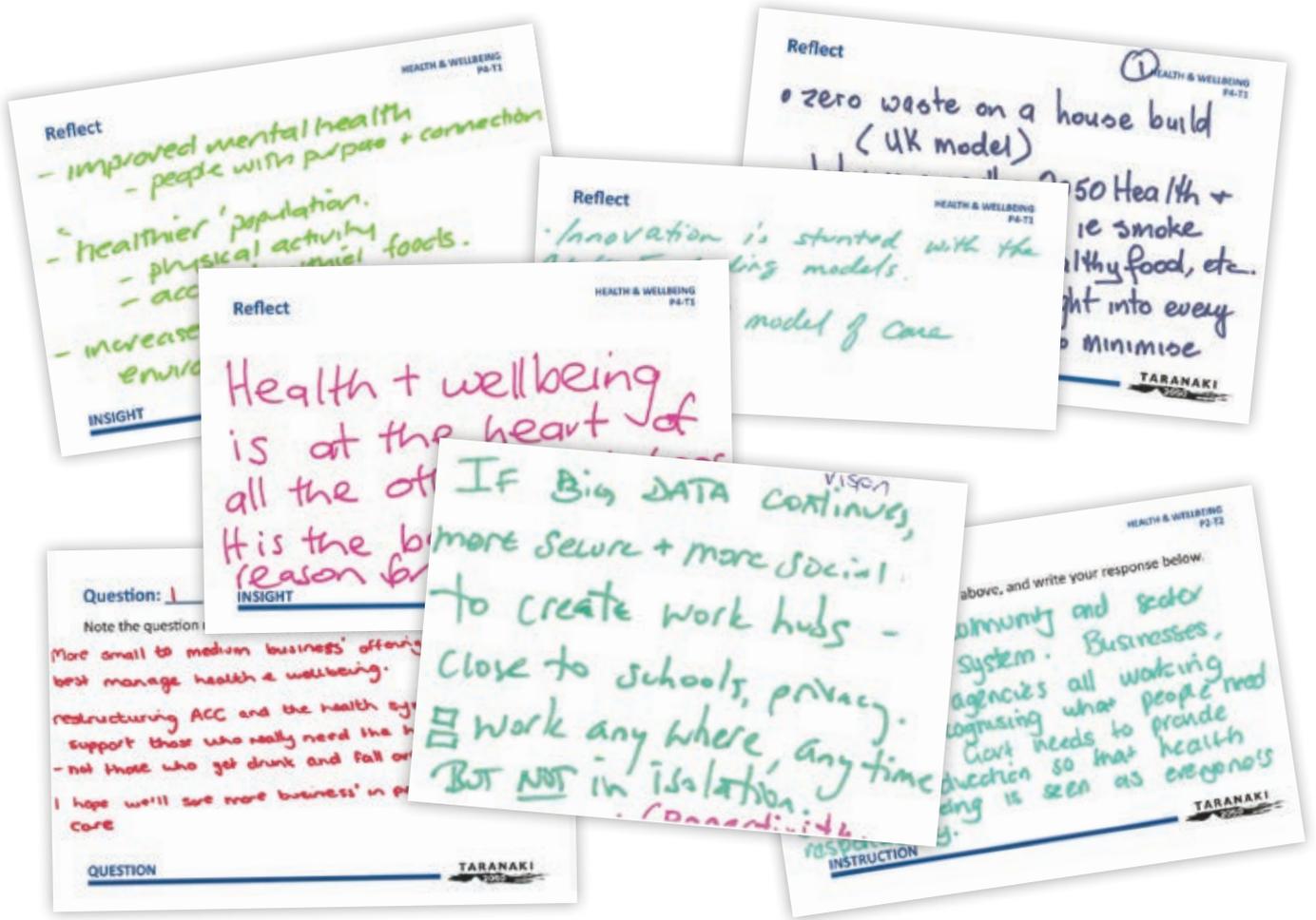
14.3 Co-design themes

- The regulatory environment has a major role to play, for example, in encouraging a move to low-emissions transport.
- Vehicles (cars, freight, public transport) need a transformational transition, with significant low-emissions change possible in the future (e.g. electric vehicles, electric trains, hydrogen vehicles, compressed-air powered vehicles, methanol for ships, and ride sharing).
- Increase low-energy transport options, such as walking, biking, and public transport.
- Increased digital connection and create a resilient IT infrastructure.

- Equity and inclusiveness must be considered, given how important transport and infrastructure are to well-being.
- Localised solutions are valued – for example, creating community micro-grids to boost energy affordability and resilience.
- Resilience is important, especially given potential extreme weather events. Decentralising infrastructure to home systems helps support existing infrastructure, reduces environmental impacts, and increases resiliency.

14.4 Emerging opportunities

- Accessible and sustainable transport – as technological opportunities arise, use these to help people access low-emission and low-cost transport.
- Investigate greater use of low-emissions coastal shipping around the country, utilising and modifying existing infrastructure and minimising emissions from road transport, as well as capital and emissions loading.
- Our roads in 2050 do not have to look like roads today. As we replace our ageing infrastructure there will be opportunities to do things differently. Ideas include changing roads to allow slow lanes, for safer transit of bikes, small e-vehicles, and scooters within and between towns and regions. By discouraging heavy transport from using residential and urban areas we could save money by building roads that are designed for lighter use in future.
- Car-free areas – changing the types of cars and ways that we use cars could free up areas currently used for parking for other things such as gardens and community spaces.
- Infrastructure investments that truly consider low-emissions and resilience in their cost-benefit analyses could result in different infrastructure investments in the future.
- Long-term asset management planning for adequate upgrade and renewals programmes here could be an opportunity for Taranaki to lead.
- Continue to invest in improving the connection links using low-emissions infrastructure between Taranaki and the rest of New Zealand.
- Increase community resilience, with adaption measures, for example, explore options for locating treatment plants away from natural hazards, such as coastal erosion areas.
- Investigate improved and better utilised public transport systems.
- Explore development of a recycling centre.



24

The above 'capture cards' are a random selection of participants' thoughts at the Health and Well-being working group workshops. To view the workshop cards in full, please visit: <https://about.taranaki.info/taranaki.2050/Working-and-Exploration-Groups/Health-wellbeing.aspx>.

15. Health and Well-being

15.1 Introduction

- Throughout the Taranaki 2050 workshops, the health and well-being of people emerged as a core part of both the vision for the future and a pathway to get there.
- Increasingly, there is global recognition that health is more than a biological equation – it encompasses mental, spiritual, and cultural health. In Taranaki, some people have a view that the health and well-being of people is directly related to the health and well-being of the physical environment, too.

- The overall health and well-being of our region can have a direct impact on achieving our economic potential.
- Unfortunately, global and local trends for health and well-being show there is a long way to go before we can achieve positive outcomes. Unhealthy practices relating to diet and activity are a challenge for many New Zealanders, and mental health issues are increasing.
- In addition to these wider trends, access to health care is an issue for many of our rural and smaller communities. People may need to travel away from their whānau to receive treatment, and the cost of healthcare can be prohibitive for many on low incomes.

15.2 Health and Well-being vision for Taranaki 2050

- A broad, comprehensive, and preventive approach to health and well-being is central to Taranaki in 2050. A vision where people enjoy positive outcomes across the well-being spectrum – such as the te whare tapa whā approach where the four areas of mental, family, spiritual, and physical well-being are all required. Healthcare practitioners understand and use integrated treatment approaches, blending traditional healthcare practice with rongoā Māori and alternative approaches, as appropriate, to patients and their whānau.
- Healthcare is equitable, safe, sustainable, timely, and affordable.
- Technology is combined with face-to-face interaction to be predictive, preventative, and personalised.
- Housing in Taranaki supports healthy families by providing safe, stable, warm and healthy homes, with spaces large enough and a home environment free from family violence.

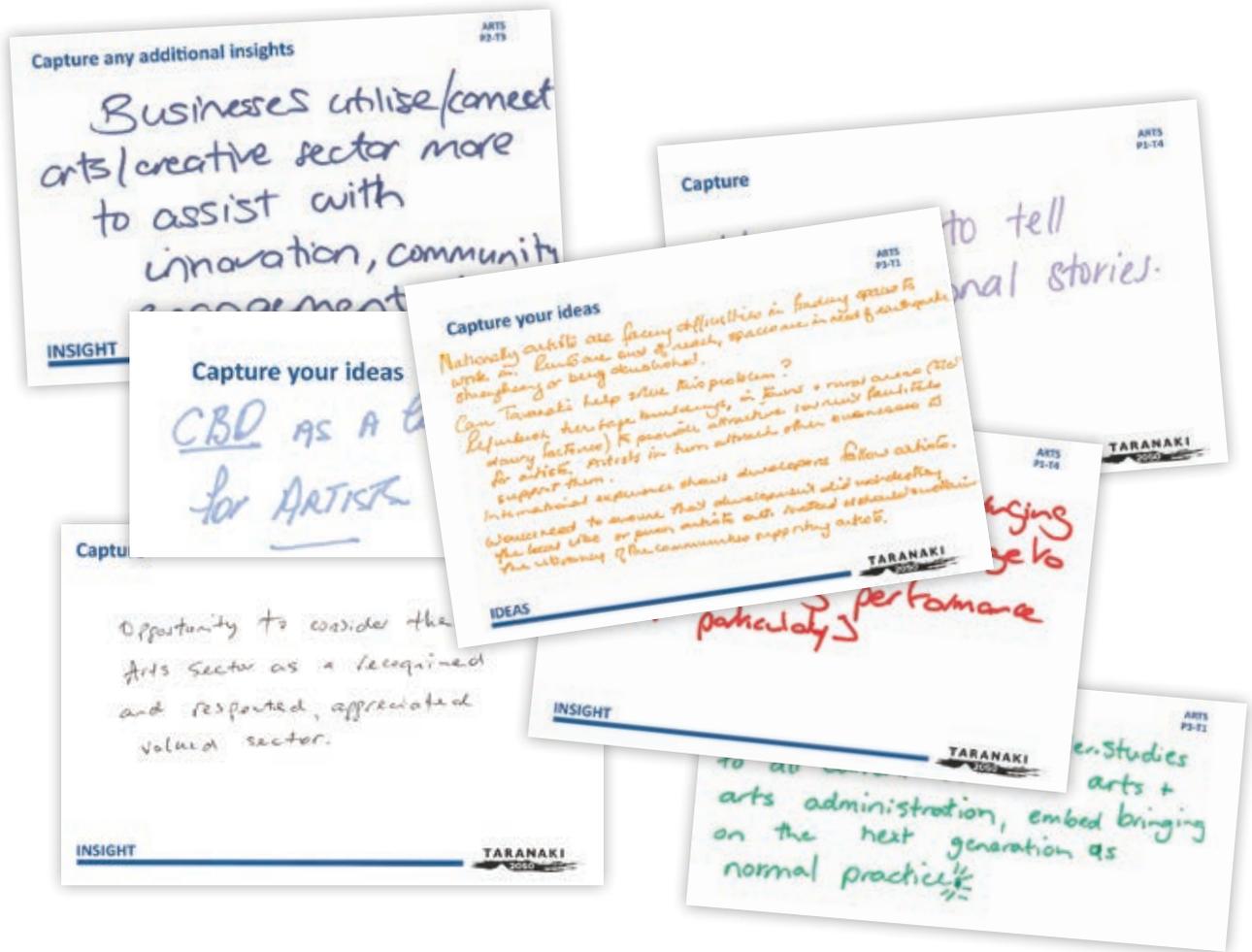
15.3 Co-design themes

- The need for physical activity to be a fundamental part of our lifestyle. This may be active transport to get from one place to the next (walking or cycling), enjoying the natural resources in the region (trails around the maunga or surfing), or taking part in sports clubs and exercise classes suited to different interests and needs (pilates and tai chi for people with mobility issues, for example).
- For people who require health treatment, it's important that access is not an issue. Digital, mobile, and local options could provide affordable and culturally appropriate healthcare. People who need treatment should be able to stay with their whānau and communities as they receive help and recover.

- Community hubs can be places of education and information sharing for health and well-being. People can use these as facilities for exercise, for education about their health and to connect with others in their communities.
- Māori views and values to be a key part of planning for the future of health and well-being in our region.
- All children to be taught how to keep themselves healthy and well. Resources for adults to be made available, too.
- Restoration of the natural environment is a part of the health and well-being of the people – taiao, taiora, ko te ora o te whenua, ko te ora o te tangata¹³.

15.4 Emerging opportunities

- Making use of schools and sports centres as well-being community hubs to promote and facilitate health education and activities.
- Doing more to understand and address the foundational determinants of health and well-being, such as housing, education, and income.
- Using digital technology to offer more telehealth, such as digital GP consultations and well-being smart phone apps.
- Using low-emissions mobile health vehicles to reach rural and isolated people in Taranaki.
- Investing in local hospitals and healthcare centres in smaller communities in Taranaki so that people can receive treatment and care close to their homes and communities.
- Enabling education and information sharing, including holistic aspects that contribute to health and well-being.
- Focusing on connecting people in real life – especially young people, older people and vulnerable people.
- Realising the importance of aged care as our population ages, and the (economic as well as comprehensive) opportunity and need for care communities that utilise clean energy, provide meaningful jobs, and a community.



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The above 'capture cards' are a random selection of participants' thoughts at the Arts working group workshops. To view the workshop cards in full, please visit: <https://about.taranaki.info/taranaki.2050/Working-and-Exploration-Groups/Arts.aspx>.

16. Arts

16.1 Introduction

- Taranaki has a wealth of creative potential and a rich heritage. Our artists and creative businesses are extraordinarily talented, and we produce world leaders in multiple disciplines. We offer unique creative expressions and processes from our blended cultures. The international reputations and earnings of our creators are growing, and there are many more opportunities to explore.
- The creative sector has the potential to:
 - enrich our lives through our stories;
 - drive growth in the digital age through innovation and productivity;

- generate high-value jobs and outputs;
- confidently face the transformational future of work;
- offer new opportunities for small business and regional development;
- be sustainable and protect the environment;
- export to global markets with few barriers; and
- support innovative enterprises.
- Arts and culture make a vital contribution to the creation of a more inclusive and more confident society. They have the power to delight, educate, stimulate, and inspire.

16.2 Arts vision for Taranaki 2050

- Taranaki in 2050 is a flourishing hub for the arts sector. The region is an internationally recognised centre of arts where learning, sharing, and collaboration is encouraged. It is a place where artists are celebrated for their skills, and resources are available for artists to access.
- Taranaki in 2050 is an arts destination that is driven and supported by the arts community in collaboration with local councils and other agencies.
- In 2050 the Taranaki central business district is a living canvas, showcasing street art and physical art.
- Taranaki in 2050 offers significant education opportunities to pursue art as a career, including programmes through to creative pathways and career options.

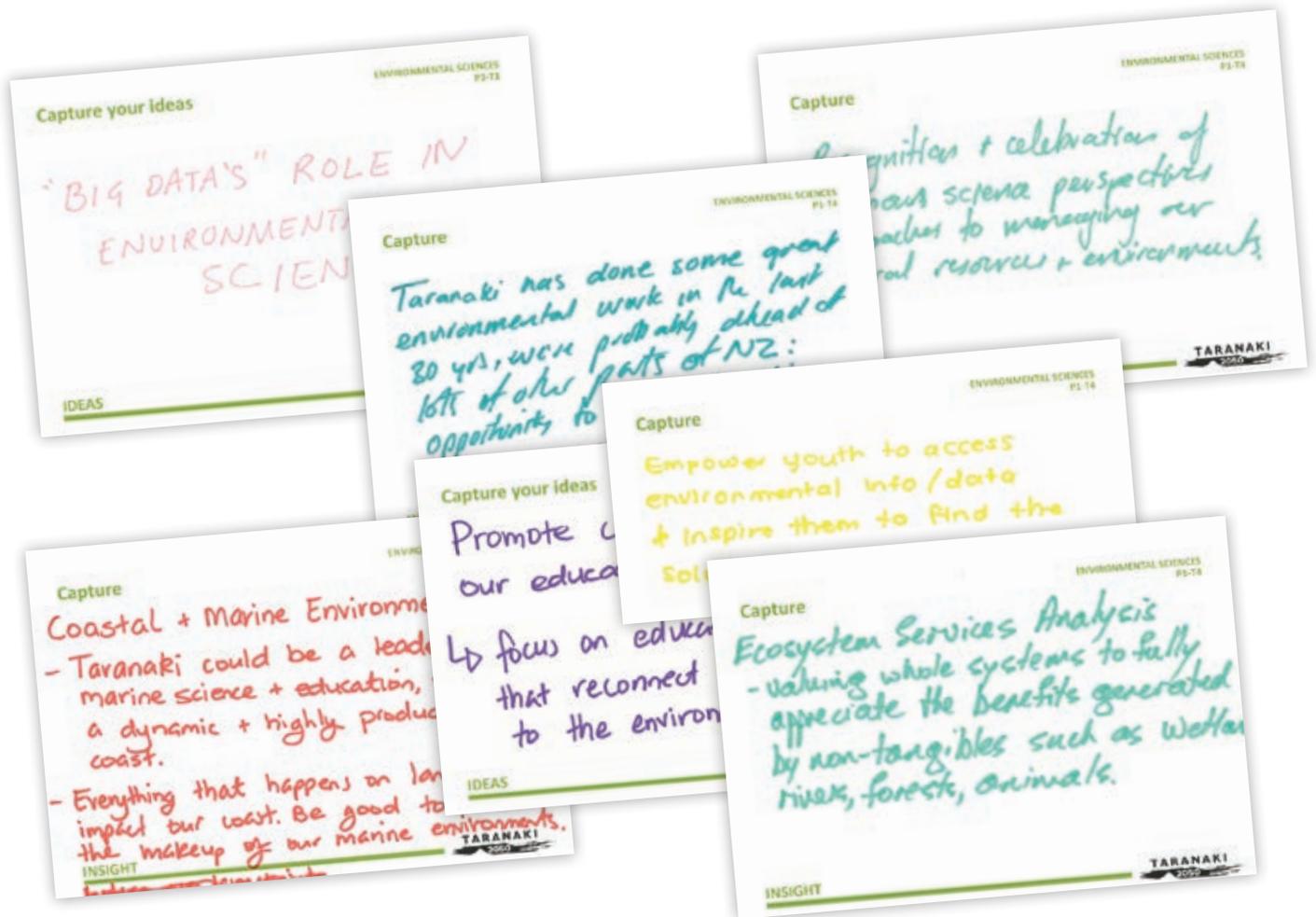
16.3 Co-design themes

- Taranaki has a rich cultural history and natural landscapes that make it unique and inspire our creative community.
- A need for leadership across the region so that the sector is connected. Having a common purpose and shared vision for the arts sector will enable stronger regional collaboration to enhance the sector. Everyone can have a role to play in actively participating and contributing to the growing arts sector.
- The creative sector can add value in all sorts of ways to the work needed to transition the region to a low-emissions economy.
- Taranaki's arts, culture and heritage can be linked in to other sectors of the economy – for example, tourism, events, community development, and infrastructure development, etc.
- Funding and resourcing will underpin the growth of the arts sector. The arts sector also needs to be supported by business, government (national and local), the community, and iwi. Political and executive engagement is critical to long-term sustainability of the sector.
- Education and innovation will play a critical role in growing the arts sector and vice versa.
- Māori arts and culture should be celebrated and promoted in Taranaki through education (Mātauranga Māori – Māori knowledge, data, understanding, and observations) and supporting iwi/Māori to tell their stories through various art forms such as carving, weaving, and kapa haka. Technology could assist with this, such as via augmented reality/virtual reality.

16.4 Emerging opportunities

- Local government to look at ways to work with communities to develop cultural and artistic opportunities and implement them over time. Arts and cultural activities face limited resources, and support is crucial if the sector is to grow into a more active role in the transformation of the Taranaki economy to one of low-emissions.
- Establish a centre of arts in Taranaki. This physical space could be a place where learning, sharing, and collaboration are encouraged, and where artists are celebrated for their skills. It could have multi-disciplinary resources to be made available for all artists to access.
- Investigate potential to develop an arts card, similar to the SuperGold card¹⁴. This would support artists.
- Collaboration with councils and other agencies to brand Taranaki as an arts destination, similar to art deco in Napier.
- Creating space within the central business districts in the region as a canvas for art, particularly for street art and physical art.
- Education opportunities are needed to support the growth of the sector, offering programmes, creative pathways, and career options for youth and everyone in the sector.
- Using the arts sector to empower our people – for example, by creating ways for people to express themselves and giving people more confidence in their abilities.
- Build on our existing heritage, and explore the use of heritage buildings and industrial buildings to offer sound/light experiences, similar to L'Atelier des Lumières in Paris and Vivid in Sydney.

¹⁴ The SuperGold Card is a discounts and concessions card for seniors and veterans, in recognition of their contribution to New Zealand society.



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The above 'capture cards' are a random selection of participants' thoughts at the Environmental Sciences working group workshops. To view the workshop cards in full, please visit: <https://about.taranaki.info/taranaki.2050/Working-and-Exploration-Groups/Environmental-Sciences.aspx>.

17. Environmental Sciences

17.1 Introduction

- 'Environmental sciences' is an umbrella term for a range of disciplines that cover the physical, chemical, and biological components of the environment, across air, land and water. In Taranaki these include diverse sciences – from geology to Mātauranga Māori to environmental chemical engineering (among many others).
- The focus is about making better decisions around which activities to pursue to balance environmental impact and economic benefits. It is also about understanding our impact on our natural environment.
- Environmental sciences in Taranaki are much broader than the focus on lowering emissions. They include reducing waste, increasing biodiversity, and minimising our impact on the natural ecosystem.
- Environmental sciences are increasingly incorporating non-Western disciplines to be more relevant to communities. In New Zealand, Māori have developed a comprehensive knowledge of our ecosystems and species over the last 1,000 years, through an intimate connection with the natural environment. Mātauranga Māori is a unique approach that can help us achieve excellence in understanding and using environmental science in the transition to a low-emissions future.
- Taranaki is already a role model for some types of environmental sciences, with its award-winning riparian management programme transforming the Taranaki ring plain for more than 20 years. The transition to 2050 offers opportunities to expand our leadership across other areas of environmental sciences, too.

17.2 Environmental Sciences vision for Taranaki 2050

- Taranaki has accessible, reliable and independent environmental data that everyone understands and uses to measure their own environmental impacts and health and well-being.
- Mātauranga Māori is a core part of environmental science in Taranaki in 2050.
- Taranaki 2050 is home to skilled environmental science practitioners and research institutions, who have national and global connections and who collaborate to achieve outcomes in lowering emissions, environmental restoration, and improving our health and well-being.

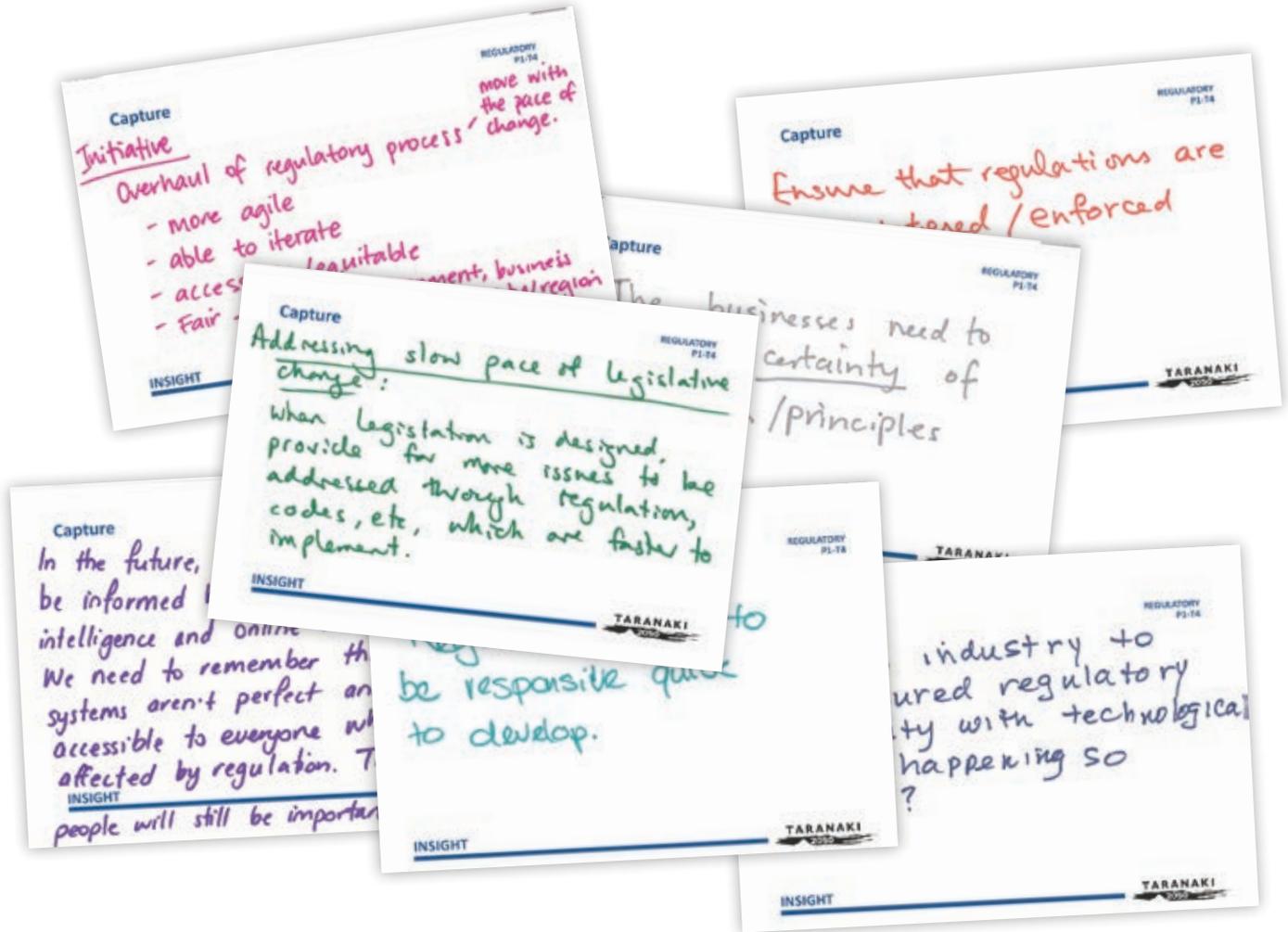
17.3 Co-design themes

- Environmental sciences in Taranaki can be comprehensive and integrated. They will be used by a wide range of people in Taranaki in 2050, including households, schools and businesses, as well as research organisations and government.
- Mātauranga Māori is especially a part of our understanding and practice of environmental sciences. Citizen science also offers a way to empower local communities to track the environmental system in their own backyard.
- Environmental indicators and monitoring information need to be shared and understood by a wide range of people in Taranaki. There is an important communication and education element to environmental sciences – information will be transparent, easy to understand and access, so people know what the state of the environment is and how best to protect and restore it.

We need to excel in environmental science using skilled people, supported by globally connected research institutions. There are a number of research areas where Taranaki could excel, e.g. the biodiversity of the maunga and marine environment, changing farming systems to support sustainable agriculture, environmental impact of carbon capture and storage, and our riparian planting programme.

17.4 Emerging opportunities

- Work with the community to build consensus on agreement for approaches to measure and understand environmental sciences in ways that are meaningful and credible.
- Build awareness of how Mātauranga Māori can be used across environmental science and into measurement and monitoring.
- Use technology opportunities to measure more things, more of the time, with less effort, and with greater information transfer to end users.
- Develop research infrastructure such as networks, educational institutes, and shared communities of practice, based on the unique perspective that Taranaki has to offer environmental science.
- Enable communication and teaching of environmental science to young people.



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The above 'capture cards' are a random selection of participants' thoughts at the Regulatory working group workshops. To view the workshop cards in full, please visit: <https://about.taranaki.info/taranaki.2050/Working-and-Exploration-Groups/Regulatory.aspx>.

18. Regulatory

18.1 Introduction

- Regulations affect everything in our lives including what we eat, the houses we live in, the goods and services we trade and our ability to earn a living. Good regulatory practices and institutions play a critical role in protecting New Zealanders' rights and ensuring that markets work fairly and efficiently.
- Central government and local government both have an important role in ensuring New Zealand's regulatory system functions well. Central government is responsible for the regulation of issues that affect the whole country, such as tax, employment, welfare, and energy. Our local government looks after the needs of the Taranaki community, which in the context of a low-emissions economy will be in providing building and environmental consents.

- The ability of New Zealand's regulatory system to be responsive and fit for purpose is increasingly being challenged by the pace and scale of change in our society. Changes in technology, the way we work, our future skills, investment needs and how we adapt to a low-emissions economy will all require regulatory changes.
- At a national level, the Government plans to introduce a Zero Carbon Bill, establish an independent Climate Change Commission and make changes to the Emissions Trading Scheme to support the reduction of the country's greenhouse gas emissions. Taranaki's local regulations will also need to be fit for purpose to support this.

18.2 Regulatory vision for Taranaki 2050

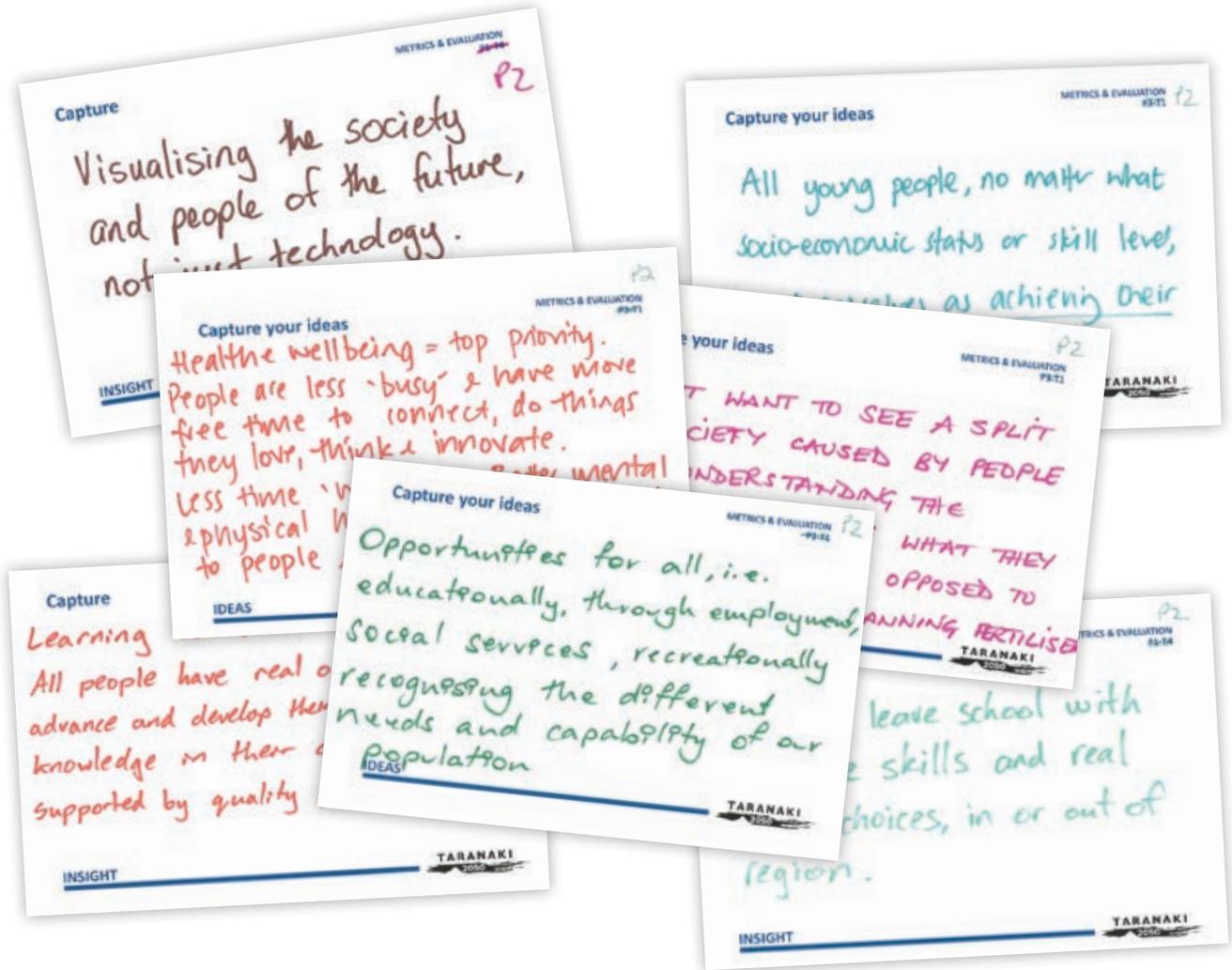
- Our regulatory system balances agility and consultation. It keeps up with the pace of change in society and the economy, while coherently linking to the national regulatory system, with the importance of good research and effective consultation being incorporated into significant changes in policy and regulations.
- The regulatory system in Taranaki in 2050 enables and supports a thriving, economically sustainable, low-emissions economy, including enabling the adoption of new technologies.
- Taranaki has strong local regulatory leadership and a culture of community engagement with the region's regulatory systems.
- All significant changes in policy and regulations are based on good research and effective consultation.

18.3 Co-design themes

- Regulations incentivise the transition to low-emissions and enable new technologies and opportunities. Innovation should be encouraged. However, it is also important to enforce minimum standards.
- Taranaki's local regulation to be developed through genuine consultation with those it affects, including businesses, farmers, unions, iwi, and community groups.
- Getting consensus between the different regulatory plans in the region is a challenge, and the time frames for planning processes should be streamlined.
- Taranaki needs strong local leadership and highly skilled people to create effective regulations. We will also need to help our regulators be at the forefront of IT and best practice – for example, use big data to predict trends and inform regulation.

18.4 Emerging opportunities

- Capture the goals of the Taranaki 2050 Roadmap and the need to move to a low-emissions economy in the local government plans of the Taranaki region. For example, town planning requirements can facilitate a reduction in car usage and uptake of public transport.
- Review Taranaki's planning processes and look to streamline them so that plans can be updated more quickly and easily.
- Continue to send signals from Taranaki to central government about reforms that the region considers necessary to national regulation, such as the Resource Management Act. Also work with government to consider appropriate regulations for carbon capture storage and renewable energy generation.
- Explore different ways of engaging a range of stakeholders in regulation development. Face-to-face methods of engagement will continue to be important, supplemented by online engagement.
- Carry out environmental cost benefit analysis on all new regulation to ensure we understand the true impacts of regulation.



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The above 'capture cards' are a random selection of participants' thoughts at the Metrics & Evaluation working group workshops. To view the workshop cards in full, please visit: <https://about.taranaki.info/taranaki.2050/Working-and-Exploration-Groups/Metrics-Evaluation.aspx>.

19. Metrics & Evaluation

19.1 Introduction

- Measuring and reflecting how our actions are helping or hindering our progress towards a low-emissions future is essential to knowing if our pathways are working, and if we are on track to achieving the Taranaki 2050 vision.
- Increasingly, the world is recognising that traditional indicators of progress, such as Gross Domestic Product (GDP), are not sufficient to tell the whole story of people and their communities and environment. In 2017, New Zealand started moving towards a well-being framework for measuring how New Zealand is faring – looking at four capitals: social, cultural, environmental, and financial.

- A foundation of shared measurement is where all participating organisations agree on the way they will measure success and report it, based on common indicators and measures. Additionally, while focusing on shared measurement is important, collective impact efforts can be more successful when measurement is treated as part of a larger system of learning and evaluation.
- The idea of collective impact is broadly defined as a group of diverse actors from different sectors – community, business, government – coming together to share a common agenda to solve a specific social problem. The Taranaki 2050 Roadmap is a collective impact activity – diverse groups coming together to create pathways to a new future. This gives us a way to think about metrics and evaluation for the Roadmap.

19.2 Metrics and Evaluation vision for Taranaki 2050

- In Taranaki 2050, everyone understands the 2050 goals and how the region is approaching measurement and monitoring of those goals. Everyone has access to the data that is being used for measurement and monitoring, where access means data is understandable and relevant.
- Social, cultural, environment, and financial measurements for both a low-emissions economy and a thriving community and environment are in place and being used.

19.3 Co-design themes

- People and communities in Taranaki will have a strong sense of ownership of measurement and the use of data in transitioning towards a social, cultural, environmental, and financially sustainable future. This includes many different actors (businesses, households, students) participating in the collection, analysis, and interpretation of information.
- Measurement of low emissions-related indicators and social, cultural, environmental, and financial indicators are equally important, and need to include qualitative data as well as quantitative.
- Information needs to be accessible, easy to understand, and shared (apps, infographics, and use of social media).
- An agile approach should be continuously applied to thinking about measurement and evaluation. If we change our goals over time, then our measurement should change to fit too.
- Protection of privacy and confidentiality is essential to obtaining, using, and trusting data and analysis.
- Requirement to establish baseline data as soon as possible on which to measure our progress.
- Measurement and evaluation should be independently audited and interpreted in an unbiased manner using international and national standards like the UN Sustainable Development Goals, International Labour Standards on Occupational Safety and Health guidelines, and the Living Standards Framework.

19.4 Emerging opportunities

- Establishing a collective impact methodology with a suitable baseline data set adapted for Taranaki to start from. Currently, data sets around emissions, the environment, and well-being are either difficult to access or not in existence for Taranaki. Working towards creating data that is relevant to the region and its vision is needed to support the baseline opportunity.
- Investigating whether the country's most important data collections (Tier 1 Statistics) are suitable for measuring the transition in Taranaki, and working towards including new data as Tier 1 as required.
- Promoting environmental, social, and governance measurements in all enterprises.
- The Theory of Change¹⁵ is developed and adapted for the Taranaki region, and shared and promoted in order to help people understand what is being measured and how it contributes to the Taranaki 2050 vision.
- Investigating what data is already available via open access, and promoting sharing of data between people and organisations.
- The opportunity to harness the power of data to tell stories, guide transitional economic decision making and drive the behavioural change required to deliver year-on-year greenhouse gas emission reductions.

¹⁵ The Theory of Change is a specific type of methodology for evaluation that is used in the not-for-profit sectors to promote social change.

20. Youth and Community engagement

The voice of our community and young people was a critical part of the development and finalisation of this Roadmap.

20.1 Co-designing the Taranaki 2050 draft Roadmap with Youth and Community

YOUTH WORKSHOP

The 2050 youth workshop was a collaboration between Taranaki 2050, Western Institute of Technology at Taranaki and Massey University to help co-design the draft Roadmap. Sixty students from 11 high schools around Taranaki took part in a day-long exploration of what the future might look like for the region.

The day began with students discussing what they loved about Taranaki and what they wanted Taranaki to be like in 2050.

The Western Institute of Technology at Taranaki ran an ice-breaker, then Massey University’s School of Design ran a session using a design-thinking approach. The students considered how they would enhance Taranaki. They were asked to consider economic viability, potential issues with approach, potential partners to create change, and modelling needed.

Across the engagement, the following themes emerged strongly in their 2050 vision:

- a low-emissions region, with substantial renewable energy;
- a cleaner environment, with less plastic and rubbish;
- tolerance and embracing cultural diversity;
- Taranaki people being humble and caring;
- a large change in transport, both embracing new technology, and making it more accessible and with lower emissions;
- flourishing flora and fauna, particularly in our oceans and on the maunga;
- sustainable ways to live, e.g. Earthship houses; and
- uptake of new technology but being careful about its overuse.

CREATIVE CHALLENGE

More than 140 children entered a creative competition to describe their vision for 2050. In the creative competition, students aged 7–18 compiled their ideas in a picture, generated a piece of creative writing, or created an infographic or diagram.

Examples of some of the winning creative entries are shown here. They include artwork, videos, posters, infographics, and essays.



Jack Lydon, 7–10 years age group category, video



Penelope Dixon, 11–14 years age group category, poster



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COMMUNITY WORKSHOPS

Five community workshops were held during the evening around the region in New Plymouth, Hāwera, Stratford, Waitara, and Opunake.

Key findings, outputs and questions from the 12 topic workshops were summarised for community workshops. Participants were able to input their feedback on the work to date, or share different views on how to transform Taranaki to a low-emissions economy.

The outputs of the community workshops were collated and included with information gathered from the workshops on the 12 topics to co-design the Roadmap.

SURVEY

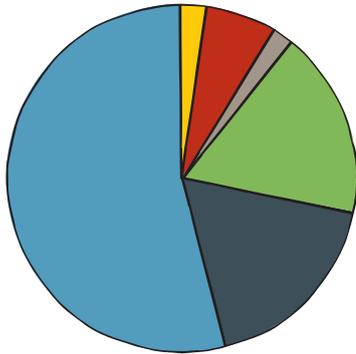
More than 360 people also completed a survey, either online or via being approached on the street or at an event. Respondents were a broad representation of genders, ages, communities, and ethnicities across Taranaki.

93% of respondents agreed that the region was in a time of pivotal change and 92% agreed that Taranaki needs to work towards creating a low-emissions economy.



WHAT DO YOU VALUE MOST ABOUT LIVING IN TARANAKI?

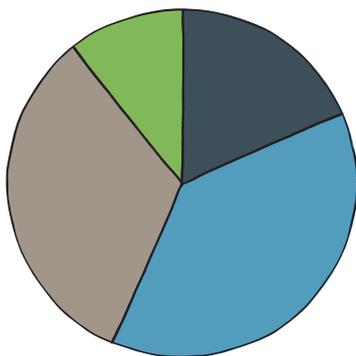
Over half of respondents (53%) stated that the lifestyle was the aspect they most currently valued living in Taranaki.



- AFFORDABILITY
- MY JOB/CAREER OPPORTUNITIES
- OTHER
- THE COMMUNITY I LIVE IN
- THE ENVIRONMENT
- THE LIFESTYLE

WHAT MAKES TARANAKI UNIQUE?

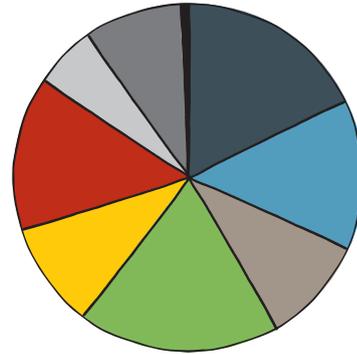
The natural environment featured significantly in what respondents thought made Taranaki unique. 36% of people said the outdoor opportunities and connection to nature. Another 30% said Mount Taranaki and the National Park.



- COMMUNITY AND CULTURE
- OUTDOOR OPPORTUNITIES AND CONNECTION TO NATURE
- MOUNT TARANAKI AND THE NATIONAL PARK
- OTHER

WHAT DO YOU THINK ARE THE MOST IMPORTANT THINGS TO WORK ON TO TRANSITION TO A LOW-EMISSIONS ECONOMY?

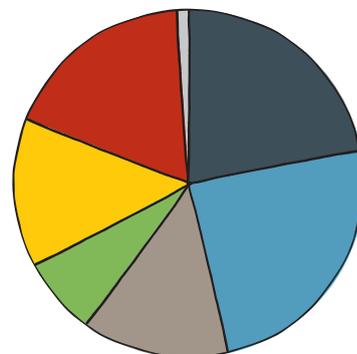
In terms of the transition, respondents were fairly equally divided between what were the most important things to work on. Energy production and utilisation, infrastructure and transport, agriculture and horticulture practices, and environmental assessment and monitoring featured most highly.



- INFRASTRUCTURE AND TRANSPORT
- ENVIRONMENTAL ASSESSMENT AND MONITORING
- REGULATIONS AND MANAGEMENT
- ENERGY PRODUCTION AND UTILISATION
- BUSINESS AND INDUSTRY DEVELOPMENT
- AGRICULTURE AND HORTICULTURE PRACTICES
- FOOD PROCESSING AND VALUE-ADD
- FOOD PRODUCTION DIVERSIFICATION
- OTHER

WHAT WILL BE IMPORTANT INDUSTRIES FOR TARANAKI IN THE FUTURE?

The views on industries of the future were also fairly evenly split. Energy and agriculture and food scored most highly, followed by art and visitor experience.



- ENERGY
- AGRICULTURE AND FOOD
- HORTICULTURE
- FORESTRY (INCLUDING PROCESSING)
- TECHNOLOGY DEVELOPMENT
- ART AND VISITOR EXPERIENCE
- OTHER



Waitara High School sharing their feedback to the Taranaki 2050 draft Roadmap in a specialised workshop.

20.2 Finalising the Taranaki 2050 Roadmap with Youth and Community

Following the launch on the Taranaki 2050 draft Roadmap on 9 May 2019, further youth, business and community engagement took place from May–June 2019 across the region with visits to more than 40 locations, engaging over 1,000 people in the feedback process.

TARANAKI 2050 SCHOOLS' WORKSHOPS

All Taranaki schools were invited to share their thoughts on the draft Roadmap through workshops held onsite at the school from May–June 2019, with over 18 schools taking part across the region.

Students were encouraged to provide their feedback to the draft Roadmap at the workshop, as well as to take material home to discuss with their family and provide their feedback via the online interactive tool.

Across the engagement, the following themes emerged strongly in their feedback to the Taranaki 2050 draft Roadmap:

- More things for kids to do;
- Good jobs, with people being paid properly;
- More jobs;
- Strong environmental focus with a range of ideas for moving to a low-emissions future;
- Focus on people being 'happy';
- Stable homes free of family violence, and big enough to accommodate large families; and
- Desire for a clean environment.

COMMUNITY ENGAGEMENT IN THE FEEDBACK PROCESS

Various community groups were also visited and encouraged to provide feedback to the draft Roadmap. Groups representing people experiencing disparity were particularly encouraged to share their thoughts and were able to offer specific feedback to help finalise the Roadmap.

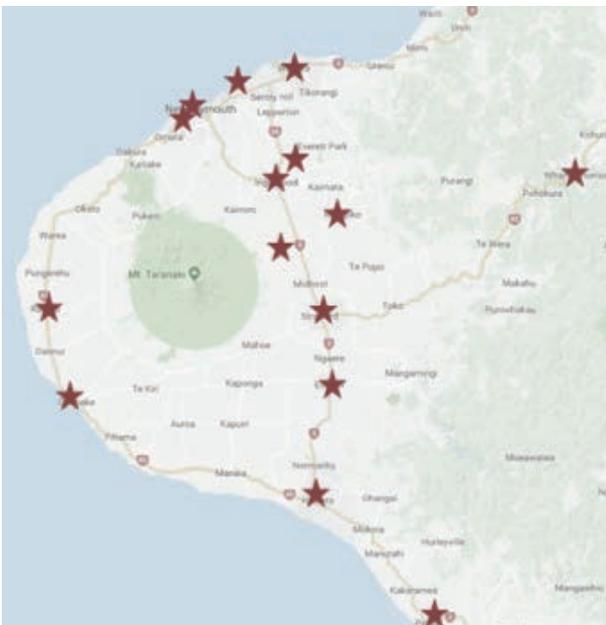
Across the engagement, the following themes emerged strongly from community groups:

- Acknowledging the planning throughout the transition needed to ensure vulnerable people who currently experience disparity have a greater share of and higher participation in the region's prosperity and success/future;
- The need for affordable housing;
- The importance of health and well-being and the need to plan for inclusive growth;
- The need for Māori input and perspectives continually to be sought; and
- The role for workers that unions will have in this transition.



Ratapiko school sharing their feedback to the Taranaki 2050 draft Roadmap in a specialised workshop.

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18 schools across the region chose to take part in a workshop to feedback on the Taranaki 2050 draft Roadmap.



Marfell rangatahi providing feedback to the draft Roadmap at the Zeal community workshop.

21. Acknowledgements

Thank you again to everyone involved

This Roadmap process has been a significant undertaking and would not have been possible without the support of the Ministry for Business, Innovation and Employment. We would also like to acknowledge the Provincial Growth Fund, the New Plymouth District Council, the South Taranaki District Council, and the TSB Community Trust for their financial and resource support.

A thank you also to NZEI Te Riu Roa for the support in developing the education workshop material in the feedback phase of the project.

Thank you to all the companies and organisations that donated prizes to the youth creative challenge and the online feedback tool spot prizes. This included the Taranaki Regional Council, Pūrangi Kiwi Taranaki, Todd Energy, Fonterra, Port Taranaki, Cycle Inn, MegaBounce, the Devon Hotel, Chaddy’s Charters, the Slumber Club, Urban Earthworks, Climate Justice Taranaki, Nova Energy, George’s Moturoa.

We would also like to thank the Taranaki 2050 Lead Group, and their organisations for supporting their involvement. The

organisations included Ballance, E tū, Engineering Taranaki Consortium, Federated Farmers, Fonterra, Just Transitions Unit MBIE, New Plymouth District Council, Ngāti Ruanui, Port Taranaki, South Taranaki District Council, Stratford District Council, Sustainable Taranaki, Taranaki Chamber of Commerce, Taranaki Futures, Taranaki Iwi, Taranaki Regional Council, Te Atiawa, Todd Energy, TSB Community Trust, Velocite, Venture Taranaki Trust and Western Institute of Technology at Taranaki. Sustainable Taranaki also helped organise the community workshops.

As a final acknowledgement, the Taranaki 2050 team would again like to thank everyone who has been part of the process. This Roadmap would not exist without your contribution. Many people gave up significant hours to participate in workshops, with a number attending multiple sessions across different topics.

The team has been overwhelmed with people’s passion and commitment to this region. It is clear there is an excitement and energy to achieve our vision for Taranaki 2050.

22. Glossary

Accelerators	Accelerators advance the growth of existing companies with an idea and business model in place. These programmes build upon the start-ups’ foundations to catapult them forward to investors and key influencers
Afforestation	The establishment of a forest or stand of trees in an area where there was no previous tree cover
Awa	Māori word for a river, stream, creek or gully
Carbon capture and storage (CCS)	The process to remove carbon dioxide from waste gases produced in large-scale industrial processes and store it underground
Co-design	An approach to design that is focused on processes and procedures, and is inclusive of all stakeholders in the design process
Collective impact	The commitment of a group of people from different sectors to a common agenda for solving a specific problem, using a structured form of collaboration
Co-working	A collaborative and flexible work style where a shared workplace is used. Unlike in a typical office, those co-working are usually not employed by the same organisation
Deep partnership	Forming a trusted reliance with skilled and committed people to create a connected working relationship
Diversify	To increase the variety; to create different forms
Drivers	A factor that initiates or supports an event to happen or develop

Emerging pathway	A newly formed or prominent course of direction
E-vehicles	An electric vehicle – uses one or more electric motors or traction motors for propulsion
Greenhouse gas emissions	Gases that absorb heat from Earth’s surface, warming the atmosphere and changing our climate. The primary greenhouse gases in Earth’s atmosphere are water vapor, carbon dioxide, methane, nitrous oxide, and ozone
Hero product	A flagship tourism offering that a region becomes well known for and people travel to, as it can’t be experienced elsewhere
Higher education	Education at tertiary institutions or similar educational establishments, especially to degree level
Inclusive growth	Economic growth that is distributed fairly across society and creates opportunities for all
Incubators	Incubators support start-ups entering the beginning stages of building their company. The start-ups possess an idea to bring to the marketplace, but no business model and direction to transition from innovative idea to reality
Kaimoana	Māori word for seafood or shellfish
Kaitiakitanga	Māori word meaning guardianship
Manaakitanga	Māori word for showing respect, generosity and care for others
Māori Economy	In Taranaki 2050, this term has been used broadly to include ways to support Māori and iwi participation in the economy
Mātauranga Māori	Māori word for the body of knowledge originating from Māori ancestors, including the Māori world view and perspectives, Māori creativity and cultural practices
New Zealand Emissions Trading Scheme (NZ ETS)	New Zealand’s emissions trading scheme requiring all sectors (excluding agriculture) to purchase and surrender emissions units (called New Zealand Units) in order to emit greenhouse gases
Papakāinga	The Māori word for the original home, village, or communal Māori land
Pilot farm	Where a new industrial or agricultural idea or venture is trialled on the land
Principles	Fundamental values that serve as the foundation for a system of belief and help determine the rightfulness or wrongfulness of actions
Pūtea	The Māori word for fund or finance
Roadmap	A strategic, long-range plan intended to achieve a goal or desired outcome through setting guidelines and standards, and includes the major steps or milestones needed to reach it
Rohe	The Māori word for a territory or area of interest
Rongoā	Traditional Māori medicine
Taiao	The Māori word for world, Earth, natural world, environment, nature, or country
Taonga	Māori cultural treasures
Te whare tapa whā	A Māori philosophy toward health, based on a holistic health and wellness model
The Paris Agreement	The most recent global climate change agreement, signed by 195 parties. The agreement sets out a goal of limiting temperature rise to 2 °C (with a second target of 1.5 °C), through reaching net-zero emissions in the second half of this century
The region (boundary)	The region of Taranaki, consisting of the areas of New Plymouth District Council, Stratford District Council and South Taranaki District Council
Tikanga	The Māori word for correct procedure or protocol
Values	Important ideals or beliefs held by a person or group of people that help determine what is desirable or undesirable
Vision	To plan or visualise for the future
Vocational education and training	Qualifications that have been developed with the specific goal of preparing students with skills for work, with a more practical focus
Whānau	The Māori word for extended family grouping
Whenua	The Māori word for land
Workshops	A meeting of a group of people for the purpose of discussion or practical work on a specific subject in which the group share their knowledge or experience



Taranaki's Regional Development Agency

9 Robe Street | PO Box 670
New Plymouth 4340 | New Zealand

T: +64 6 759 5150

E: info@venture.org.nz

www.taranaki.info



An initiative of



Te Kaunihera-ā-Rohe o Ngāmōtu
NEW PLYMOUTH DISTRICT COUNCIL
newplymouthnz.com