Submission from Nelson City Council on the Climate Change Commission's draft advice to Government

28 March 2021

Introduction

Nelson City Council (Council) thanks the Climate Change Commission for the opportunity to make this submission on the Draft Advice for Consultation.

Overall Council supports the direction in the Commission's draft advice - we are encouraged by the Commission's advice that reaching our emissions reduction targets by 2050 is both achievable and affordable.

Summary – One Big Thing

Achieving New Zealand's objectives of net zero emissions of long-lived gases by 2050 and reducing biogenic methane emissions by between 24-47% from 2017 levels by 2050, requires partnership and action by central government, local government, iwi, businesses, and residents. In August 2020 Council adopted central government's targets for our own greenhouse gas emissions reductions. Accordingly, the development of our Long Term Plan 2021-2031 Consultation Document and supporting Activity Management Plans included significant work on putting into place steps to contribute to this objective. We attach the climate change section (Appendix One) of our Consultation Document as it outlines our approach on climate change. The Commission may find this information useful in its work with the local government sector.

Our Six Big Issues

1. The Pace of Change

Big issues question 1: Do you agree that the emissions budgets we have proposed would put Aotearoa on course to meet the 2050 emissions targets?

Strongly agree - Agree - Neutral - Disagree - Strongly disagree - Do not know

Whilst we support the Commission's work and believe that reduction budgets are achievable, we are concerned that the first periods are not ambitious enough. We appreciate that changes will take time to implement, but we believe rapid accelerated action needs to begin now. Furthermore, placing emphasis on reductions closer to 2050 increases the risk that the targets will not be met. Lower targets early in the timeline may result in wrong messages being given to community, for example infrastructure, building and housing projects should include consideration of emissions right from the start, at the business case and design stages. Low targets prior to 2035 may result in current technology and best practice not being implemented now, and therefore need expensive retrofitting at a later date.

2. Future Generations

Big issues question 2: Do you agree we have struck a fair balance between requiring the current generation to take action, and leaving future generations to do more work to meet the 2050 target and beyond?

Strongly agree - Agree - Neutral - Disagree - Strongly disagree - Do not know

The Emissions Budget 1 (2022-2025) aims for only a 2% reduction, and the proposal is that the emissions budget reduces by only 35% by 2035. The work on the remaining 65% is being left to the next generation to manage within a 15 year period – this seems unfair. Higher targets through to 2030 are needed to signal that changes are required urgently. The Commission notes that the technology already exists in many areas, including Transport (page 14 of your advice) to deliver on the emissions reduction objectives.

The longer we take to reduce our emissions, the more damage to our environment, assets, and community. Furthermore, we need to factor in the 'cost of inaction' as a prompt to determine which actions would reduce emissions faster.

3. Our Contribution

Big issues question 3: Do you agree with the changes we have suggested to make the NDC compatible with the 1.5°C goal?

Strongly agree - Agree - Neutral - Disagree (our changes are too ambitious) - Disagree (our changes are not ambitious enough) - Do not know

We support the Commission's recommendations to strengthen the NDC to "reflect emission reductions of much more than 35% below 2005 levels by 2030".

However, we think that more work is required to determine what further opportunities exist for domestic cuts and offsets. This is preferable to purchasing high amounts of offshore mitigation. For example, New Zealand has the 9th longest coastline in the world - the use of blue carbon sequestration may enable New Zealand to offset a higher level of emissions earlier. Blue carbon sequestration has similar advantages to planting new permanent indigenous forests, in that it provides an opportunity to lock in carbon for centuries, as well as providing ecological, water quality, and coastal protection benefits.

See also issue 4.

4. Role and Type of Forests

Big issues question 4: Do you agree with our approach to meet the 2050 target that prioritises growing new native forests to provide a long-term store of carbon?

Strongly agree - Agree - Neutral - Disagree - Strongly disagree - Do not know

We support prioritisation and provision of incentives for new permanent indigenous forests, but also acknowledge that exotic forests have an important role in providing building materials and jobs, contributing to the economy.

5. Policy Priorities to Reduce Emissions

Big issues question 5: What are the most urgent policy interventions needed to help meet our emissions budgets? (Select all that apply).

Transport

- Council supports the transition from internal combustion engines (ICE) to electric vehicles (EV). This mitigation initiative may need to be supported by central government funding to cover the difference in the up-front price to purchase an EV, compared with an ICE. Also, fast charging infrastructure in public places needs to increase substantially, to reduce range anxiety in EV owners and increase the uptake of EVs. Any policy intervention to support EVs should also consider the embodied carbon of EVs, compared to alternatives, such as e-bikes, and, how low-income households will be supported to make this transition.

- Policy intervention is also needed to encourage the community to transition to more sustainable transport modes - choosing active transport (including walking, cycling, skateboarding, riding scooters), and public transport more often for their journeys. This will support social and environmental wellbeing and reduce greenhouse gas emissions. A reduction in car use (particularly single occupancy vehicles) will also contribute to improved traffic flows, and has the potential to reduce the need for investment in major road upgrades.

Energy

- For organisations/businesses where the highest source of emissions is not electricity, encouragement to consider energy efficiency from a financial perspective rather than a carbon perspective may be useful. This financial approach will help to get business cases approved, with the ultimate goal of emission reductions.
- Embodied carbon emissions in products and infrastructure are usually included in operational carbon emissions from organisations, communities, etc. as 'optional emissions'. There should be a clear definition and understanding on these different sources and the different carbon footprint accounting scopes.

  Measurements and reductions targets discussed in this draft should include operational emissions and embodied emissions. Local government is in a unique position to support the reduction of embodied emissions with the development of a large-scale infrastructure in Council assets (horizontal and vertical infrastructure).

  Organisations which claim to be carbon neutral do not always include all carbon emissions, e.g. embodied carbon emissions but consistency and the best information is needed to determine whether Aotearoa's emission budgets being set at the right level.

- We support EECA, central government and the Commission providing information and support to the public making smart choices that require less energy. The Gen Less programme is a good model to build on (https://genless.govt.nz/).

Waste

- We strongly support the principle of circular economy as the most effective means of reducing emissions. Reducing food and green waste to landfill will make an important contribution to reducing emissions (see also response to question 18).

6. Technology and Behaviour Change

Big issues question 6: Do you think our proposed emissions budgets and path to 2035 are both ambitious and achievable considering the potential for future behaviour and technology changes in the next 15 years?

Strongly agree - Agree - Neutral - Disagree - Strongly disagree - Do not know

We agree the emissions budgets are achievable, but they are not ambitious enough. There is an opportunity to use expenditure assigned to offset the effects of COVID-19 to also promote mitigation initiatives which also generate economic activity.

We note that existing technology may provide for a higher percentage of emissions reduction compared to what is proposed and would support faster implementation of technology that will reduce Aotearoa's carbon emissions.

New technology is usually financially viable when the other options are more expensive e.g. renewable energy vs. coal power generation. Not having ambitious targets may delay the process for technology to become available at competitive market prices. Important considerations as part of implementing new technology include whether greater benefits could be achieved through, consuming less, reducing

the production and consumption of products with planned obsolesce and, where new technology is used, then taking into account the embodied carbon.

Detailed questions on the Climate Change Commission's Advice

The next set of questions are about the recommendations in the Commission's draft Advice report. There are 24 consultation questions from the Commission.

Approach and Emissions Budgets

1. How we developed our advice

Consultation question 1: Do you support the principles we have used to guide our analysis?

Fully support - Partially support - Neutral - Do not support - Do not know

We agree with the seven key principles used to guide the Commission's advice. Comments are included for Principles 2, 6 and 7.

- Principle 1: Align with the 2050 targets
- Principle 2: Focus on decarbonising the economy

  We support this Principle but consider that the draft advice to government has a gap in implementation and should consider opportunities that can be implemented now as part of Aotearoa's transition to a zero-carbon economy.

  This work would include how industries, employment, training and production and consumption patterns will be assisted to change. Some specific actions are:

  i) Assisting the creation of new industries and/or transformation of existing sectors through providing information to the public on how they can make low carbon investment choices using Kiwisaver.

  ii) Supporting the growth of low carbon sectors, for example the arts sector. This would also have additional co-benefits including, community development and wellbeing.

  iii) Considering unnecessary consumption from economically profitable activities e.g. energy use in bitcoin mining. And what role such activities should play in future economic thinking.

  iv) Assisting transformation of the tourism and hospitality industries which are already under significant pressure as a consequence of COVID-19.

  v) Implementing the Just Transition programme (https://www.mbie.govt.nz/business-and-employment/economic-development/just-transition/).

  We have also included comments on the economy in the waste section of this submission.

  Our Long Term Plan Consultation Document includes a summary of the importance of transitioning towards a new economy (see appendix two).

- Principle 3: Create options
- Principle 4: Avoid unnecessary cost
- Principle 5: Transition in an equitable and inclusive way
- Principle 6: Increase resilience to climate impacts

We support this principle and suggest that actions to increase the country's resilience take a multifaceted approach, i.e. include mitigation, adaptation, resiliency, and innovation considerations. An example of this is the proposed new Nelson library which is planned to include:

- A Green Star rating of five and demonstrate a range of sustainable and climate resilient features. For example:

- Low embodied carbon design
- Passive heating/ventilation
- Solar power generation

The library would also:

- Be adaptable to sea level rise and river flooding for more than 100 years
- Be resilient to earthquakes
- Reflect the importance of the location to mana whenua

Also refer to Principle 7 (leverage of co-benefits) on the benefits of greater food resilience.

- Principle 7: Leverage co-benefits

We support the objective of leveraging co-benefits three examples are:

Transport

Transport modal shift benefits include improvements in health, social and environmental wellbeing, and a reduction in car use (particularly single occupancy vehicles). This contributes to improved traffic flows and has the potential to reduce the need for investment in major road upgrades.

Waste reduction

We support measures that reduce waste and note that waste reduction provides multiple co-benefits. For example, redirecting kitchen waste to composting, has co-benefits of job creation, supporting living soil for food production and a healthier environment. This in turn creates community food resilience, with the public being able to supply more of their food needs from local sources (including after natural disasters) and also generating increased community connections, which provides significant positive mental wellbeing benefits.

Urban Greening

Nelson is implementing an Urban Greening Plan which will expand our urban canopy, bringing more CO_2absorbing plants and trees into our City Centre, keeping our city cooler in hotter summer months, while reducing air and noise pollution, and supporting biodiversity and food resiliency.

2. Emissions budgets numbers

Consultation question 2: Do you support Budget Recommendation 1? Is there anything we should change and why?

	Too ambitious	About right	Not ambitious enough	Don't know
Emissions Budget 1 (2022 – 2025)			X	
Emissions Budget 2 (2026-2030)			X	
Emissions Budget 3 (2031-2035)			X	

We would like the Government to be as ambitious as possible. Uncertainty on the relative priority of actions is not a reason for delay, as it may not be possible to measure the mitigation outcomes of

everything. Therefore, we support consideration of qualitative as well as quantitative outcomes in setting work programmes, e.g. urban regenerative agriculture such as community gardens and urban food farms. It may be difficult to quantitatively measure emissions reductions, but this work has multiple adaption benefits by creating urban green spaces and promoting local food resiliency, as well as increasing community wellbeing and supporting resilience through improved social connections.

We are concerned that a significant percentage of the reduction in emissions budgets is proposed to be actioned after 2030 as stated the Draft Advice: "Net long-lived gas emissions would fall by 33% by 2030 and 64% by 2035 compared to 2018" (page 54). The proposed reduction in the Emissions Budget between 2031 and 2035 of 31% may not be achievable, and we suggest that some of that reduction be brought forward to the first two Emissions Budgets (2022- 2025 and 2026-2030). This would require a review of actions for these time periods.

3. Breakdown of emissions budgets

Consultation question 3: Do you support our proposed breakdown of emissions budgets between gross long-lived gases, biogenic methane, and carbon removals from forestry? Is there anything we should change, and why?

	Too ambitious	About right	Not ambitious enough	Don't know
Gross long-lived gases		X		
Biogenic methane		X		
Forestry			X	

We consider that there may be further opportunities for carbon removals from increased indigenous forests through restorative planning and would support work in this area, particularly considering the co-benefits that indigenous planting provides for biodiversity, soil health, water run-off, and employment.

4. Limit on offshore mitigation for emissions budgets and circumstances justifying its use

Consultation question 4: Do you support budget recommendation 4? Is there anything we should change, and why?

Fully support - Partially support - Neutral - Do not support - Do not know

We support limiting offshore mitigation for emissions budgets. New Zealand should lead by example and take as many actions as possible to reduce and offset our own emissions. Furthermore, our emissions are likely to be understated as a result of our global consumption of goods and services, including through the embodied carbon of imported goods, shipping, and air travel emissions. In the medium-term the right thing to do is to consider ourselves as global citizens and take these factors into account when setting emissions budgets.

We have noted that in section 3.4 of the Draft Advice that the inclusion of international aviation and shipping emissions will be reviewed by 2024. However, at a government and community level we can begin to qualitatively take this into account now.

Enabling recommendations

5. Cross-party support for emissions budgets

Consultation question 5: Do you support enabling recommendation 1 on cross-party support for emissions budgets? Is there anything we should change and why?

Fully support - Partially support - Neutral - Do not support - Do not know

We fully support a cross-party approach for emissions budgets. As the Commission notes, there are ten elections scheduled between now and 2050. Without cross-party support there is a high risk that targets will be changed, and different signals sent by successive governments. Similar to COVID-19, the Carbon Emissions budgets are for the "team of five million".

6. Coordinate efforts to address climate change across Government

Consultation question 6: Do you support enabling recommendation 2 on coordinating efforts to address climate change across Government? Is there anything we should change and why?

Fully support - Partially support - Neutral - Do not support - Do not know

We note that the budget for climate change sits under the broader 'Vote Environment' appropriation for the Ministry for the Environment. Climate change is not just an environmental issue, it is also a societal and economic issue, therefore we support a separate 'Vote Climate Change' budget in the short term.

However, this needs to be weighed against the cost in money and time for departments to bid to a separate agency for funding before work is undertaken. Climate change actions should quickly become 'work-as-usual' for departments. For our Long Term Plan 2021-2031 each activity team was responsible for developing actions which contributed to appropriate climate change mitigation, adaptation, resilience, innovation and leadership actions. This model may also be appropriate for central government departments.

7. Genuine, active, and enduring partnership with iwi/Māori

Consultation question 7: Do you support enabling recommendation 3 on creating a genuine, active, and enduring partnership with iwi/Māori? Is there anything we should change and why?

Fully support - Partially support - Neutral - Do not support - Do not know

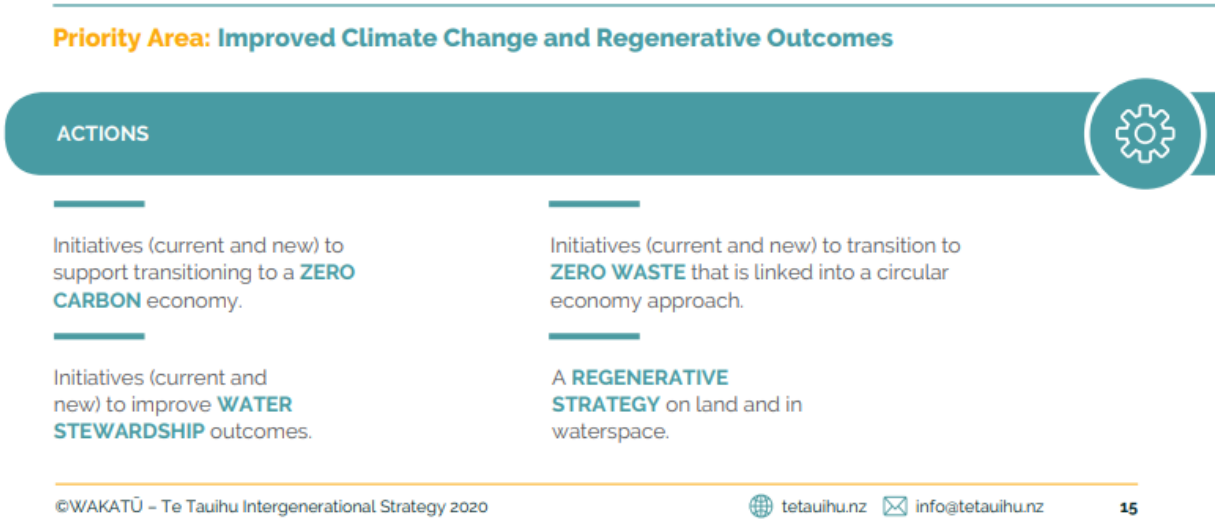
We support central and local government developing genuine, active, and enduring partnerships with iwi/ Māori. We recommend that the Commission review the recently approved Te Tauihu Intergenerational Strategy as an example of a strategy that was supported through partnership with iwi.

Te Tauihu Intergenerational Strategy (tetauihu.nz) has a vision of *Tūpuna Pono: To Be Good Ancestors,* and was a culmination of thinking, analysis and work convened by Wakatū Incorporation in partnership with the three Te Tauihu councils (Marlborough District, Nelson City and Tasman District), Ngā Iwi o Te Tauihu (Ngāti Apa, Ngāti Kuia, Rangitāne, Ngāti Tama, Te Ātiawa, Ngāti Koata, Ngāti Toa and Ngāti Rārua), Central Government, Nelson Tasman Regional Development Agency, Nelson and Marlborough Chambers of Commerce, business, community, and the Nelson Marlborough Institute of Technology.

The climate change action section of this strategy is below and reiterates key themes in our

submission:

Climate Change section of the Te Tauihu Intergenerational Strategy



8. Central and local government working in partnership

Consultation question 8: Do you support enabling recommendation 4 on central and local government working in partnership? Is there anything we should change and why?

Fully support - Partially support - Neutral - Do not support - Do not know

We support developing the relationship and partnership between central and local government on climate change and emissions budgets. As at June 2018 local government owned fixed assets worth $123 billion, had a yearly operating expenditure of $10.3 billion, and employed around 23,000 staff (Local government Funding and Financing 2019 – Productivity Commission).

Councils are currently in the processing of consulting on their proposed 2021-2031 Long Term Plans and have included climate change as an assumption in their planning and work programmes.

However, local government could move faster towards the proposed emissions budgets if further funding for associated projects was available. This could include major projects, such as modal shift and transitioning to EVs and EV based public transport, through to community projects such as diverting food waste and supporting community composting and community food gardens, as well as biodiversity regeneration. In this respect local government may be able to implement projects to assist with meeting the Emissions Budgets faster than central government, and we encourage dialogue on what can be achieved.

Climatorium in Nelson

We would like to work with central government on the implementation of a Climatorium in Nelson.

A Climatorium is a centre where the scientific community can come together with central and local government, industry, academics, and the community, to develop and share innovative solutions to the challenges of climate change.

In 2020 Council signed a Principles of Collaboration agreement with Wakatū Incorporation and four Danish organisations associated with the Lemvig Climatorium. The agreement identifies three key areas for collaboration: investigating the opportunity to establish a Climatorium in Nelson, sharing

knowledge on climate mitigation, adaptation, resilience and innovation as well as incorporating sustainability in education.

A Climatorium would establish Nelson as a centre of climate change solutions and show leadership in addressing the climate emergency. Council proposes to support this project, by bringing together key organisations to help explore the opportunity and progress the concept.

It is important that central government is agile and responsive to opportunities to work with local government, communities and businesses in the transition towards a zero-carbon economy. As well as the proposed Climatorium in Nelson, we are working with Port Nelson, in collaboration with the Cawthron Institute, to develop a Science and Technology Precinct. Information on this proposal is in Appendix Three.

9. Ensuring inclusive and effective consultation, engagement, and public participation

Consultation question 9: Do you support enabling recommendation 5 on establishing processes for incorporating the views of all New Zealanders? Is there anything we should change and why?

Fully support - Partially support - Neutral - Do not support - Do not know

We support the outcomes of this recommendation, including obtaining the "views and perspectives of people from all parts of society" in climate change planning. We note that the Commission has noted that some stakeholders have suggested an ongoing public forum or citizens' assembly for climate change be established. In Nelson we have used a Climate Forum model (https://nelsontasmanclimateforum.ning.com/) and suggest that the Commission consider this model. Local Climate Forums enable input of the community at the national and local levels.

Whatever model is used, inclusion of youth and Aotearoa's diverse communities is important, particularly given that the current plan is to provide for the largest decrease in net emissions at the end of the 2050 timeframe. We would support the inclusion of a climate change lens within primary, secondary and tertiary courses. This change would assist with increasing community awareness that a zero emissions society is now part of our planned future.

Our Path to 2035

10-11. Locking in net zero

Consultation question 10: Do you support our approach to focus on decarbonising sources of long-lived gas emissions where possible? Is there anything we should change and why?

Fully support - Partially support - Neutral - Do not support - Do not know

We support the focus on decarbonising sources of long-lived gas emissions. As noted in the Commission Draft Advice, technologies already exist that can be used to reduce or completely avoid gross emissions. We support increased implementation and use of solar energy, noting that this should include taking into account the embodied carbon of solar technology produced overseas. The principle Offsetting the embodied carbon of imports, through indigenous forest sequestration, is an important action.

Consultation question 11: Do you support our approach to focus on growing new native forests to create a long-lived source of carbon removals? Is there anything we should change and why?

Fully support - Partially support - Neutral - Do not support - Do not know

We fully support the proposed approach to grow new indigenous forests and using these to capture and store CO_2 on a long-term basis and note that this would have additional benefits of providing jobs and supporting biodiversity. Central government assistance to Council for planting projects as part of COVID-19 economic response actions has been much appreciated.

We do note that fast-growing exotic forests still have an important role in the medium term to meeting the 2030 and 2050 targets as the Commission's report states in paragraph 6.1.4. We believe that it is important that flat fertile land is retained for regenerative agriculture purposes. We also support increasing the use of specific indigenous forestry plantations for harvesting wood.

However, although landowners may be prepared to change land use from hillside pastoral land, there are practical limitations on establishing new indigenous forests at the scale required to store a significant quantity of $C0_2$.

The most cost-effective way to grow new indigenous forests is to allow hillside pastoral land to revert to indigenous forest by the process of natural regeneration. This has already happened on a large scale beginning in the early 1980s when short-fibre wool markets declined and steep marginal land became unprofitable for sheep farming, and government incentives were removed. However, for pastoral land to revert to indigenous forest some critical factors are required – warm temperatures, good rainfall, a local seed source and landowner decisions to permanently retire pastoral land to forest.

There has been large scale regeneration in inland Taranaki/Wanganui, the East Coast and Northland and there is probably more land in these regions that could also regenerate but, only if the landowners decide to stop grazing and undertake pest control and fencing.

In other colder, drier regions where there is limited local seed source, there is are no proven methods of establishing indigenous forest on a large scale. There are numerous small-scale projects (5-50 ha) where trees are planted and maintained but, as the Council is aware from its own work, this is very expensive and can't be scaled up to large blocks. We propose that further research is undertaken to determine innovative cost-effective ways to support and grow new indigenous forests at scale.

Increasing indigenous forests requires a significant planning and support. The Commission may find the information from the relevant parts of the Environmental Section of our Long Term Plan 2021-2031 Consultation Document useful. This is attached as Appendix four.

Further support from central government for pest management and additional planting may enable

lower emissions budgets for the period leading up to 2035.

As noted earlier in the 'Six Big Issues: 3. Our Contribution' section of this submission, we also support the use of blue carbon sequestration actions.

12. The path to meeting the Budgets

Consultation question 12: Do you support the overall path that we have proposed to meet the first three budgets? Is there anything we should change and why?

Fully support - Partially support - Neutral - Do not support - Do not know

We have noted the opportunities outlined in your draft advice under 3.5.1, and support actions that translate these into actions and corresponding reductions in emissions. In addition to these we would support work on reducing CO_2 emissions from landfill – currently the emphasis is on managing methane gases, which trap approximately 30 times more heat in the atmosphere over a 100-year period than CO_2. However, nationally the CO_2 impact of landfills should be accounted for and mitigated.

13. An equitable, inclusive, and well-planned climate transition

Consultation question 13: **Do you support the package of recommendations and actions we have proposed to increase the likelihood of an equitable, inclusive, and well-planned climate transition? Is there anything we should change, and why?**

Fully support - Partially support - Neutral - Do not support - Do not know

We support the Commission's recommendations that climate transition should take into consideration the needs of Aotearoa's diverse communities. We note that the Commission will be asking the Government to "*work alongside people, and ensure they are including young people, regional Aotearoa, low-income communities, some Māori and Pasifika and people with disabilities to make sure they benefit from the opportunities and are not disproportionately impacted.*"

Central Government support for retraining and creating jobs within new industries and sectors will be important to achieving the transition objectives. Refer also comments on Principle 2.

The direction of policy in the Government's emissions reduction plan

14. Transport

Consultation question 14: Do you support the package of recommendations and actions for the transport sector? Is there anything we should change and why?

Support all the actions - Support some of the action - Do not support these actions - Do not know - Neutral

General

- We agree that vehicle travel should be rapidly electrified, including appropriate consideration of subsidies/incentives for low emissions public transport and walk/cycleways, with enhanced central government support for local government.
- The government has recently outlined plans to purchase only zero-emissions public transport buses from 2025 and made a $50 million commitment to help councils fully decarbonise the country's public transport bus fleet by 2035. This is an area of strong interest to local government and one that the Commission could undertake further assessment on, including determining if additional measures would be required beyond those steps already announced.

Electric Vehicles

- Council supports the transition from ICE vehicles to EVs as part of a package of modal shift, including increased active transport and use of public transport, and a decrease in the number of short vehicle trips. An important consequence of the uptake of EVs is that over time the increase in EVs and other low emission vehicles will result in a corresponding reduction in funds available from the Fuel Excise Duty. Combined with the current exemption of EVs from Road User Charges (RUCs), there is likely to be an increasing shortfall in funding for transport infrastructure. A review of the mechanism for funding transport infrastructure and operations is therefore strongly recommended in conjunction with the measures recommended in the Commission's advice.

Clean Public Transport

- The Commission could also recommend feebates or subsidies for electric buses or other clean public transport (as for light EVs). It appears likely that there will be a worldwide shortage of electric and other clean buses in the next few years. This would make it difficult for places like Nelson to acquire the small number of buses they require in the competitive market that is expected. We suggest that the Commission recommends that central government investigate options to bulk purchase clean buses and make them available to public transport operators at a subsidised cost.

Modal shift

- Proposed increases in walking, cycling and public transport are likely to only keep vehicle travel trends static because of Aotearoa's increasing population. We support the recommended increase in those areas but suggest that a more ambitious target for modal shift share may be appropriate. Although significant social and behavioural changes would be needed to reach a level of mode shift which will result in emissions reductions similar to those expected from a wholesale change to EVs, the co-benefits of lower traffic congestion and improved health outcomes and wellbeing support further resources in this area. Modal shift will also support community resiliency, as active transport modes or low carbon options are less impacted by increases in oil prices or natural disasters e.g. e-bikes.
- We suggest that the travel distance per person could provide useful information and then be used to assist what actions are needed to change behaviour - i.e. different actions may be required to reduce longer journeys, compared to shorter journeys. Transitioning to working from home for

one day per week, or household 'carless days', may be programmes that could make a significant difference to Aotearoa's transport emissions.

Cross-sectoral transport collaboration

- It is likely that local government will be responsible for implementing many of the Commission's transport recommendations, (such as walking, cycling, and public transport), and for dealing with many of the effects of other recommendations (such as switching to EVs for both the light vehicle fleet, and for public transport). It is therefore important that local government has adequate representation on the Commission's Transport Technical Reference Group. This is a gap which we recommend should be urgently addressed.

Transport Research

- The Commission suggests significant research into ways to reduce emissions in other sectors which contribute fewer emissions than transport but makes no mention of support or funding for research into ways we can reduce transport emissions. For example, there is extensive research into alternative EV charging systems currently underway (including in New Zealand), such as research on induction charging, loops being placed in road pavements to charge vehicles as they travel. Whilst such technology is currently in its infancy, and is not yet seen to be viable, it has the potential to have significant ramifications for local authorities. It is recommended that funding and support for research into ways of reducing transport emissions be provided.

15. Heat, industry, and power

Consultation question 15: Do you support the package of recommendations and actions for the heat, industry, and power sectors? Is there anything we should change and why?

Support all the actions - Support some of the actions - Do not support these actions - Do not know - Neutral

We support the objective of decarbonising energy and note that the Commission has proposed that Aotearoa transition away from fossil fuels and rely more heavily on renewable electricity and low emissions fuels like bioenergy and hydrogen.

There is also an opportunity to strengthen regional industry, for example the Nelson and Tasman regions have a high proportion of plantation forests and could be ideal locations for a converting plantation forest waste to energy, either to generate heat and power, or to convert it to biofuel. Any potential issues around air discharges in such processes would of course need to be considered and mitigated.

It is suggested that a recommendation for government funding to support regional development opportunities be included in the Commission's advice, for example support from central government for increased local generation of energy through solar panels, would assist with this objective.

Government legislation should also support the transition to a zero-carbon economy. Reviews of the Building Act and Resource Management Act provides opportunities to align legislation with this commitment. There is the opportunity to implement carbon zero housing as part of the proposed additional housing which is needed to assist with improving housing affordability. There are many examples available including https://zeroenergyhouse.co.nz/

Changes to building in Aotearoa could include the following:

- Establish a single "green star" standard to guide building and consumer choices
- Change towards building smaller houses so they have a low carbon footprint
- Use of low embodied carbon building materials such as locally sourced timber
- Minimise the use of concrete and steel

- Create thermally efficient buildings – the building code is currently minimum standards rather than gold standard
- Use of passive heating – including positioning houses, and living areas within so they make full use of sun
- Support the use of rainwater tanks - collecting and retaining rainwater as stormwater detention and for garden use.
- Support the installation of solar panels on new dwellings - to providing electricity to buildings and reducing the use of cooling units which would in turn decrease hydropower demand in hot dry summer months when dams are low, and contribute renewable energy to the national grid
- Consider the use of ultra-low emission burners or pellet burners so local biomass waste is utilised to create energy (heat) versus installing air conditioning/ heat pump units in new houses Consideration would include, the capacity of air sheds, costs, efficiency and thermal efficiency of new dwellings
- Provide guidance on naturally cooling buildings and houses, for example opening windows or installing fans instead of air conditioning. This is important as Aotearoa is expected to experience increasingly hot and dry summers and there is a risk that demand for air conditioning units will increase
    - The new Nelson airport terminal building is an example of what can be achieved in this area and included a passive heating/cooling regime with innovative solar chimneys and automatic, natural ventilation of public areas

- Determine what role heat pumps/air conditioning units play in new buildings into the future. This would include consideration of the greenhouse gases contained within these units (HFCs), possible leakage and future methods and cost of disposal of these gases. This is important as HFCs are 1000-9000 times more potent in their warming potential than CO_2. Refrigerants cause emissions in production, filling, service, and when they leak. The damage is greatest at the point of disposal unless disposed of properly.

16. Agriculture

Consultation question 16: Do you support the package of recommendations and actions for the agriculture sector? Is there anything we should change and why?

Support all the actions - Support some of the actions - Do not support these actions - Do not know - Neutral

We support actions that reduce biological agricultural emissions. It is important that a cross-party agreement is reached on targets and assistance to the primary sector so that a consistent message on reducing emissions is received.

Agriculture is an area in which Principles 6 (Increase resilience to climate impacts) and 7 (leverage of co-benefits) could be further explored. For example, the co-benefits of local food production include increasing community food resiliency, reduction of carbon miles for food, improvements to water quality, and reducing environmental damage. We would support the use of qualitative measures to determine progress in the agriculture sector, particularly where quantitative measures are not available or are expensive to implement.

Regenerative agriculture

Many of these benefits can be achieved through the adoption of regenerative agriculture techniques.

As part of the COP21 Paris Agreement 2015, New Zealand signed the 4per1000 Initiative. In signing this agreement New Zealand agreed to diversify land use towards zero carbon. This Initiative focuses on increasing carbon sequestration through ecologically conscious land and soil management.

Regenerative agriculture focuses on utilising the deep root and fungal systems of plant growth to restore soils and sequester carbon. It promotes a no-till and minimising chemical sprays and fertilisers in its approach to horticulture and land use. This approach improves soil structure and decreases soil erosion, run off and sedimentation. Instead of tilling, it utilises thatching layers and mulching which improves water retention and creates local microclimates. It also promotes composting food and green waste to create biologically living soils, as well as ecologically managed small herd grazing, because composted manure naturally enriches soils. As well as increasing food production, regenerative agriculture can result in increased income potential, and increased nutrient content of food, compared with chemical based intensive farming practices.

Healthy diets

We also support the Commission examining how programmes such as ones listed below can be used to promote healthy diets and sustainable (lower emissions) food production in Aotearoa:

- Good Food Cities (https://www.c40.org/)
- EAT Lancet (https://www.thelancet.com/commissions/EAT)
- https://www.4p1000.org/

As part of Aotearoa's commitment to a Zero Carbon future, we should consider healthy food choices, grown restoratively for our planet. Urban community gardens, edible landscaping and food forests are able to play an important role in providing local plant-based food sources.

Improving local food resiliency also creates greater connected communities, improves health and wellbeing outcomes, and improves environmental outcomes in our recreational green spaces. It delivers on one of the objectives of Good Food Cities which is to increase the consumption of healthy plant-based foods.

Council's work in this area includes a proposal to develop an Urban Greening Plan which will provide a greater strategic direction for options for Nelson's food resiliency, city greening and regenerative landscapes. This will allow our current work programmes and "Adopt-a-Spot" work relating to food resiliency to better align with Council's vision and objectives.

17. Forestry

Consultation question 17: Do you support the package of recommendations and actions for the forestry sector? Is there anything we should change and why?

Support all the actions - Support some of the actions - Do not support these actions - Do not know-Neutral

We support using timber rather than concrete wherever possible in buildings. The new Nelson Airport building provides an excellent example of what can be achieved using timber.

nelsonairport.co.nz/airport-news/air/nelsons-timber-terminal-at-the-cutting-edge-of-airport-design

Local environmental issues need to be considered alongside the benefits of carbon sequestration. Commercial indigenous forests can contribute to building needs of Aotearoa, without some of the environmental problems associated with pine.

18. Waste

Consultation question 18: Do you support the package of recommendations and actions for the waste sector? Is there anything we should change and why?

Support all the actions - Support some of the actions - Do not support these actions - Do not know - Neutral

Council supports the actions proposed actions and recommendations for the waste sector, with the additional comments:

- Whilst we believe the target to reduce waste emissions by at least 15% by 2035 is possible, it will require sufficient support being provided to local government for the resources required both to reduce waste in the community and divert waste from landfill.
- In line with the waste hierarchy, the Commission's Necessary Action 13 needs to include a stronger focus on avoiding the creation of waste. At a national level this could include resourcing behaviour change programmes based on models such as those used for transport, as well as steps such as use of compliance measures to reduce organic waste to landfill. This will need to be accompanied by sufficient resources for local government.
- Economic models which have in the past promoted high levels of consumption and planned obsolesce need to be replaced with lower levels of consumption and avoiding creating waste, including food waste, in the first instance (see also response to question 16).

  Our actions include allocating $13.3m in our draft Long Term Plan 2021-2031 budgets for the collection of kitchen waste at the kerbside for diversion from landfill (this is dependent on the current trial being successful). Our aim is to reduce waste to landfill by 10% per capita by 2030. We also run a number of programmes to encourage the reuse of products and support workshops and activities that support our community rethinking waste.
- Whilst 'Necessary Action 13b' suggests investing the waste levy in promotion of reuse and recycling, this should be broadened to include actions relating to avoiding and reducing the creation of waste. This is critical for action 13c (measuring and increasing circularity) as concepts such as 'designing out waste' are a key part of achieving a circular economy. Further actions in this area could include:
  i. Focusing on replacing single use plastics
  ii. Taking into account the environmental pollution and emissions created when Aotearoa exports recyclables overseas e.g low quality recycling and transport emissions
  iii. Transforming to a culture of deconstructing, rather than demolishing buildings, with a change from sending building materials to landfill instead building materials are recycled
  iv. Developing a mature circular economy that considers production and deconstruction of consumer and industrial products in Aotearoa
- To reduce biogenic emissions from waste disposal each region may require a different approach, including addressing the lack of regional infrastructure, the needs for which will vary from region to region. Waste Levy expenditure should have a strong focus on supporting this area. The requirements of each region need to be identified and solutions put in place, for example by providing support for investment infrastructure to allow effective processing of organic materials, in tandem with central Government actions such as compliance measures to reduce organic materials going to landfill.
- There is currently no provision or incentive for reducing biogenic emissions from closed (legacy) landfills, clean fills, farm pits, etc. To improve outcomes in this area the Government should consider adding investment in infrastructure for methane use and capture to action 13b. In addition, there is no current mechanism to allow for allocation of emissions units for the capture and destruction of those emissions. It is suggested that the Commission recommend that the government re-examine the rules in respect of closed landfills. It is likely

that there are also wider implications for emissions reduction in other sectors. Government has previously provided support for projects that achieve demonstrated emissions reductions (e.g., the Projects to Reduce Emissions, or PRE scheme). It is suggested that such approaches are worth re-examining.

- As a participant in the NZ Emissions Trading Scheme, landfill operators are required to purchase and surrender emissions units. However, under current rules this is not considered as an 'offset' (instead a landfill operator would effectively need to pay twice to achieve carbon offsetting). It is suggested that these rules be revised to avoid such a situation of 'double counting'. There is also scope to allow for operators of multiple landfills to manage their ETS obligations jointly across all of their landfills. Additionally, consideration could be given to reviewing emissions factors in the ETS to incentivise organic waste reduction to landfill.

- We note that landfill gas projects could be recognised in the NZ ETS as an offset or removal activity and be issued NZ Units for the amount of greenhouse gas removed from the atmosphere in the same way that growing forests remove $C0_2$. The Australian Emission Reduction Fund includes landfill projects and has methodology established. See http://www.cleanenergyregulator.gov.au/DocumentAssets/Documents/A%20Guide%20to%20the%20landfill%20gas%20method%202015.pdf

  This may be an appropriate model for Aotearoa as well. However, this should not dimmish a focus on diverting organic waste from landfill as a first priority.

- We also support incentives to remove organic waste and green waste from the waste stream, before it reaches landfills. The current model focuses on the capturing of landfill methane, but an improved model would provide greater support for removal of waste streams, including organic and building waste. This would reduce the creation of methane in the future.

19. Multi-sector strategy

Consultation question 19: Do you support the package of recommendations and actions to create a multisector strategy, and is there anything we should change?

Support all the actions - Support some of the actions - Do not support these actions - Do not know - Neutral

We agree that a multi-sector strategy is critical to Aotearoa meeting the emissions budgets and contributing to limiting temperature increases to 1.5°C. We have noted that local government will have a significant role to play in developing and implementing this strategy, including through all five items listed on page 127 of the Commission's advice document. Clarity on expectations from central government as part of (c) below is important to enable planning by local government.

> *(c) Ensuring that central and local government considers climate change alongside other environmental, social, economic and cultural aspects by including requirements in new resource management legislation, such as the proposed Natural and Built Environments Act, the Strategic Planning Act and the Managed Retreat and Adaptation Act.*

We welcome investigation of emission reduction potentials and interdependencies amongst multi-sector activities but are concerned if further pressure is put on the hospitality and tourism sectors in the short-term. These sectors have already paid a high price as a result of COVID-19 and the closing of New Zealand's borders. Resources to rapidly transition to meet new emissions targets are limited. Engagement with these sectors is important to determine what policy changes should be introduced and when.

20. Rules for measuring progress

Consultation question 20: **Do you agree with Budget recommendation 5 on the rules for measuring progress? Is there anything we should change any why?**

Support all the actions - Support some of the actions - Do not support these actions - Do not know – Neutral

Most of these rules proposed by the Commission are the same as those in place for measuring progress against the 2030 Paris Agreement target, and we have no further comment on those.

However, we do have a comment on (c) (v), which relates to tracking emissions and removals from organic soils and small lots of trees.

While in principle it would be good to include these (especially for farmers who might want to use them to offset their farm emissions) there are quantitative measurement and administrative difficulties which has meant that they are currently excluded. For accounting at a national level, the costs to measure soil carbon changes sufficiently accurately would be high in relation to recognising any extra carbon storage. Similarly mapping and tracking changes on the vast number of small lots of trees would likely exceed the benefit.

Notwithstanding the difficulty in quantitatively measuring the benefits arising from the contribution that organic soils and small lots of trees make, every activity that is undertaken in Aotearoa to reduce, remove or offset carbon emissions contributes to the outcome of moving towards a zero carbon society. Therefore, we would support the Commission undertaking work to qualitatively measure the contribution of these sectors to Aotearoa's carbon objectives. This could also include increased resiliency and co-benefits, such as local environment restoration and improved biodiversity outcomes, healthy soils and resilient regenerative food production.

Advice on the Nationally Determined Contribution (NDC) and potential reductions in biogenic methane

21-23. Our Nationally Determined Contribution (NDC)

Consultation question 21: **Do you support our assessment of the country's NDC? Do you support our NDC recommendation?**

Fully support - Partially support - Neutral - Do not support (too ambitious) - Do not support (not ambitious enough) - Do not know

The target in the NDC is to keep the country's net emissions to 30% below what total emissions were in 2005, using an emissions budget approach. How much the NDC is strengthened beyond 35% should reflect the current and future effects on climate change and adaptation measures that will need to be in place. The NDC should also be aligned with the economic impact of the adaptation initiatives that Aotearoa will need to put in place.

Consultation question 22: Do you support our recommendations on the form of the NDC?

Support - Somewhat support - Do not support (too ambitious) - Do not support (not ambitious enough) - Do not know

As a developed nation, New Zealand is in a good position to support developing countries reduce their emissions. This can be achieved through purchasing international carbon credits from projects that are aligned with New Zealand's criteria for greenhouse gas reduction, including consideration of the social and economic benefits associated with the project. These types of offsets are already used for voluntary carbon footprint inventories by some organisations classified as carbon neutral. This is not a new market for New Zealand, though it needs to be clearly regulated and separated from the ETS.

There is also an opportunity to strength connections with developing countries, to work on robust and credible reductions projects that help to improve the current perception of carbon offset schemes overseas being less robust and credible.

Offsets could include blue carbon opportunities e.g. saltmarshes, mangroves, and seaweed as well as supporting forestation and the protection of forests when new developments are planned.

Consultation question 23: Do you support our recommendations on reporting on and meeting the NDC? Is there anything we should change, and why?

Support - Somewhat support - Do not support (too ambitious) - Do not support (not ambitious enough) - Do not know

Clear criteria should be developed for international carbon credits, a decision to use them is agreed. However, Aotearoa's main reductions should be achieved by reduction activities, and only the absolute unavoidable portion (clearly defined) by offshore carbon credits.

24. Eventual reductions in biogenic methane

Consultation question 24: Do you support our assessment of the possible required reductions in biogenic methane emissions?

Fully support our assessment - Somewhat support our assessment - Do not support our assessment - Do not know – Neutral

While we support the reduction commitment for biogenic methane, it is important to have a more ambitious target that will trigger the innovative use of science and technology to find ways to reduce this greenhouse gas in the agricultural sector. New technologies are more likely to be developed and

become accessible if ambitious targets are set. New Zealand has an opportunity to lead the way in reducing these emissions and become a high-tech producer in the agriculture-livestock sector.

We consider that the use of regenerative agriculture principles and reductions in biogenic methane will make an important contribution towards a resilient and sustainable future for Aotearoa – especially as the co-benefits include local environmental restoration as well.

For additional information or questions please feel free to contact me at

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Kate Fulton

Chair Environment and Climate Committee

Nelson City Council

Climate Change section of Nelson City Council's Long Term Plan 2021-2031 Consultation Document.

Responding to climate change is our biggest global challenge. We have less than a decade to accelerate our emissions reductions to avoid the full effects of global warming. In Nelson, projected changes to our climate will impact our, economy, infrastructure, natural environment, lifestyles and future.

Acknowledging the need for urgent action, Council declared a climate emergency in May 2019. Our response prioritises working in partnership with iwi, central government, business, schools, community groups, households, and individuals to improve the resilience of the Nelson region. Responding to climate change is central to Te Tauihu Intergenerational Strategy's vision of being good ancestors, as the greatest challenges will be faced by our tamariki.

This section outlines some of our plans but many other projects across all areas of Council's work are making a contribution to reducing our greenhouse gas emissions and improving community resilience. Council's entire work programme is viewed through a climate change lens. Actions and choices which support our climate change response have been woven throughout all our activities.

What are the projected effects of climate change?

The data compiled by New Zealand's Climate Change Commission (climatecommission.govt.nz) demonstrates that we are already experiencing the effects of climate change and that past emissions have locked in further change. The evidence in the Commission's 2021 report to the Government shows that to limit warming to 1.5°C will require rapid emission cuts of greenhouse gases between now and 2030, then slower reductions until the end of the century. To achieve our goals the response must be multifaceted:

- Quickly decrease our emissions to create a zero-carbon future
- Consider how we live with the effects of the emissions already in the atmosphere
- Create a safe and secure future for all by implementing strategies which will allow us to both reduce future impacts and adapt to an already changing climate
- Demonstrate leadership by using evidence-based knowledge, innovation, and embracing a partnership approach.

Our plans

How we will live and work:

By making smart choices over the next 10 years, including capitalising on new technology, we can improve our resilience and create a smart, sustainable city.

- Encouraging more inner city living and intensification to reduce traffic and congestion as well as support a more dynamic City Centre
- Progressing a transition towards a regenerative economy through Project Kōkiri 2.0 - the second phase of the region's COVID-19 economic recovery plan
- Participating in and supporting the Nelson Tasman Climate Forum to deliver on the Regional Climate Action Plan
- Supporting initiatives such as Businesses for Climate Action, who aim to get 1000 local businesses to measure and reduce their carbon footprint

- Implementing an Urban Greening Plan to expand our urban canopy, bringing more CO_2 absorbing plants and trees into our City Centre while reducing air and noise pollution, and supporting biodiversity and food resiliency
- Building the proposed new library to the high Green Star rating, including a low carbon footprint, sustainable materials and energy efficient design
- Refurbishing Civic House (for an estimated $18.3 million over eight years) to improve its environmental performance, its functionality, and to create a healthy working environment. Our focus will be on reducing the carbon footprint of the building, decreasing energy use (through efficiency and design measures), and increasing its resiliency to climate change.
- Working with partners to investigate the opportunity to develop a Nelson Climatorium as a centre of innovation in tackling climate change
- Considering climate change adaptation across Nelson through the development of the Draft Whakamahere Whakatū Nelson Plan. Check our website to be part of conversations about this Plan (**nelson.govt.nz/environment/nelson-plan/**)
- Investing $52 million in our future resilience through projects to reduce flooding and coastal inundation.

How we will move:

Transport is one of the sectors where we can make the biggest reductions in CO_2 emissions (47% of New Zealand's CO_2 emissions were from transport in 2018).

- Continuing investment to support a shift away from single occupancy use of private vehicles towards public transport, cycling and walking between home, work and recreation e.g. $3.5 million to improve shared walk/cycle paths
- Following an electric first policy when replacing/adding cars to Council's fleet.

How we will reduce consumption and waste:

The gas produced from the decomposition of organic material in landfills is roughly 50% methane and 50% CO_2. Methane traps approximately 30 times more heat in the atmosphere over a 100-year period than CO_2, so it is important we reduce methane emissions. The following projects are funded from the fees paid at the refuse centre (waste levy):

- Allocating $13.3 million in the Plan for collection of kitchen waste at the kerbside for composting, if our current trial is successful. This is part of Council's commitment to supporting Nelson as a Good Food City and our aim to reduce waste to landfill by 10% per capita by 2030
- Encouraging reuse of products e.g. through our Secondhand Sunday events
- Establishing a grants programme to support everyone in our community to reduce waste
- Delivering a range of workshops and activities through the Rethink Waste programme, including support for Enviroschools.

How we will protect nature:

Restoring biodiversity is a major way of storing carbon. Healthy ecosystems can mitigate climate change impacts such as absorbing excess flood water or buffering us against coastal erosion and extreme weather events.

- Planting trees and restoring indigenous forests to help capture and store CO_2
- Funding for the Brook Waimarama Sanctuary to support biodiversity and the education of future generations on the importance of protecting our natural spaces

- Funding through the Jobs for Nature programme to restore the Maitai River
- Implementing the Ecological Restoration Plans through an intensive weed 'knockdown' period.

We see many opportunities in our climate change response because it also allows us to restore local biodiversity, build sustainable urban environments, take better care of our soil and water, promote healthy lifestyle choices, support mental health and improve wellbeing by creating connected communities within a more livable City.

Council considers that the funding it has allocated is necessary to meet the requirements of the Climate Change Response (Zero Carbon) Act and the need to support community resilience to climate impacts.

What are the alternatives?

An alternative would be not to make provision for flooding and coastal inundation projects related to climate change. This would be a saving of $52 million in debt and saving on rates of $2.7 million per annum. However, Council believes it is necessary when doing physical works to build in climate change resilience in order to protect the community from future impacts.

KEY ISSUE

Q: There has been a strong community voice over many years asking Council to be proactive and show leadership on the issue of climate change. This is Council's preferred option. Do you think we should be more cautious and wait to see what Government direction and funding is planned or should we be proactive and move ahead with investments in a range of mitigation, adaptation, resilience, leadership and innovation actions?

Appendix Two

Extract from the COVID-19 and Economic Recovery and Regeneration section of Nelson City Council's Long Term Plan 2021-2031 Consultation Document.

Regeneration of our economy

We are now shifting into the next phase of economic recovery - Project Kōkiri 2.0 - which will support the transition towards a more regenerative, resilient and productive economy. The disruption caused by COVID-19 presents an opportunity to build back better.

Project Kōkiri 2.0 involves working with business and community to determine how we can meet the Te Tauihu Intergenerational Strategy outcome for Nelson Tasman to have a "resilient economy that allows our people, places, communities, and businesses to thrive". Consideration of the transitions required within the current economy to a lower- emissions focus, and a focus on the future resilience of the region in response to the significant challenges presented by climate change, is at the heart of the regenerative economic thinking in Project Kōkiri. COVID-19 has demonstrated that an economy's resilience is critical to how well it can respond to shocks and disruptions.

Our economic opportunities and challenges require creative thinking and strategic analysis, engagement with businesses and our community, and partnership with iwi and central government to move forward. This work has started through the development of a Regional Economic Development briefing that sets out our region's partnership opportunities with central government.

Project Kōkiri 2.0 will develop an Economic Development Strategy that will set the overall direction of regeneration for our economy and include a range of strategic initiatives to improve our region's overall wellbeing. The alternative is to spend less on this project, however this funding will help with the economic recovery of the region which is crucial.

An extract from the Nelson Tasman Regional Economic Development Briefing (January 2021) is included below:

Zero Carbon Economy – We ask government to support our region's transition to a zero carbon economy. Our regional economic development must have a focus on realising the opportunities that a zero carbon economy will present. We ask government to back us as a region to pilot innovative low carbon, waste reduction and climate adaptation projects, models and solutions. Work with us to fund our regional transition and implementation plan.

Appendix Three

Science and Technology Precinct

Extract from Nelson City Council's Long Term Plan 2021-2031 Consultation Document.

Science and Technology Precinct

Port Nelson, in collaboration with the Cawthron Institute, is looking to develop a Science and Technology Precinct on a piece of land bordered by Wildman Ave and Vickerman Street alongside State Highway 6.

The Precinct will be a hub of innovation and creativity, and will further augment Nelson's leading position as a location for value-add companies working in the ocean economy and aquaculture space. The involvement of Nelson's Cawthron Institute, with its 100 years' experience delivering world-class science, will blaze a trail for a range of national and international tenants.

Companies from a variety of sectors working to provide solutions to some of our regions' most pressing challenges in science and research, information technology, software development, health, agritech and aquatech, will be targeted to locate in the Precinct. With a growing appetite for new ways to work, there has been increased interest from technology companies that are considering relocating to Nelson.

The campus will include a collaborative workspace and shared amenities such as conference facilities. With innovation as a key theme, it will be designed to a high environmental standard, which will include open spaces and a park-like environment, and connect to the City Centre via the Maitai River walkway and cycleway.

The Precinct will support the work being undertaken by Council to improve the City to Sea connection, contribute to economic development opportunities (which is consistent with our vision for Nelson to be A Smart Little City), and align with the Te Tauihu Intergenerational Strategy.

The attraction of new-high value companies and their staff to Nelson will generate sustainable economic value for the region, and supports our desire to be a City that provides modern opportunities to live, work and play.

To support the right mix of companies to be attracted to the site, Council is proposing to provide support for the development of the Precinct in this Long Term Plan. There is an allocation of $3.5 million proposed in the Long Term Plan and project initiation funding of $1.5 million already available in the current year. This would result in total support of up to $5 million which would have an impact on rates of $250,000 per annum for 50 years.

Appendix Four

Extract from the Environment section of Nelson City Council's Long Term Plan 2021 2031 Consultation Document.

Forest Regeneration on Council Conservation and Landscape Reserves

Council owns over 10,000 hectares of conservation and landscape reserves. These reserves are Nelson's jewels and the backdrop to the City. Our Conservation and Landscape Reserve Management Plan 2009 has a goal to protect indigenous vegetation, habitats and ecosystems and, where appropriate, restore degraded vegetation, habitats and ecosystems.

Council's Landscape Reserves are at risk from invasive pest plants (weeds), particularly vine weeds, and as part of developing our Regional Pest Management Plan many people from our community submitted on the importance of getting these smothering weeds under control. As a result of this feedback from the community Council has developed Ecological Restoration Plans for these areas, and is now seeking the funding to implement those plans.

The Ecological Restoration Plans identify that an intensive weed 'knockdown' period is needed to allow for the protection and regeneration of the vegetation in the reserves and halt the loss of existing biodiversity areas. This initial investment will allow for lower cost maintenance activity in future years to keep the weeds under control. If a slower and less intensive approach is taken, the pest plants can come away again each season and it becomes difficult and expensive to make real progress. We intend to use both mechanical removal and 'cut and paste' gel application methods to combat weeds.

Controlling the pest plants is important for several reasons. It prevents the weeds from smothering old growth trees and destroying the canopy cover, which in turn means that future weed growth is supressed by the protected canopy. A healthy canopy also reduces the impact of heavy rainfall. The leaves slow the rate at which the rain hits the ground, which can be an important factor in helping our waterways to respond to extreme rainfall events.

Pest plant control also reduces the seed source that can spread weeds to neighbouring land and impact on new plantings. Council invests significantly in new indigenous plantings, and weed control on adjacent land will reduce the risk to those plantings. Likewise, if weeds are controlled then forest regeneration can occur without the need to plant new trees. As long as there is healthy forest nearby the trees will grow by themselves and all we have to do is to make sure they have a chance. Supporting the growth of forest by planting new trees, protecting the trees we have, and allowing for forest regeneration is an important part of Council's actions to help mitigate climate change.

As part of looking at its weed control approach generally Council has considered whether it could cease use of glyphosate herbicide and replace it with a mix of methods which could include mulch, mechanical, steam/foam and plant-based herbicides. As these alternative methods require three to four times the budget, Council has instead worked to reduce use of glyphosate through increased mulching and grazing, and has allocated resources to develop a Glyphosate Policy in 2021/22.

As well as biodiversity gains, caring for these reserves has significant wellbeing benefits for our community. Nelsonians place a high value on the visual and recreational values of the Grampians, Tantragee and Botanical Hill Reserves that form the city backdrop, and the environmental health of these areas is closely linked to the wellbeing of the people who love these places.

This funding also has the potential to generate local jobs for our community. The proposed increase in service levels will result in some new jobs immediately, increasing as the budget increases. This will provide an important pipeline of long term employment opportunities for the ecological restoration workforce being trained through the two to five year Jobs for Nature projects underway in the region, such as Project Mahita

Council is a partner in the Kotahitanga mō te Taiao Alliance and delivery of landscape scale biodiversity outcomes is a key outcome for the Alliance. Council's financial commitment to undertake important kaitiakitanga on its own land signals to our partners including iwi, that we are committed to delivering on these key biodiversity outcomes and restoring our natural landscapes. This financial commitment also has the potential to leverage additional funding from Government through initiatives such as Jobs for Nature.

Current funding for pest plant control is around $250,000 per year on average, which has not been sufficient to manage pest plants, especially vine species including Old Man's Beard, Banana Passionfruit, and Climbing Asparagus. We propose to include $250,000 in 2021/22, $669,000 in 2022/23, rising to $1.7 million by 2027/28 and then inflation adjusted for the rest of the Long Term Plan. This funding is for widespread pest plant control work on Council land – totalling $11.5 million over the next 10 years, with many significant benefits to both biodiversity and the wellbeing of our community.

What are the alternatives?

Council considered the alternative of a reduced investment in this Plan for the weed control programme, which would result in delivery over a longer timeframe. Reducing, by 50%, the investment on weed control results in a $5.7 million saving on rates but with significantly reduced protection of our biodiversity.