

OPEN

MINUTE ITEM

ATTACHMENTS

**Ordinary meeting of the
Environment Committee
Te Kōmiti Taiao / Āhuarangi**

**Wednesday 17 February 2021
Commencing at 9.00a.m.
Council Chamber**

Civic House

110 Trafalgar Street, Nelson

TABLE OF CONTENTS

PAGE

4 Steven Gray - Friends of the Maitai

A. A2575066 Steven Gray public forum speaking notes

3

6.1 Chairperson's Report

- A. A2575231 - Chairperson's Report 17 February 2021 6

7 Environmental Management Activity Management Plan - Levels of Service

- A. A2574569 - Comparison with previous 2018 and proposed 2021 Levels of service for Environment LOS review 34
- B. A2574567 - Proposed 2021-31 Levels of Service for Environment LOS review and comparison with 2018 LOS 39

Item 4: Steven Gray - Friends of the Maitai: Attachment 1

Steven Gray - Friends of the Maitai - Public Forum
Environment and Climate Committee - 17 February 2021

Friends of the Maitai Presentation to the NCC Environment and Climate Committee 17 February 2021

Almost two years ago, in May 2019, Friends of the Maitai came to the Council with a request to bring the various stakeholders of the Maitai River together to develop a plan for reducing the number one threat to the river, sediment from pine forestry within the catchment. To that end, Council convened the Maitai Forestry Forum composed of representatives from Iwi, forestry companies, Friends of the Maitai, and Cawthron Institute in what was hoped to be a series of discussions on the issue. In March 2020, we spoke to this committee on our initial assessment of those discussions. A news report on our presentation apparently led to the exit of one of the forestry companies from the forum. That and Covid-19 made additional meetings difficult. Despite the lack of meetings, Council staff delivered a Report on Progress and Recommendations from the Maitai Forestry Forum to this committee's meeting last December.

Unfortunately, we did not see that report before it was made public so this is our first opportunity to address the report and provide our reactions to that report.

Overall, Friends of the Maitai is appreciative of the work Susan Moore-Lavo and her team put into the short-lived Maitai Forestry Forum. For the most part, we agreed with the report and its emphasis on trying to make sense of the three or four meetings of the Forum. We have also been meeting informally with Tasman Pine to continue discussions on these issues.

As we have said before, our goal is to restore the Maitai River to a semblance of its former self. A clear cool freshwater aquatic environment teeming with fish, eels, and invertebrates providing residents and visitors with recreational opportunities without toxic algae blooms.

We have made clear in the past we appreciate what the council is doing and has done, but our mission is to keep the Council on the task of restoring the river. In keeping with that mission, Friends of the Maitai wants to acknowledge publicly all that has been achieved in the past two years and remind us of what is left to be done.

To set the context, remember the Maitai River catchment is estimated to contain about 9,000 hectares. Approximately, 26% of that catchment is planted in pine forestry. The majority of the pine forestry (75%) is owned by Ngati Koata and managed by Tasman Pine Ltd. As a result, while there are several factors that affect the health of the river, these pine forests are the most significant factor. There was a comment in the Forum progress report that forestry companies generally dispute the CSSI methodology that clearly points to pine as the number one contributor to sediment in the river. This is not our experience. Our discussions with pine forestry companies reveal they not only understand the problems of erosion from clear-felling but are also actively working to reduce the amount of sediment entering rivers and streams from their forestry activities. The CSSI methodology has been used for over 20 years and is widely accepted around the world.

A2575066

Item 4: Steven Gray - Friends of the Maitai: Attachment 1

Steven Gray - Friends of the Maitai - Public Forum
Environment and Climate Committee - 17 February 2021

While previous efforts included removing fish barriers, restoring wetlands, and improving monitoring, major attention is now being paid to improving the riparian margins of the river and its smaller tributaries. This is the focus of the Council's Maitai Restoration Program and is also a big part of what Tasman Pine is planning to do to reduce sediment from harvested areas reaching the river. These are significant efforts and should be applauded. However, we believe they will not be enough to bring the river back to what it was like even 22 years ago when I first moved to Nile Street.

The progress report presented in December provided a discussion on the Erosion Susceptibility Classification (ESC) used within the NES-PF to determine if land is suitable for pine plantations. Friends of the Maitai is convinced that the ESC maps for the Maitai catchment are not reliable and underestimate the risk of erosion during the harvest of pine. The report discussed using improved mapping technologies to gain a more accurate ESC. Is this being actioned? We believe most of the steep land should be classified as red or high risk with additional resource consent conditions, not the yellow or moderate risk as it is currently classified. While there is no requirement in the NES-PF for the Council to do so, we believe the Council should hire its own mapping experts to more accurately assess the erosion risk in the catchment.

The progress report noted the need for continuous turbidity monitoring to better understand where sediment is coming from. Both Tasman Pine and Ngati Koata have come out in support of this improved monitoring as do we. Turbidity monitoring will be needed both upstream and downstream from clear-felled areas to ensure that sediment control measures are effective during rainfall events. Additionally, the Council will need to figure out how it will use the data that comes from such monitoring. What steps will the Council take if a problem is identified? Can it stop harvesting if turbidity levels spike?

Improvements in monitoring come at a cost although we believe most of these costs will be taken on by the forestry owners and harvesters. However, as noted in the progress report, the Council needs to expand its compliance team so it can better monitor how forestry operators are complying with monitoring requirements. Is the compliance team being expanded? We support this.

Over the long run, we believe the MCI (Macroinvertebrate Community Index) is a more accurate measure of river health and call on the Council to place more emphasis on the MCI for assessing the river's health at its established monitoring sites.

Finally, is NCC making its plantation forest asset a model for others? This wasn't discussed in the progress report and will be part of a presentation we'll make to the new Forestry Subcommittee. We believe the Council should be demonstrating a model for lower impact forestry. In that spirit, one of our major recommendations two years ago was to move towards smaller coupe sizes during harvesting. Our view is supported by a comprehensive report written in 2018 by Prof. Rien Visser for Dr. Murry Cave of the Gisborne Regional Council. The title of that report is, "Best practices for reducing harvest residues and mitigating mobilisation of

A2575066

Item 4: Steven Gray - Friends of the Maitai: Attachment 1

Steven Gray - Friends of the Maitai - Public Forum
Environment and Climate Committee - 17 February 2021

harvest residues in steepland plantation forests.”¹ This report strongly advocates for smaller coupe sizes. We acknowledge that there are differing views within the industry on what coupe size is economically viable. However, as you know, the 600 hectare NCC forestry asset is divided into 55 different stands ranging in size from 0.3 to 51 hectares. Thirty-six of the 55 are less than 11 hectares and 26 are less than 5 hectares. Apparently, NCC’s experience is that smaller coupe sizes are not an impediment to turning a profit.

The Maitai Restoration Program will improve riparian margins on tributaries and Tasman Pine has committed to leaving wider non-harvested margins at the bottom of its steepest hills. This is progress. However, if our goal is to restore the river, then addressing the deficiencies in the ESC, improving turbidity and MCI monitoring and expanding the Council’s capabilities to oversee forestry company monitoring are needed.

There is always a problem with shifting baselines. When I moved to Nile Street in 1998 older residents recalled an earlier era of the river without the dam, I have only known a Maitai River that had a Dam. Up until a few years ago, I saw trout and eels on a daily basis. This is not the case anymore. Let’s action the main ideas in the progress report so we can get back to a clear cool flowing river that is both swimmable and a viable aquatic habitat.

¹

<https://www.nzffa.org.nz/system/assets/3046/1879-GSDC152-Best-practices-for-reducing-harvest-residue-s-a.pdf>

Chairperson's Report

1. Purpose of Report

- 1.1 To provide the Chairperson's report to the Committee.

2. Recommendation

That the Environment and Climate Committee

- 1. Receives the report Chairperson's Report (R22656) and its attachment (A2575230).***

2. Background

He Pou a Orangi - Climate Change Commission Advice and Evidence Report.

- 2.1 The recently released report from He Pou a Orangi is a critical step for Aotearoa New Zealand in creating a solution focused pathway of how we will as a country deliver on our obligations which resulted from the 2015 Paris Agreement and subsequent Zero Carbon Act.
- 2.2 The report provides the first of three recommended 5-year emissions budgets for consideration by Central Government.
- 2.3 It outlines a pathway towards achieving necessary and effective emissions reductions at a national level. This will ensure New Zealand's actions are consistent with its stated targets and our goal of decreasing our emissions to achieve less than 1.5°C of global temperature warming.
- 2.4 Support from Central Government should result in real and rapid action including:
- 2.4.1 Electrification of our country's vehicles,
 - 2.4.2 An increase in walking, cycling and public transport funding,
 - 2.4.3 Improving the thermal efficiency in new buildings,

Item 6.1: Chairperson's Report: Attachment 1

- 2.4.4 Incentives to decrease industry reliance on fossil fuels,
 - 2.4.5 An increasing proportion of renewable electricity generation with a particular focus on wind and solar,
 - 2.4.6 Reducing emissions through low-emissions agricultural practices,
 - 2.4.7 Increasing end-of-life recovery and reducing the import of HFCs in second-hand products and
 - 2.4.8 Incentivised large scale indigenous tree planting programmes.
- 2.5 The report highlights the importance of understanding that whilst carbon sequestration through indigenous forest regeneration can offset for pre-existing emissions it should not displace doing everything we can to reduce our current emissions from other sector activity first.
- 2.6 Council has prioritised action on climate change and is already underway with a number of projects that are recommended to be carried out nationally in the report.
- 2.7 The government is seeking views on the report and Council is preparing its own submission. Submissions are due March 14.
- 2.8 If you'd like to read the report visit the Climate Change Commission's website: climatecommission.govt.nz

Nelson Tasman Climate Forum Climate Action Book

- 2.9 Over the past 12 months there has been feedback on many iterations of the Climate Forum's Charter and Action Plan.
- 2.10 A final version of the Forums Action Plan called *The Climate Action Book – A Climate Action Plan for Nelson Tasman 2021* is just finished.
- 2.11 It represents a collaboration across all of the forms groups collated by the climate action plan group. It's an ambitious plan for the Nelson Tasman region and is filled with climate action opportunities for all of our communities.
- 2.12 Adoption of the climate action book will take place at the Climate Forum's February Hui.
- 2.13 At the February Hui there will also be an opportunity to sign the Charter.
- 2.14 Staff will be bringing back a report on both the Action Plan and the Charter as well as the Forum's Weaving Plan which is near completion.
- 2.15 Signing the Charter as a signatory member will demonstrate that Council's actions are aligned with its intentions and that it is committed to long-term

Item 6.1: Chairperson's Report: Attachment 1

and meaningful contributions to current climate action, alongside our community.

Author: **Kate Fulton, Chairperson**

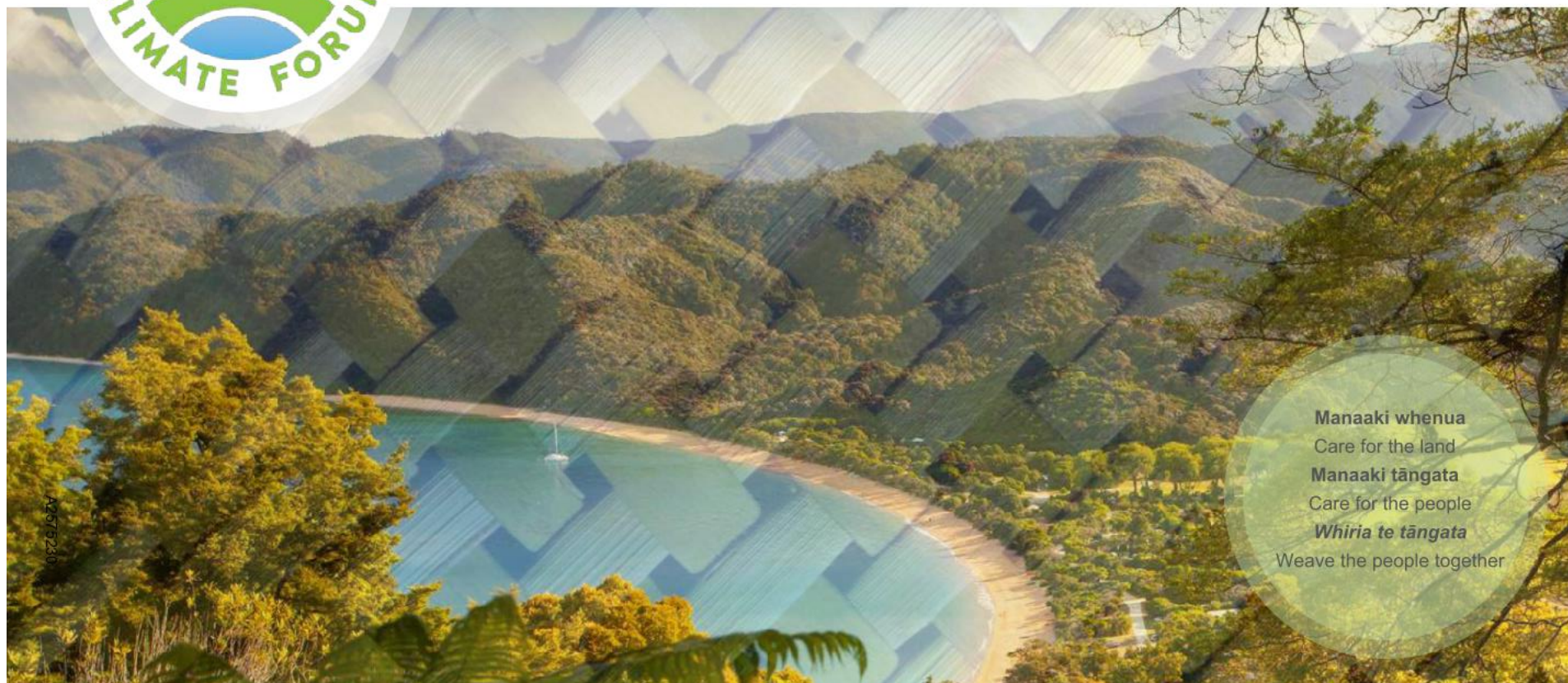
Attachments

Attachment 1: A2575230 - The Climate Action Book

THE CLIMATE ACTION BOOK

A Climate Action Plan for Nelson Tasman

16 February 2021



Manaaki whenua
Care for the land
Manaaki tāngata
Care for the people
Whiria te tāngata
Weave the people together

INTRODUCTION

We 108,000 people in the Nelson Tasman region have vital work to do.

The greenhouse gases warming our world have become a real problem. Climate change is one of a number of major environmental problems, all caused by our impact as a species on the natural world. In order to deal effectively with climate change we need to prioritise the wellbeing of our natural world.

This will be a major cultural and economic change. A high level of trust between everyone involved will be important.

We need clear and reliable communication with increased awareness, empathy and collaboration. If we are not successful, climate change will disrupt every element of our lives. Our challenge is to work together to meet our targets in a way that builds a more just, equitable and resilient world.

By now, we New Zealanders know what global warming means. Almost all of us have made changes to reduce our carbon emissions. We recycle more, we cycle more, we eat more plant-based foods. We are willing to make changes for the health of our natural world and our children. Sadly, so far, our changes have not been enough.

Aotearoa New Zealand emissions have been increasing while many other developed countries are reducing their carbon footprint. Until we reach net zero emissions across the world, the greenhouse gases in our atmosphere will keep going up. In this little book, we show a myriad ways to bring emissions down.

We will also need to both anticipate and adapt to the impacts of climate change. We face rising sea levels that will increasingly inundate our coastal areas. Our acidifying oceans are decimating sea life and the food webs that rely on it, and we are experiencing more droughts, fires, floods and storms that threaten our ecosystems, communities, economy and wellbeing.

Recent natural disasters have highlighted the importance of the ability to recover our good function and social organisation in the face of shocks to our systems. This resilience in the difficult times ahead will be built on the work we do now.

To build a long-term future for our people in a changing world, we need to focus on a sustainable wellbeing economy that takes care of the web of life, including people, within the boundaries of Earth's systems. This transition goes well beyond the immediate apparent problem of climate change, and addresses the behaviour and the imbalances in our relationship to the natural world that are causing climate change.

In the 2020 pandemic, the world saw us as an example of strong, effective, collaborative leadership. Now it's time for us to show the world how, together, we can slow the pace at which our air, oceans and land are heating and keep average global temperature rise to within 1.5°C of pre-industrial temperatures. We are already at 1.1°C and, because of a lag built into the climate system, further temperature increases - and the resulting changes to our climate - are already locked in. That's what makes this a "climate emergency".

In line with international agreements, our government has set a target of net zero emissions by 2050. The Climate Change Commission has outlined pathways and targets with vigorous emissions reductions to do that, starting now. Our sights are on 2030, when our long-lived emissions have to be 33% lower than 2018, and our short-lived emissions at least 10% lower than 2018. This coming decade will be a critical time for change.

It will be an effort from us all. We will change where we live and work, how we get around, what and how we grow, cook and eat, what we make and trade and how we get energy.

We will draw from the collective strength and leadership of our community groups, iwi and hapū, schools and religious organisations. Our political leaders will set rules and offer incentives and information that help us. Our businesses will innovate. Our academics and kaumatua will guide us. We all have a role to play - and much to gain - in this great undertaking.

We attempt to clearly outline here what needs to be done. "We" are the Nelson Tasman Climate Forum, a large, open group of volunteers dedicated to bringing our communities together to respond to this long emergency and create a positive future for us all. We also try to be a voice for all other elements of the biosphere in this region, seeing ourselves as part of the web of life.



CONTENTS

HOW TO USE THIS ACTION PLAN

HOW WE MEASURE PROGRESS

THE WINDS OF CHANGE

WHAT WE GROW AND EAT

Actions for a Resilient, Climate-Responsible Food System

WHAT WE MAKE, BUY AND WASTE

Actions for a Resilient, Climate-Responsible Economy

HOW WE GET ENERGY

Actions for a Resilient, Climate-Responsible Energy System

WHERE WE LIVE AND WORK

Actions for Resilient, Climate-Responsible Settlements

HOW WE MOVE OURSELVES AND OUR STUFF AROUND

Actions for a Resilient, Climate-Responsible Transport System

HOW WE DRAW DOWN AND STORE CARBON FROM THE ATMOSPHERE

Actions for Resilient Natural Ecosystems

HOW WE STAY HEALTHY AND CONNECTED

Actions for a Wellbeing-Centred Transition

DO YOU WANT TO WORK WITH OTHER PEOPLE AND ORGANISATIONS?

Join the Nelson Tasman Climate Forum

BASIC CLIMATE CHANGE INFORMATION

A Closing Word for Now....

4

6

7

8

10

12

14

16

18

20

22

23

24

The Nelson Tasman Climate Forum offers this plan for every citizen of our region — for individuals, households, businesses, farmers, schools and colleges, religious organisations, councils and iwi. We also hope to help other parts of Aotearoa to develop their own Climate Action Plans and contribute to the development of Climate Action Plans around the world.



Photographs & Infographics

Kate Pedley: front & back covers, pages 6 & 8

John-Paul Pochin: pages 3, 4, 16, 20 & 22

Fiona Bowden, Joanna Santa Barbara & Olivia Hyatt: page 7

Julie Evans: page 11

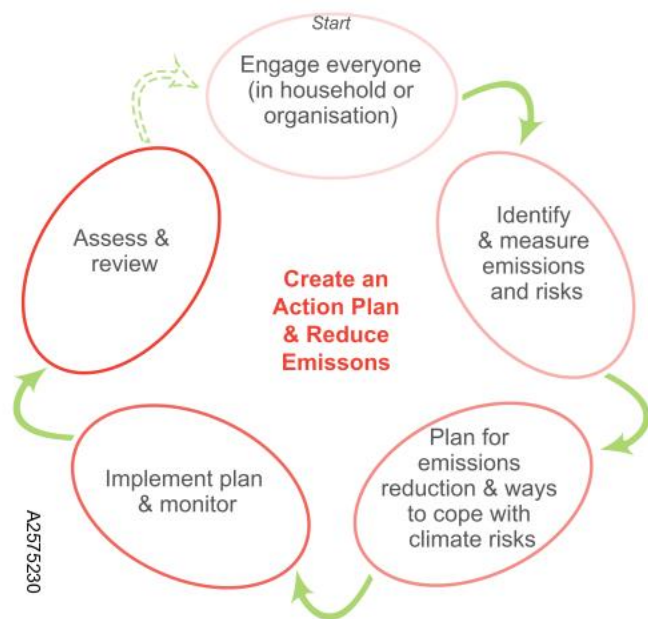
Yuki Fukuda: pages 14 & 15

Friends of the Maitai: page 19

HOW TO USE THIS ACTION PLAN

For each arena of climate action, we offer steps for a resilient, climate-responsible future

In the guide below, we lay out the state of things as they are today, based on the best data we have. We describe what a positive future might look like, and outline actions for households, community organisations, businesses, farmers and governing bodies. We also highlight a few successes so far in making changes for the climate.



Everyone



Here we suggest actions for everyone to do.

- **Inform yourself** about climate change and the many ways we can act on it to protect the web of life, including ourselves. Young people are demanding that they be better

educated in schools on this matter.

- **Advocate with decision-makers** to take necessary actions. Leaders need to know you support action.
- **Create your own Climate Action Plan**

Household



- Our regional data show that households are responsible for 20% of our climate-changing emissions. By far the largest part of this is transport-related. Heating, lighting, food, clothing and general consumption make up the remainder.
- It can be hard to make personal changes when we are also trying to juggle jobs, families and other needs. We hope to help

you balance it all by setting out priorities for you to consider.

- You can also encourage your community groups and employers to take part in this great undertaking, and be a voice for our children when your government, council and other leaders ask what you think.

What's a Climate Action Plan?

Some people and many organisations will choose a systematic approach to reducing emissions and our vulnerability to climate change risks. Others may choose less systematic approaches. The main thing is to act, as energetically and effectively as possible.



HOW TO USE THIS ACTION PLAN

Community



- **We're all in this together**

When people get together to do things, whether it's a school, a sports club, a hapū or a Te Reo group, there are sure to be meaningful ways to cut emissions. A climate action plan is a good place to start.

inspire and influence their members to join our collective efforts. Community groups have a powerful voice to advocate for government action and enable the change we need.

- **Equally, if not more important, such groups can**

- In our action plan, we have outlined key contributions community organisations can make to our collective efforts.

Business



- Business emissions come from transport needs, fossil fuel use for manufacturing and space heating, the production of the materials and equipment they use and electricity use. Agricultural emissions are from animals, fertiliser, soil disturbance and tree felling.

emissions. Farmers collaborate with government in the organisation *He Waka Eke Noa* to reduce primary sector emissions.

- Many businesses are vulnerable to global changes in climate that can cause economic and social upheaval. Many businesses have begun measuring their emissions and will soon be obliged to report their level of risk from climate change to their insurers and investors. Employees come up with money-saving ideas to reduce

- Many businesses are vulnerable to global changes in climate that can cause economic and social disruption. They will soon be obliged to report their level of risk to their insurers and investors.

- We outline here the actions businesses can take to be a positive force for change. There are plenty of opportunities to collaborate on these actions. Consider joining *Businesses for Climate Action* and the *Sustainable Business Network*.

Governance



- Decision makers have a prime role in making the big-system changes needed to move to a low-carbon future. We need our governing bodies to be upfront and proactive about climate risks and targets, and to communicate clearly with us about pathways of action.

action on areas like procurement and education, the actions outlined here are relevant to a broad range of governing organisations in the region, including councils, iwi and central government agencies.

- We outline here ways in which governing bodies in Nelson Tasman can enable us to reach our climate goals. From research and analysis to

- Governing bodies in this region also have a role to play in advocating for changes in laws, incentives and regulations at a national level.

- ✓ The Nelson Tasman Climate Forum is weaving our communities together. Individuals, community organisations, businesses, iwi, local government are all necessary parts of this transformation.



- ✓ The Climate Change Commission has developed targets and pathways for emission reductions at a national level and consults with our people and communities.

HOW WE MEASURE PROGRESS

6

Any household, organisation, business or region wanting to act on climate needs to know where emissions are coming from and where carbon sequestration (keeping it out of the atmosphere) can occur. They also need to know how much they are emitting and sequestering, so that they can monitor their progress over time. The term “carbon footprint measurement” uses “carbon” as shorthand for all the greenhouse gases.

These are some well-developed and easily accessible ways of doing this.

Let us add here that we do not want carbon footprint measurement to get in the way of action. Better to act without measuring than the other way around!

Household



Households have several options to do this online at no cost.

- **Carbon Neutral NZ Trust**
<https://www.carbonneutraltrust.org.nz/household-entry> is the most thorough

- **Futurefit**
<https://www.futurefit.nz/questionnaire> is the simplest.

- **Ekos** <https://ekos.co.nz/lifestyle-calc> and

- **Toitū** <https://www.toitu.co.nz/calculators> are well regarded

Community & Business



Community organisations and Businesses also have many options.

- **Carbon Neutral NZ Trust, Ekos and Toitū** all have business calculators. The last two will contract to do the calculation and identify options for mitigation.

- **Carbon Neutral NZ Trust and Ekos** also

have school calculators.

- The **Ministry for the Environment** has a very thorough system for organisations of all sizes:
<https://www.mfe.govt.nz/sites/default/files/media/Climate%20Change/2019-detailed-guide.pdf>

Governance

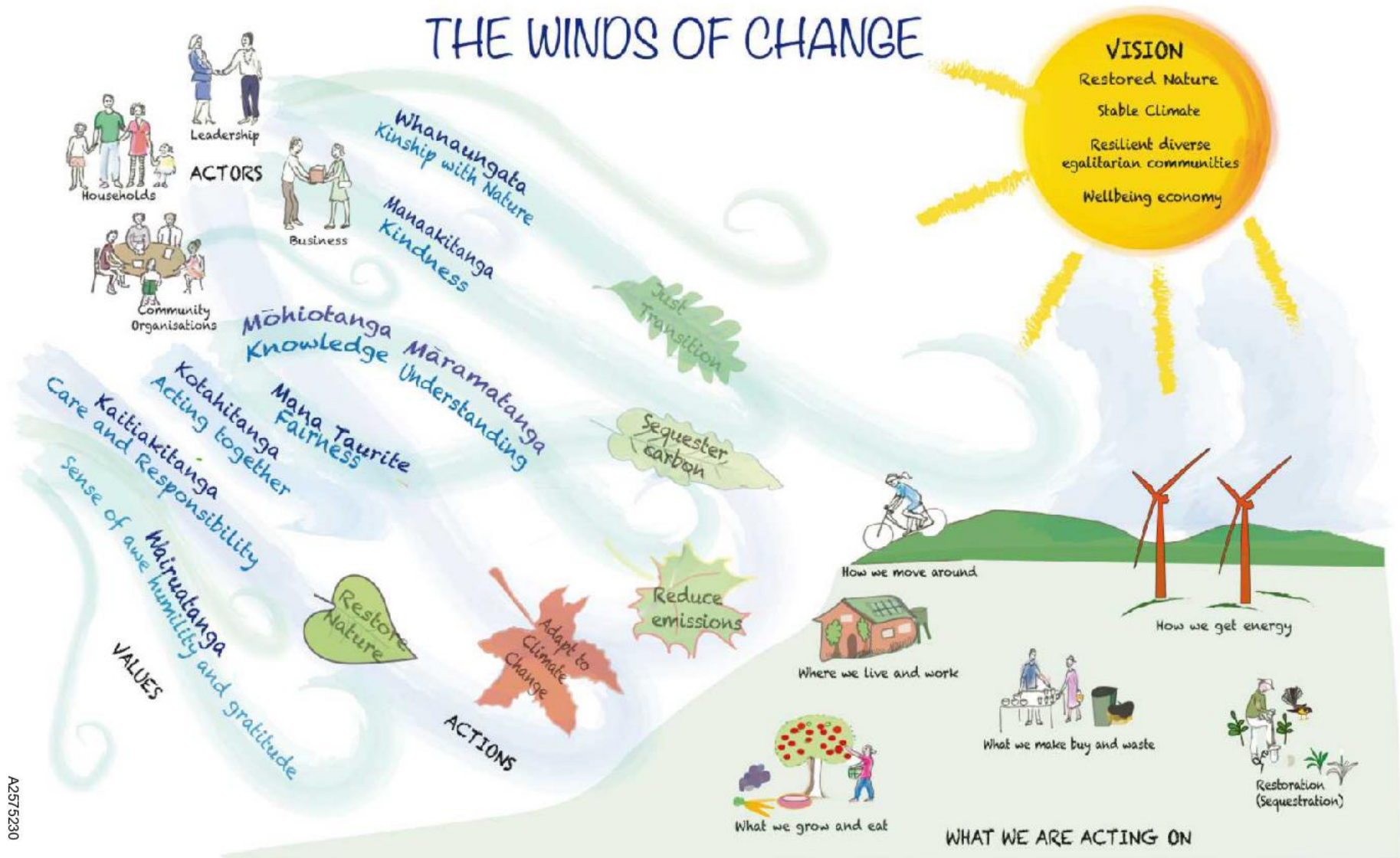


Regional measures

There is a strong need for a regional carbon footprint to guide and monitor climate action in Nelson Tasman. It should be sufficiently fine-grained to identify the best carbon reduction options, and in a form that is useful to people engaged in climate action.



The Climate Forum envisages a Nelson Tasman in which, people are knowledgeable, adaptive and creative. Communities of people are diverse, inclusive, egalitarian and cooperative. Iwi and tauīwi live in partnership. The vulnerable are supported. There are resilient systems in place to adapt to long term changes brought about by climate change and to cope with natural disasters. These include systems of decision-making by direct or participatory democracy.



WHAT WE GROW AND EAT

Actions for a Resilient, Climate-Responsible Food System Ka ora te whenua, ka ora te tāngata.

Agriculture is responsible for 41% of our climate-changing emissions. Our livestock produce methane and nitrous oxide. Natural ecosystems are cleared for pasture, food products are then processed and transported - all producing carbon dioxide.

Food waste at the retail and household level is a significant source of greenhouse gas emissions. Refrigerants used in storage, transport, retail outlets and homes can add to food system emissions.

Agriculture - our global food system - is highly vulnerable to a changing climate and must be a critical focus of our adaptation pathway.

As stewards of our land, many farmers are working hard to reduce greenhouse emissions, improve carbon sequestration on their land and build its resilience to a changing climate. Some farmers describe their shift to lower carbon farming practices as improving their income, their work-life balance and their mental health. Plant-based, low processed, regenerative food systems require less land and water and produce food high in nutrition and flavour. Nelson's Cawthron Institute is contributing through research on seaweed which, as a diet supplement for cattle, could reduce methane emissions. Diverse, local food production boosts the resilience of our food supply. All people in this region can have access to an affordable, nutritious, low-carbon diet - now and in the future.

Everyone



Food waste is an area where we can reduce our emissions at all levels. Calculations suggest that about a third of all food produced is wasted - an extraordinary figure. Whether you're a household or a restaurant, running a festival or regulating retail practices, there are a myriad ways in each situation that food waste can be cut to near zero.

Household



- Purchase low-carbon, local, in-season fresh food grown with regenerative practices. Farmers' markets are a great place to start.
- Grow some of your own food and compost your food waste in your garden, if possible, or join a community garden.
- Eat a higher proportion of plant-based food. Eat a planetary diet (1).
- Use leftovers.
- Consider making at home: muesli, yoghurt, jam, chutney, mayonnaise, biscuits, bread, hummus, crackers, etc. Home-made foods have lower carbon footprints than store-bought, are cheaper and more nutritious.
- "Lifestyle block" households can act on the points made for farmers (on the next page).



(1) e.g. EAT Lancet Report: www.eatforum.org/eat-lancet-commission/

WHAT WE GROW AND EAT

Community



- Plant fruit and nut trees and other edible perennials on community land.
- Establish and maintain community food gardens and seed libraries.
- Work in your organisation to encourage a low-

carbon food economy. For example, serve vegetarian meals.

- Support individual and household access to healthy low-carbon food, in collaboration with local food producers and distributors.

Business



Farmers:

- Plant at least 10% of your land in mostly native trees, along waterways and spaced on pasture, enhancing shade and shelter for soil moisture and stock welfare while sequestering carbon.
- Adopt farm management practices that reduce greenhouse gas emissions toward the 2030 goal of at least 10% methane reduction, and about 30% for CO₂ and N₂O.
- Prioritise the health of the soil. Increase the biodiversity of pasture and other crops. Consider partial conversion to horticulture, as recommended by the Climate Change Commission.
- Prevent land erosion, especially where it causes sediment affecting aquatic ecosystems. Restore

and create wetlands. Connect natural areas through eco-corridors.

- Connect and collaborate with other food producers in your catchment.

Food processors and distributors:

- Reduce food production emissions by refrigerant management.
- Prioritise local retail of your products and work with other food producers to build food self-sufficiency in Aotearoa New Zealand.
- Promote broad knowledge of carbon and environmental footprints of our foods (e.g. through labelling).

Good



- Support the actions of individuals and households, community groups and our food industry to create a low-carbon, regenerative and resilient food system for Nelson Tasman.
- Drive community involvement and investment by taking catchment-based and climate-responsible approaches to regulating land use and resource management.

- Research technologies that can reduce fossil-fuel reliant transport, machinery and heat, both behind the farm gate and in distribution systems.
- Encourage community food growing.
- Join Good Food Cities, a global organisation working to promote healthy, low carbon food and low food waste in towns and cities of the world.

- ✓ Community gardens in Nelson Tasman produce nutritious food, build skills and enhance community connections.



- ✓ Nelson City Council begins a trial kerbside food and kitchen' waste collection scheme in 2021, with plans for a city-wide scheme in 2023.

WHAT WE MAKE, BUY AND WASTE

Actions for a Resilient, Climate-Responsible Economy

About 40% of our region's emissions are from businesses dealing in waste, water, fishing, forestry, manufacturing, construction, service, electricity, and gas. These emissions include carbon dioxide from transport and from processes needing heat, methane from waste, and refrigerants.

Major sectors in the Nelson Tasman region are vulnerable to changes in climate (e.g. fishing, forestry) and to the global response to climate change (e.g. tourism).

Businesses can accelerate or slow our collective response to climate change. Investors, employees and customers are already pressuring businesses to transform their systems. We can safely predict that the most innovative, flexible and responsive businesses will be favoured. A new kind of sustainable business can prioritise wellbeing and resilience rather than growth. We will all need to support these businesses to create a resilient, climate-responsible economy.

In a low-carbon, wellbeing economy, unemployment can be low and the work week shorter. Jobs increase in certain areas – home insulation, renewable energy installation and maintenance, public transport and tree care. Caring work is valued. We have more time with our families, for arts, leisure and volunteering. Together, we can create an economy focused on human wellbeing within nature's boundaries.

Everyone



- Use the waste hierarchy "refuse/rethink, reduce, reuse, repair, recycle, recover, rot" in that order. Many organisations, including the Climate Change Commission, aspire ultimately to eliminate waste, through product design and behaviour change, in a

circular economy.

- Ensure your organic waste joins a process that will make living soil.
- Make use of glass as a reusable and recyclable container, replacing plastic.

Household



- Support low-carbon businesses by purchasing their products and telling everyone why.
- Purchase fewer processed foods.
- Build resilience into your economic situation by joining a timebank, where people exchange time, sharing their skills with others.

- Compost. Recycle.
- Buy fewer clothes, toys, appliances and so on. Look for things that will last, can be repaired and are low carbon in manufacture and transport. Go to second-hand shops when you need something. Share, lend and borrow.



WHAT WE MAKE, BUY AND WASTE

Community



- Identify and optimise the ways in which you, as purchaser, networker and advisor, play a role in shaping our economy.
- Advocate for greater fairness in the distribution of wealth.
- Do your best to ensure everyone has enough.
- Promote the idea of low consumption, low energy, low climate impact living, of right living and right livelihood, community good and private sufficiency.

Business



- Work to develop a wellbeing economy, that is, wellbeing of the web of life within planetary boundaries. Examine what your business does.
- Appreciate that endless growth of energy and material is part of the problem.
- Join Businesses 4 Climate Action and measure, reduce and offset your greenhouse gas emissions.
- Identify and mitigate your climate-related risks. State the risk exposure to climate change to investors.
- Publicise your climate-successes in your marketing, networking and reporting.
- Practise Product Stewardship, enabling repair and end-of-life processes that value embodied material and energy. Move towards a circular economy.
- Reduce waste. Use low-carbon packaging and freight. Look for low-carbon materials and energy in procurement.
- Convert to renewable energy and maximise energy efficiency. Reduce energy and water use.
- Take care with refrigerants.

Governance



- Promote a zero-waste local economy that is circular, responsive, collaborative and efficient, and, most of all, focuses on the wellbeing of residents and our environment, aligned with Te Tau Ihu Intergenerational Strategy.
- Acknowledge and utilise your role in steering the economy towards its goals of resilient climate responsibility, through regulation and incentives.
- Support businesses and land owners to transition to a low-carbon, wellbeing economy.
- Use your large purchasing power to support low-carbon businesses and those that contribute to regional resilience.
- Set waste reduction targets and monitor and report on progress.
- Encourage greater regional and community food, water, energy and material self-sufficiency.
- Enable easy access to composting facilities and systems of reuse and recycling, especially for food, construction and electronic waste.
- Apply the principle of Net Enduring Positive Outcome (NERO) to the natural world including humans, to any proposed changes.
- Support the Zero Waste Action and Regional Impact Investment Fund of Te Tau Ihu Intergenerational Strategy.

- ✓ *Businesses 4 Climate Action* helps businesses measure their carbon emissions and plan to reduce and offset them. It aims to enlist 1000 businesses over the next year.



- ✓ Nelson City Council's procurement policy applies sustainability criteria to potential purchases.

HOW WE GET ENERGY

Actions for a Resilient, Climate-Responsible Energy System

The climate change story is largely an energy story. Global warming runs in parallel with the burning of coal, oil and gas to provide energy for our economy. The global economy is dependent on an increasingly destabilised, unprofitable fossil fuel industry. To reverse climate change, we need to largely stop burning fossil fuels and bring the carbon back into the ground. We must keep in mind that renewable electricity can ensure we have enough clean, resilient energy for the essentials, but it is unlikely to enable the continued extreme energy use of recent decades.

We face the challenge of figuring out how much energy we really need and sourcing what we can from renewables.

Aotearoa New Zealand has a good foundation in renewable electricity (mostly hydroelectric) and biomass (mostly wood) energy. We can reduce the fossil fuel use in our region by at least 33% by 2030. This can be achieved by shifting all our transport, space heating, industrial and manufacturing processes from fossil coal, oil and gas to renewable sources. By 2050, we can build energy resilience in our region using community-owned renewable energy systems that can produce enough energy to meet our essential needs. Our necessary work can be powered with clean, resilient, renewable energy.

2030
2050

Everyone



- Focus on energy conservation and efficiency.
- Replace fossil fuels with renewables

Household



- Focus on energy conservation and efficiency at home.
- Plant deciduous trees for summer shading.
- Where possible, insulate your house well to conserve energy, retrofit to maximise passive heating and cooling.
- Where possible, convert fossil fuel use in vehicles, cooking, heating and tools to renewable energy.



Energy resilience in the Top of the South.

Because this region generates only a tiny portion of the energy it uses, our energy systems are vulnerable to a number of potential threats, including: a break in the Alpine Fault, disruption of international oil trading and escalating electricity prices by profit-driven generators. This is a strong argument for developing community-based, renewable energy-generating capacity.

HOW WE GET ENERGY

Community



- Advocate for and support access of low income households to means for energy conservation, efficiency and conversion to renewables.
- Be “early adopters” and vocal supporters of community-based electricity hubs to complement the national grid.

Business



- Convert existing coal, oil and natural gas operations to renewable energy sources.
- Focus on energy conservation and efficiency.
- **Energy sector:**
- Reduce dependence on international energy supplies by developing renewable energy systems such as solar, waste wood process heating, and others.
- Build community resilience by developing community-based renewable energy operations for electricity generation with low environmental impact. This reduces the impact of earthquakes and drought.
- Upgrade transmission networks to support increased demand for electricity.
- Support a long-term perspective on energy policy which incorporates ideas expressed in this Action Plan.

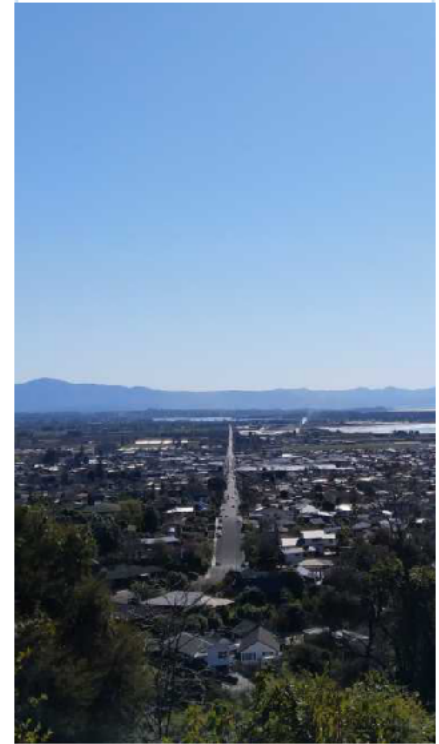
Governance



- When considering energy policy, adopt a “Wellbeing per energy unit” perspective to assist in a socially just distribution of energy resources, assuring that everyone’s basic energy needs are met.
- Plan actions now that require high levels of energy because net energy availability will decline over the next two to three decades.
- Rework energy policy and practices, using a new energy assessment framework which includes net energy analysis, environmental impact, social implications, input resources.
- Advocate for an early moratorium on resource consents for new coal burning and a sunset timeframe for ending existing consents. Plan for a later moratorium on diesel and gas boilers.
- Low-income families find it difficult to afford home insulation, EVs and energy efficient appliances, lighting and heating. We need measures to reduce systemic inequality in income and wealth to move us faster toward zero carbon.

13

- ✓ TDC’s has converted its outdoor lighting to LEDs, saving substantial operating expenses.



- ✓ Central government has set aside \$70 million to help fund conversion of space heating and manufacturing processes from fossil fuels to renewable energy by schools, hospitals and businesses.

WHERE WE LIVE AND WORK

Actions for Resilient, Climate-Responsible Settlements

Commuter towns and suburbs, also called urban sprawl, are responsible for increased emissions in transport, water and energy services, road building and maintenance, and space heating. As they expand, they destroy arable land and stifle natural, biodiverse ecosystems.

Carbon emissions can be cut by encouraging compact community hubs and dense urban areas, constructed with carbon sequestering materials. This is strongly endorsed by the Climate Change Commission. Climate change has led many forward-thinking cities, including Singapore, Sydney and Melbourne, to make “20-minute towns” part of their official long-term planning goals. Nelson, Richmond and the surrounding towns could evolve to “20 minute towns” where housing is denser and we could get to work, education, shops, leisure and natural areas within 20 minutes under our own steam. Streets can be prettier and cooler with urban trees, and become much more people-friendly places in which we can get to know our neighbours.

Everyone



- Do what you can to insulate the buildings you use.
- Plant trees and shrubs to provide shade and cool the land.
- Support Dynamic Adaptive Pathways Planning to help coastal communities adapt to climate-related changes.

Household



- Live near work, shops, school and leisure if you can.
- If you are building or adding to a house, comply with Green Building standards at the highest level possible.



Concrete

Concrete is responsible for 4-8% of global carbon dioxide emissions. The manufacture of cement is the main culprit for this enormous carbon output. Focus is needed on reducing emissions from cement plants, using low-carbon cement and on replacing cement with other building materials.

WHERE WE LIVE AND WORK

Community



- Work to make sure everyone has a healthy, resilient and climate-responsible home.
- Ensure all public buildings (schools, libraries etc.) meet high Green Building standards.

Business



- **Construction sector:**
Design buildings to minimise energy consumption, to be 'carbon negative', and resilient to changes in climate.
- Design for rooftop solar panels.
- Prioritise construction materials that sequester carbon (such as wood) over materials with high embodied carbon emissions (such as steel, concrete, aluminium).
- Deconstruct buildings to recover materials instead of demolishing.
- Increase the prevalence of green roofs, urban forests and permeable pavings, for wildlife corridors, for rainwater control, and for interior environment control.

Governance



- Encourage the development of compact community hubs and denser urban areas. Advocate for climate-responsible construction and building codes.
- Enable adaptation and reuse of heritage structures that cannot be saved as they are.
- Support the Smart Housing Solutions of the Te Taihū Intergenerational Strategy.
- Develop an Urban Greening Plan.
- Plan for changed migration patterns because of climate change.
- Plan with a more than 100-year timeframe for a worst-case scenario of up to 2m of sea level rise by 2150. Our urgent collective work now could achieve a less disruptive sea level rise, closer to the best-case scenario of only 0.7m by 2150.
- Establish clear guidelines on handling any insurance retreat issues that arise with climate-affected properties.

- ✓ The new Nelson Airport building was designed for zero carbon construction. It has sequestered much carbon by maximising use of wood, and it minimises operational energy use.



- ✓ Both Nelson and Tasman Councils have emphasised in their Future Development Strategy the importance of increasing the density of their towns rather than sprawling outwards.

HOW WE MOVE OURSELVES AND OUR STUFF AROUND

16

Actions for a Resilient, Climate-Responsible Transport System

Transport - of ourselves and our stuff - is responsible for about 20% of our national greenhouse gas emissions. It is largely growth in transport, that has produced our rising emissions in recent decades. Our reliance on cars is polluting, sedentary and expensive for our society to maintain.

Transport is an area where individual choices, enabled by savvy municipal decisions, can make a giant dent in our carbon output. A large proportion of this sector's emissions is attributable to private cars, so halving our car use within the next 25 years will help take us to a zero-carbon world.

Halving car use means reducing demand by building denser urban areas and servicing them with excellent public and active transport options. In urban areas of Nelson Tasman, we could walk and cycle to most destinations. Although our low population density presents challenges, electrified public transport could make cars unnecessary for most of us. Elderly and disabled people could call on electrified transport services. Active and public transport improve our health, connectedness and wellbeing and could be a positive default option for urban residents.

A2575230

Everyone



- Do what you can to boost ridesharing so that more cars are full when they move us and our stuff around.
- Advocate for or support improvements to local infrastructure that improves access

and safety for all abilities, even if you are not using it.

- Stack your tasks and errands to get the most done with the fewest kilometres travelled.

Household



- Drive less. Use active, shared and public transport. Make your next car (if you must have one) a second-hand EV.

- Holiday in Aotearoa. Don't fly if possible.



HOW WE MOVE OURSELVES AND OUR STUFF AROUND

Community



- Advocate for public and active transport services
- Consider how people get to your events. Prioritise their accessibility by public transport

Business



- Purchase and sell locally to reduce the transport emissions in your supply and product lines.
- Enable employees to work from home, where possible, or pay them for time spent commuting on active/public transport.
- Facilitate ridesharing and carpooling by employees
- Support cycling commutes by providing bike stands and showers
- Discourage use of aviation. Opt for online conferences and meetings rather than air travel.
- Convert your business vehicles to electric.

Governance



- Increase attractiveness of active transport by improving walking pathways and slowing and reducing traffic in residential areas. Plant trees on road reserves, build commuter-grade cycle paths and cycle parking, and provide financial incentives for the purchase of e-bikes and e-cargo bikes.
- Increase attractiveness of public transport by making buses more frequent, fares cheaper, providing bus services along key routes and Park-and-Ride services for more rural areas. Use electric buses. Use digital technology to coordinate rider demand with service supply.
- Decrease attractiveness of private cars with fewer parking areas, higher parking charges, no-car areas of town centres. Focus road spending on safety, not new roads.
- Encourage the shift to electric cars by providing EV charging stations every 100km on highways. Procure electric vehicles for staff.

17

- ✓ The use of Zoom and other online conference support during lockdown. This is continuing post lockdown due to its savings of carbon emissions, time and money.



- ✓ TDC promotes ridesharing to their staff, cutting down on kilometres driven, and costs. TDC is also working with schools on school travel plans, and completing a walking and cycling strategy in a district network.

HOW WE DRAW DOWN AND STORE CARBON FROM THE ATMOSPHERE

18

Actions for Resilient Natural Ecosystems

We must rectify the huge imbalance in our atmosphere that we have collectively created through the destruction of natural ecosystems that store carbon above and below ground and nurture the living species of the region.

Thankfully, nature has provided us with the “technology” to draw down excess carbon dioxide in our atmosphere and store (sequester) it back in the ground - plants.

A massive restoration programme can return areas cleared of vegetation to biodiverse ecosystems. This will not only draw down carbon into the soil and growing plants but will also enable our wildlife to thrive once again. Land management is a key tool. Everyone associated with land (urban, lifestyle and rural) can increase carbon sequestration and biodiversity by tending to plants and trees above ground, soil under our feet, wetlands and coastal margins. Restoration in our national parks, our local parklands and wetlands and on private land can make our region an even more beautiful place.

The potential for sequestration in aquatic systems, ‘blue carbon’, is being researched by Nelson’s Cawthron Institute.

A focus on native rather than exotic plantings will both restore ecosystems and sequester more carbon. The Climate Change Commission points out that planting for both carbon sequestration and biodiversity fosters synergies between the two values.

Everyone



- Plant eco-sourced native trees and shrubs on your land wherever possible, and look after soil and plants in ways that build soil biodiversity and soil carbon (e.g. permaculture methods).

- Recognise the Kaitiaki role of manawhenua iwi in Te Taihū (Te Ātiawa, Ngāti Rārua, Ngāti Tama, Ngāti Koata, Ngāti Kuia, Ngāti Toa, Rangitāne, Ngāti Apa), and of mātauranga Māori in this work of restoration and protection.

Household



- Take part in community plantings and other ecosystem restoration activities.
- Contribute to pest control efforts by trapping on your property or as a volunteer.

- Lifestyle block owners have especially good opportunities to plant trees and bushes, enhanced even further by being part of restoration work by their river catchment association, if there is one.



HOW WE DRAW DOWN AND STORE CARBON FROM THE ATMOSPHERE

19

Community



- Use your power as a community hub and network to build enthusiasm and urgency for planting trees and shrubs across Nelson Tasman and looking after them.
- Support and inform councils, national government, the private sector and other community organisations that have potential to harm

ecosystems and biodiversity.

- Identify and prioritise the locations, ecosystems and species most vulnerable to climate change in our region, and take the actions that will most effectively and efficiently enhance their resilience over time.

Business



- Offset your remaining emissions with financial contributions to reforestation projects, such as Ekos.

Forestry and Reforestation Industries:

- Apply forestry expertise to selecting site and species for plantings, with preference for native forest and wetland species.

- Preserve every native ecosystem in the region.
- Work collaboratively through catchment associations, such as the Moutere Catchment Group, to harness expertise and resources.

Governance



- Protect and enhance healthy ecosystems and biodiversity. Healthy ecosystems protect coastal areas, enhance water quality, limit floods during high rainfall events, lower risk of biosecurity incursions and can act to cool urban areas.
- Research resilient ecosystem restoration, prioritising native forests and coastal "blue carbon" plantings.
- Advocate for soil carbon, small plantings and other carbon sequestration options to be included in a simplified Emissions Trading Scheme.

- Compensate land-owners for carbon capture, bearing in mind that this sequestration will need to be permanent.
- Limit and monitor tree removals and ensure replanting.
- Increase carbon sequestration on public lands and deal with invasive species spreading and undermining our ecosystems.
- Prioritise prevention and control of wildfires on public land, and of forest-destroying pests, including browsers such as goats, deer and possums.

- ✓ Nelson City Council has received \$1.7 million to fund the Maitai/Mahitahi Ecological Restoration as part of Jobs for Nature.



- ✓ Tasman District Council uses a mixture of eco-sourced native trees and exotic trees in its afforestation plantings.

HOW WE STAY HEALTHY AND CONNECTED

Actions for a Wellbeing-Centred Transition

Facing climate change is hard. Our feelings of fear, denial, guilt, grief for losses and hopelessness may create barriers to change. Our social cohesion is vital to maintain mental health in the face of challenges. Yet climate change worsens existing inequalities and threatens our social cohesion. Those most disadvantaged in our society are least able to adapt to or mitigate climate change. We need a path centred on wellbeing, leaving no one behind and weaving our communities together, with the aim of Tūpuna Pono: To be Good Ancestors.

Many climate actions have health benefits. Our physical health improves when we walk and cycle in clean air, eat nutritious food and live in warm, dry homes. People-friendly living spaces designed to connect us can improve our mental health.

Everyone



- Many responses to climate change have multiple co-benefits for the health and wellbeing of the natural world and our people.
- In transition to sustainable renewable energy, low carbon solutions and more sequestration, priority should be given to

those measures that also increase equitable access to the basic needs for a good life (e.g. energy, food, income, transport, community participation and housing). Prioritising the actions with co-benefits can also reduce the tension and fear surrounding our climate change response and build motivation.

Household



- Participate in everyday conversations on climate, especially with young people. Tell stories that show the positive outcomes of climate change action. Explore our reactivity and blind spots, how we deny or grieve the changes.

- Educate yourself and your whānau on climate change, mitigation and adaptation and our dependence on local and healthy ecosystems. Build sustainability expertise.
- Build strong, supportive connections in your community and neighbourhood.



A2575230

Our Healthcare Institutions

The health sector, which is a key part of ensuring our continued wellbeing, is especially carbon intensive in its operations. Vigorous efforts to reduce this footprint are already underway in many clinical settings. Nelson Tasman health services could go further to:

- Promote emissions reduction and carbon sequestration in the health sector, starting with measurement and management of emissions in health institutions.
- Advocate for hospitals to hire sustainability directors to implement emissions-reduction strategies.
- Advocate for more recycling and reprocessing of hospital and health clinic products
- Promote leadership by health personnel in advocating for sustainable, healthy diets and active transport.
- Encourage health promotion programs to reduce demands on health services.

HOW WE STAY HEALTHY AND CONNECTED

Community



- Provide services that alleviate poor mental health resulting from the climate crisis, particularly for our rangatahi/young people. Make it easy for people to express their grief, anger and anxiety.
- Bring climate conversations to where people are, such as community events. Enable and empower others to do this in nonjudgmental and respectful ways.
- Provide initiatives that connect people with each other and with nature in a meaningful way.
- Elevate the voices of those unheard - the voice of "Te Taiao", of those most vulnerable to climate change impacts, at risk communities, minorities, the aged and youth.
- Support people in assessing their climate-related risks and in planning accordingly.
- Develop opportunities to link schools with community climate action on the ground.

Business



- Rewrite your business vision and mission from an intergenerational perspective.
- Reduce dependence on items or services that are vulnerable to climate change. Create alternative redundant systems where needed, despite their inefficiency, because they allow flexibility in response.

Governance



- Track our progress using measures of ecological and community wellbeing, such as those developed by the Treasury or the Wellbeing and Equity Monitors developed by Te Taihū Intergenerational Strategy.
- Prioritise and nurture partnerships under Te Tiriti o Waitangi and further explore shared values, tikanga and mātauranga Māori to develop strong ways of working interdependently. Te Ao Māori culture offers a time-tested example of sustainable culture for world and human wellbeing.
- Help grow confidence and consensus in our communities by communicating clearly and consistently about where we are, where we are going, why, and how we will get there.
- Encourage strong community engagement through open, transparent, informed and participatory decision making, particularly on difficult issues such as allocation of scarce resources, including a voice for the natural world and future generations.
- Implement measures to reduce inequality and thereby build community resilience.
- Relocalise essentials (food, water, housing, health and energy).

- ✓ **The Forum's weaving plan**
Everyone has a role to play in responding to climate change and supporting our collective response.

A lesson from the coronavirus pandemic is that we can put aside individualism and act together for the greater good. We can make sacrifices for "the team". We can work towards a shared vision for our region with our partners and community, particularly those of Te Taihū Intergenerational Strategy. (see Further Reading). Resolving past wrongs is critical for us to trust and work together.

Let us talk through the complex issues of climate change in workshops and other events, ensuring that these are accessible to all in terms of language, timing and culture.

- ✓ **Measurement of wellbeing**
The NZ Treasury has developed world-leading measures of wellbeing. These are multi-dimensional (biodiversity, health, crime, social trust, employment, etc) and can be adapted for regional use, as has been done by Te Taihū Intergenerational Strategy.

DO YOU WANT TO WORK WITH OTHER PEOPLE AND ORGANISATIONS?

Join the Nelson Tasman Climate Forum

The Climate Forum is open to all people and organisations who want to work on this action plan together. The Forum is eager to engage people from the many diverse groups in our society, including those with no experience of working with others on climate.

About the Nelson Tasman Climate Forum

The Forum was established by a group of people from the community, climate change organisations, academia, and both Nelson City and Tasman District Councils. Its Coordination Group includes representatives from several Te Tau Ihu iwi and both councils, as well as the Forum's many working groups.

Within the Forum, many groups are focused on specific matters such as energy, waste, food, biodiversity and so on. Others are helping the Forum more generally. Many skills are needed - planning collaborative projects, writing inspiring stories of change, implementing action plans on the ground, and reaching out across the region, to name but a few.

Actions taken since its launch in 2020 include tree plantings, movie screenings, repair cafes, webinars, submissions to local and central government and the collaborative development of this plan.

From 2021, the Forum will focus on enabling, empowering, and supporting Nelson Tasman communities to implement this plan. We can build a brighter future faster, together.

Purpose of the Forum: To weave our communities together around urgent, strategic action on climate change.

Goals of the Forum: The Forum aims to enable, empower, and support Nelson-Tasman communities to achieve the following Goals:

Rapidly reduce our region's greenhouse gas emissions, increase carbon sequestration and undertake other climate stabilising initiatives, consistent with the urgency of the situation.

Adapt to the likely adverse environmental effects of climate change and the resulting social and cultural effects, using inclusive and responsible decision-making to support these desirable outcomes.

Respond to climate change in a way that recognises the rights of all living organisms, including people, and provides for a just, equitable and resilient society.



Our Values

These are the qualities that have seemed important to us as we come together to work on one of the biggest challenges of our lives.

Kotahitanga Oneness. Acting together as a team. Seeing ourselves as an interconnected part of the local and global community. Decisions are made by consensus when possible.

Manaakitanga Generosity to each other as individuals and for the human community.

Kaitiakitanga Care and responsibility for the wellbeing of all the systems and beings of the natural world. Being good ancestors.

Whanaungatanga. Kinship, connectedness, interbeing with all parts of the natural world, with empathy, love and respect for it. This may have a dimension of **Wairuatanga** - spirituality, awe, gratitude and humility at the beauty and complexity of Nature.

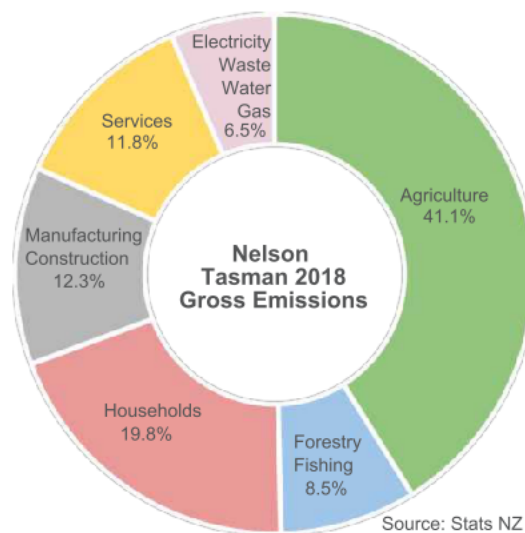
Mana taurite. The community is egalitarian and inclusive, moving together towards a just and sustainable transition.

Mōhiotanga and Māramatanga. Knowledge. Efforts towards a deep understanding of the relationships within natural ecosystems, through mātauranga Māori and science. Curiosity, systems thinking, creativity and respect for evidence.

BASIC CLIMATE INFORMATION

- The main greenhouse gases which warm the earth are carbon dioxide, methane, nitrous oxide and gases used in refrigerators and air conditioners (refrigerant gases). Carbon dioxide and methane contain carbon, so we often speak about 'carbon emissions'.
- These gases all have different potencies in their warming action and last for different times in the atmosphere. Because we need a simple measurement of the amount of gases with warming action, calculations are made to match the other gases to carbon dioxide, taking potency and longevity into account. We speak of the 'carbon dioxide equivalent' and write it CO₂e. The gases are usually measured in tonnes, or kilotonnes (1000 tonnes, Kt) or megatonnes (1,000,000 tonnes, Mt). That's enough for New Zealand purposes, but on a global scale we can speak of gigatonnes (1,000,000,000 tonnes, Gt).
- Measurement of these things is complex, sometimes inexact, and can take a while. That's why we're using 2018 figures here, which are the latest available.
- New Zealand emits about 80 Mt of CO₂e each year.
- Nelson Tasman emits about 1.2 Mt of CO₂e each year.
- Plants sequester carbon, keeping it out of the atmosphere. We can increase that sequestration by planting forests, restoring ecosystems, improving the organic matter in soils and controlling forest browsers such as goats, deer and possums.
- When we measure total emissions of, say, Nelson Tasman, we speak of 'gross emissions'. If we then subtract the amount we've sequestered in various ways, we call that 'net emissions'.

A257/5230



How will climate change affect Nelson Tasman?

The wetter parts of our region will become wetter, and the drier will become drier. Sea level is rising and sea water will continue to inundate Nelson, Motueka and Golden Bay. More of our collective spending revenue from rates will be needed to manage the impacts from increased flooding, droughts, wildfires and coastal inundation, leaving less for other priorities. Higher levels of global warming will increase the magnitude and cost of adapting to these impacts. To maintain the wellbeing of Nelson Tasman, we must act speedily and effectively.

Of course, our emissions also affect the rest of the world, including millions of people and other creatures in already hot, tropical areas and in low-lying coastal areas and islands. Some areas will become unlivable. Each tonne of our emissions matters to them.

The major threats of climate change are:

- Damage to an ecosystem that has evolved over millions of years in the stable Holocene climate
- Sea level rise and saltwater intrusion
- Ocean acidification
- Storms: storm surges, heavier rainfall and higher winds
- Biosecurity threats: changes in range of species and diseases, and changes in habitat
- Increasing temperatures, heat waves, fires, drought, erratic rainfall and flooding, wind, soil erosion and landslips
- Health impacts of higher temperatures
- Increasing population from climate-change migration and refugees
- Short-term energy shortages in any disaster because of reduced capability in a period of major change, and increased dependence on centralised electrical energy
- Increasing energy shortages over the coming decades because of reductions in net energy available from renewable energy sources (i.e. lower Energy Return on Energy Invested, EROEI)
- Short-term and long-term shortages of other resources (water and others)
- Supply chain interruptions from shortages and rapid changes

How will we know climate actions are working?

We need measurement and annual monitoring of regional emissions and sequestration.

We can track our success in the wellbeing of our people by using adaptations of NZ Treasury's Wellbeing and Equity monitors. We can use tools such as species richness counts and other indices of ecological health to track environmental change.



Further Reading:

Glossary

nelsontasmanclimateforum.ning.com/resources/climate-action-glossary

Te Taihū Intergenerational Strategy www.tetauihu.nz/

Climate Change Commission www.climatecommission.govt.nz/

The EAT-Lancet Commission on Food, Planet, Health

www.eatforum.org/eat-lancet-commission/

Chatham House www.chathamhouse.org/topics/climate-policy

United Nations Environmental Programme. Emissions Gap Report 2019.

www.unenvironment.org/resources/emissions-gap-report-2019

A CLOSING WORD FOR NOW...

We are moving forward on a very big adventure. As in all adventures, there are dangers and discomfort. We're moving together, as people who see themselves connected both to the wisdom of the past, and to the wellbeing of the generations yet to come...as good ancestors (tūpuna pono). We feel aware of our kinship with all living creatures, especially those native to this region.

The Climate Change Commission has mapped out a pathway for Aotearoa, and we have done our best to map a pathway for our region. As with any map, elements will need adjusting as we go forward. We make the path by walking it, as an old proverb says. There may be future versions of this plan.

We are the voices for the children of the future. The children of the present have already raised their voices and begged us to act. We are the voices for the other living things in our beautiful region.

He waka eke noa - we're all in this together. Together let us act.

Item 7: Comparison with previous 2018 and proposed 2021 levels of service for environment LOS review
- Environment and Climate Committee meeting 17 February 2021

Level of Service	Community Outcome	Performance Measure	Current Level of Performance	Future Performance Target			
				Year 1 - 2021/22	Year 2 - 2022/23	Year 3 - 2023/24	Year 10 - 2030/31
Compliance with National Environmental Standards for Air Quality for PM10	Our unique natural environment is healthy and protected. Our communities are healthy, safe, inclusive and resilient	Number of exceedances in any of the airsheds do not exceed one in a calendar year	Airshed A - 0 Breaches in 2020. Airshed B1 - 0 breaches in 2020. Airshed B2 & C - 0 breaches in 2020 (Same as 2018 LOS measure)	No more than one exceedance in any calendar year in any airshed. Reported to Council each year	No more than one exceedance in any calendar year in any airshed. Reported to Council each year	No more than one exceedance in any calendar year in any airshed. Reported to Council each year	No more than one exceedance in any calendar year in any airshed. Reported to Council each year
Information on safe recreational bathing sites, marine and freshwater	Our unique natural environment is healthy and protected. Our communities are healthy, safe, inclusive and resilient	% of key bathing sites monitored and public advised if water quality standards are breached	100% (Same as 2018 LOS measure)	100%. Reported to Council each year	100%. Reported to Council each year	100%. Reported to Council each year	100%. Reported to Council each year
Compliance with the Biosecurity Act 1993 (amended 2015)	Our unique natural environment is healthy and protected. Our communities are healthy, safe, inclusive and resilient	Compliance with the Tasman Nelson Regional Pest Management Plan reporting requirements for operational plans	New measure (Condensed and ensuring maintaining good reporting requirements)	100% Delivery of operational plan reported to Council each year	100% Delivery of operational plan reported to Council each year	100% Delivery of operational plan reported to Council each year	100% Delivery of operational plan reported to Council each year
Provision of easily accessible, accurate, up to date and fit for purpose state of the environment monitoring data for all environmental domains	Our unique natural environment is healthy and protected. Our communities are healthy, safe, inclusive and resilient	Five yearly comprehensive State of the Environment report is published to achieve compliance with section 35 of the Resource Management Act 1991	Altered measure. 100% (2018 was annually, 2021 LOS now only required every five years)	Five yearly report due by December 2023	Five yearly report due by December 2023	Five yearly report due by December 2023	Five yearly report due by December 2033

A2574569

Ensure Resource consent decision-making is robust and legally defendable	Our unique natural environment is healthy and protected. Our communities are healthy, safe, inclusive and resilient	No decisions are overturned by the High Court upon judicial reviews	New measure (Ensures we're making good decisions)	No decisions are overturned by the High Court upon judicial reviews	No decisions are overturned by the High Court upon judicial reviews	No decisions are overturned by the High Court upon judicial reviews	No decisions are overturned by the High Court upon judicial reviews
Food safety and public health comply with legislative requirements	Our communities are healthy, safe, inclusive and resilient	Respond to food safety complaints within one working day	Altered measure. (2021 LOS Condensed and now customer response time focussed)	100%	100%	100%	100%
Resource consent processes that comply with statutory timeframes	Our unique natural environment is healthy and protected. Our urban and rural environments are people friendly, well planned and sustainably managed. Our infrastructure is efficient, cost effective and meets current and future needs. Our region is supported by an innovative and sustainable economy.	All resource consents are processed within statutory timeframes. All resource consents requiring monitoring are monitored at least annually.	Altered measure. (2021 LOS condensed into one measure)	100%	100%	100%	100%
Provision of dog and animal control services	Our communities are healthy, safe, inclusive and resilient	Respond to reports of dog attacks that have just occurred within 60 minutes.	Altered measure. 90% (2021 LOS Condensed and now customer response time focussed)	90%	90%	90%	90%

Navigation safety is delivered to meet all legislative requirements	Our communities are healthy, safe, inclusive and resilient. Our communities have access to a range of social, education and recreational facilities and activities	Harbourmaster hours spent on water (for patrols, training or responding to incidents)	New measure (Ensures the Harbourmaster is across everything happening on the water)	25% of total hours	25% of total hours	25% of total hours	25% of total hours
		Safety checks are conducted for other vessels	New measure (This is the same as 2018 LOS)	At least 1,000 annually	At least 1,000 annually	At least 1,000 annually	At least 1,000 annually
		Inspect navigation safety aids and maintain, replace or provide additional aids as required	New measure (This is the same as 2018 LOS)	At least annual inspection	At least annual inspection	At least annual inspection	At least annual inspection
Sale of alcohol complies with legislative requirements	Our communities are healthy, safe, inclusive and resilient	Inspect high risk premises at least two times each year	New measure (In line with mandatory requirements of the Act)	100%	100%	100%	100%
Provide building control services in a professional and timely manner, to ensure building work is safe and in accordance with the Building Code	Our urban and rural environments are people friendly, well planned and sustainably managed. Our infrastructure is efficient, cost effective and meets current and future needs. Our	% building consents and code compliance certificated issues within 20 working days	Altered measure. 100% (Condensed 2018 LOS to mandatory requirements)	100%	100%	100%	100%
		% building consents and code compliance certificated issues within 20 working days	Altered measure. 100% (Condensed 2018 LOS to mandatory requirements)	100%	100%	100%	100%

Maintain current and enforceable environmental bylaws for dogs, urban environments and city amenity	Our unique natural environment is healthy and protected. Our urban and rural environments are people friendly, well planned and sustainably managed. Our communities are healthy, safe, inclusive and resilient	Bylaw reviews are completed within timeframes set out in the Local Government Act	100% (Same as 2018 LOS measure)	100% Urban Environment Bylaw	100% City Amenity Bylaw	100% Freedom Camping	100%
Create and implement a city centre programme	Our urban and rural environments are people friendly, well planned and sustainably managed. Our infrastructure is efficient, cost effective and meets current and future needs. Our communities have access to a range of social, educational and recreational facilities and activities. Our region is supported by an innovative and sustainable economy	Monitor performance every three years with a public life survey	Altered measure. 100% (2021 LOS Altered to monitoring from developing and implementing)	Monitoring due in years 2023/24 and 2028/29	Monitoring due in years 2023/24 and 2028/29	Monitoring completed and reported to Council	Monitoring due in years 2031/32

Urban Development Capacity is sufficient to meet future demand	Our urban and rural environments are people friendly, well planned and sustainably managed. Our infrastructure is efficient, cost effective and meets current and future needs. Our region is supported by an innovative and sustainable economy	Report annually on Urban Development capacity and how the requirements of the NPS urban Development are met	New measure (Ensures we are considering urban development in our decision making and meeting the new mandatory requirements)	100%. Reported to Council each year	100%. Reported to Council each year	100%. Reported to Council each year	100%. Reported to Council each year
The Compliance Strategy is reviewed for effectiveness	Our unique natural environment is healthy and protected. Our communities are healthy, safe, inclusive and resilient. Our urban and rural environments are people friendly, well planned and sustainably managed	The effectiveness of the Compliance Strategy is reported to Council annually	New measure (Ensures we're reporting on delivery of the Strategy)	Reported to Council each year	Reported to Council each year	Reported to Council each year	Reported to Council each year

A2574569

Item 7: 2018-28 LOS Environment -AMP - 2018 - 2028 - Environment and Climate Committee 17Feb2021

Environment Activity Management Plan
October 2018
Page 29

Level of service	Measure	Actuals			Targets									
		2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Nelson's air quality is compliant with National Air Quality Standards	Compliance with national Air Quality Standards - number of breaches in Airshed A	1	1	1	No more than 3 breaches in winter 2018	No more than 3 breaches in winter 2019	No more than 3 breaches in winter 2020	No more than 1 breach per winter	No more than 1 breach per winter	No more than 1 breach per winter	No more than 1 breach per winter	No more than 1 breach per winter	No more than 1 breach per winter	No more than 1 breach per winter
	Compliance with national Air Quality Standards - number of breaches in Airshed B1	0	1	2	No more than 1 breach in winter 2018	No more than 1 breach in winter 2019	No more than 1 breach in winter 2020	No more than 1 breach per winter	No more than 1 breach per winter	No more than 1 breach per winter	No more than 1 breach per winter	No more than 1 breach per winter	No more than 1 breach per winter	No more than 1 breach per winter
	Compliance with national Air Quality Standards - number of breaches in Airshed B2	0	0	0	No breaches	No breaches	No breaches	No breaches	No breaches	No breaches	No breaches	No breaches	No breaches	No breaches
	Compliance with national Air Quality Standards - number of breaches in Airshed C	0	0	0	No breaches	No breaches	No breaches	No breaches	No breaches	No breaches	No breaches	No breaches	No breaches	No breaches
Nelson's natural waterways are compliant with National Policy Statement Freshwater requirements	% of pristine water bodies maintained at current state (2017 Baseline) as a minimum	New measure			100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	Grades for compulsory NPS-FM national values in all FMUs (compared to previous five years average)	New measure			Maintain	Maintain	Maintain	Improve	Improve	Improve	Improve	Improve	Improve	Improve
	Percentage of over-allocation in over-allocated catchments	New measure			Maintain	Maintain	Maintain	Improve	Improve	Improve	Improve	Improve	Improve	Improve
Areas and condition of native ecosystems improve	Percentage increase on 2017 baseline of the number of residents provided with advice and support for animal and pest plant control	New measure			10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
The provisions of the Tasman-Nelson Regional Pest Management Strategy/ Plan and Nelson Small-Scale Management Programme for Sabella are implemented, to minimise their impact on natural areas and the productive sector, and to meet Biosecurity Act requirements.	Timely reporting of pest management operations on progress towards Plan/Programme outcomes	New measure			Annual reports to Council or a Council committee by 30 December	Annual reports to Council or a Council committee by 30 December	Annual reports to Council or a Council committee by 30 December	Annual reports to Council or a Council committee by 30 December	Annual reports to Council or a Council committee by 30 December	Annual reports to Council or a Council committee by 30 December	Annual reports to Council or a Council committee by 30 December	Annual reports to Council or a Council committee by 30 December	Annual reports to Council or a Council committee by 30 December	Annual reports to Council or a Council committee by 30 December
Safe recreational bathing sites , marine and freshwater	% key bathing sites monitored and public advised if water quality standards breached	New measure			100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Level of service	Measure	Actuals			Targets									
		2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Reduction in the amount of waste per resident sent to landfill	Levels of participation in EnviroSchools programme, compared to 2017/18 baseline number of active participation	New measure			Maintain or improve	Maintain or improve	Maintain or improve	Maintain or improve	Maintain or improve	Maintain or improve	Maintain or improve	Maintain or improve	Maintain or improve	Maintain or improve
Measurement and reduction of Nelson City Council greenhouse gas emissions	Measure of NCC carbon footprint, compared to baseline year (2017/18)	New measure			Maintain or reduce	Maintain or reduce	Maintain or reduce	Maintain or reduce	Maintain or reduce	Maintain or reduce	Maintain or reduce	Maintain or reduce	Maintain or reduce	Maintain or reduce
Landowners are advised of natural hazard risk	LIM statements are applied to properties subject to potential natural hazard risk			100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
State of the Environment monitoring is published annually	SOE monitoring completed and reported annually in accordance with national requirements	New measure			100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Urban Development Capacity is sufficient to meet future demand	Adequate land is zoned and Serviced	New measure			100%	100%	100%							
	Adequate land is zoned and services are provided for in LTP	New measure			100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
City Centre programme	City Centre programme is developed and implemented	New measure			100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Housing Accord and Special Housing Areas	Reporting obligations are met	New measure			100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Development Contributions	Policy Reviewed annually	New measure			100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Nelson Plan milestones are met	Draft Nelson Plan released	New measure					100%							
	Nelson Plan notified	New measure						100%						
	Nelson Plan decisions released	New measure							100%					
Provision of current information to assist with improving the health of home environments	Number of talks given to community groups about healthy home environments	New measure			10	10	10	10	10	10	10	10	10	10
Resource consent processes that comply with statutory timeframes	% non-notified processed within 20 working days	100%	100%	98%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	% fast track consents within 10 working days	New measure			100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	% of limited notified consents processed within 100 working days	100%	100%	78%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	% of notified consents processed within 130 working days	80%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Building Unit compliance	% building consents and code compliance certificates issued within 20 working days	99%			100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Level of service	Measure	Actuals			Targets									
		2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
	% of inspections undertaken within 72 hours			97%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
	IANZ accreditation		100%		100%		100%		100%		100%		100%	
	% of Certificate for Public Use issued within 20 working days		New measure		100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	% of fencing of swimming pool monitoring completed annually		New measure		33%	33%	33%	33%	33%	33%	33%	33%	33%	33%
	Issue requirements for work to be undertaken and time limits for all earthquake prone buildings		New measure				100%	100%	100%	100%	100%	100%	100%	100%
	Undertake Building warrant of Fitness audits (MBIE recommends Audits of 20% of total number of commercial public access buildings per year)		New measure		20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
Dog and Animal Control	% of all complaints responded to within one day			90%	90% of complaints responded to within one day									
	Respond to high priority incidents within 30 minutes		New measure		100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	Public high use dog exercise areas are patrolled an average of at least 10 hours per week or 520 hours per year		New measure		100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Noise Control	Attendance to sites between 10pm and 6am shall be within 1 hour		New measure		95%	95%	95%	95%	95%	95%	95%	95%	95%	95%
Parking Enforcement	Respond to high priority incidents within 1 hour during business hours		New measure		100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	A minimum of 5200 hours of patrols occurs annually		New measure		100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Food Safety and Public Health	% premises receiving inspection as per statutory requirements		New measure		100% of premises are inspected according to legislative requirements on frequency									
	No more than three registrations or verification documents are cancelled per year based on officer error		New measure		100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	A minimum of one inspection per year of each registered non-food premises and all		New measure		100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Level of service	Measure	Actuals			Targets									
		2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
	amusement device applications are inspected per year													
Alcohol Licensing	% of licensed premises receiving two inspections per year	New measure			100% of premises inspected two times per year									
	Monitor high risk special licenses during events	New measure			100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Navigation Safety	Respond to incidents to avoid loss of life, injury, and damage to vessels	New measure			100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	Inspect navigation safety aids at least annually and maintain, replace or provide additional aids as required	New measure			100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	Carry out a minimum of 1000 safety checks of vessels or water craft annually	New measure			100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Pollution response	% responses to emergencies within 30 minutes and all other incidents within one day	New measure			100% of emergencies responded to within 30 minutes and all other incidents within one day									
	Carry out stormwater pollution prevention checks for a minimum of 300 hours per year	New measure			100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Control of hazardous substances	Respond to high priority incidents within 30 minutes	New measure			100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Response to complaints	Respond to high priority complaints within 30 minutes	New measure			100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Freedom Camping enforcement	Inspect freedom camping restricted sites a minimum of three hours per day between 1 December and 31 March	New measure			100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Bylaw development	Review Dog Control Bylaw	New measure				100%								
	Review Urban Environments Bylaw	New measure					100%							
	Review Navigation Safety Bylaw	New measure				100%								
	Review City Amenity Bylaw	New measure							100%					100%
	Review Freedom Camping Bylaw	New measure							100%					100%