

Submission on Nelson Tasman Future Development Strategy, from Zero Carbon Nelson Tasman

Our group, Zero Carbon Nelson Tasman, is concerned about the speed our climate is changing and sea levels rising, and the increasing frequency and intensity of storms, droughts and bushfires. We have come together after the 2018 IPCC report on 1.5C degrees of warming, regarded by many as a piercing smoke alarm in the kitchen. We see this issue as a pre-eminent factor in planning for population growth in Nelson Tasman. Planning needs to take into account the need for adaptation to the impacts of climate change over the 30 year planning period and beyond, the high importance of planning a zero net emissions human settlement, and inclusion of as much carbon sequestration as is possible. We need to plan for a low energy demand economy, as well as transition away from fossil fuel use. These factors will have an important impact on planning.

Our submission will be focussed on this factor, while making some reference to linked co-benefits, such as biodiversity protection, enhanced human health, social cohesion and equity.

If we want the climate to be stable enough for future generations of people and wildlife to live on this planet we urgently need to reduce the quantity of greenhouse gases going into the atmosphere. We must quickly drop to half the current rate by 2030, just 11 years away, and need to get to net zero emissions by 2050 – approximately the period covered by the draft strategy. New Zealand's and the wider world's emissions have both been rising steadily and it is going to take a huge effort to make the necessary changes to turn around this unsustainable lifestyle. We need to be determined, innovative and knowledgeable at every level of governance.

Our sense of the local political climate is that there is a growing conviction that extremely urgent action is necessary. There is increasingly frequent news coverage of the issues. Citizen groups such as 350 Nelson, Forest and Bird Nelson, Nelson Environment Centre, the Motueka-based group, The Renewables and others have been speaking out about action for some time. Now the new group, Extinction Rebellion is demanding that people be told the dire truth about the climate emergency.

Our group, Zero Carbon Nelson Tasman, has a core of 11 people with professional and academic expertise in medicine, science, policy planning, project management, psychology, social work, diplomacy, education, environmental issues and business. We are very eager to give what we have to offer to work cooperatively with the two councils on these issues. We believe that we all need to lift our game on innovation and to stop shrinking from rethinking sacred cows (like car-centred society; growth economy; inevitability of population growth).

Population Growth

Adaptation to impacts of climate change

Sea Level Rise

Unfortunately sea level rise will occur even if we are successful in holding temperature to no more than 1.5 degrees rise. The councils are aware of the areas in their jurisdictions that will become unusable because of sea level rise. The time for the difficult decisions about this issue is now. The issue has grave implications for ratepayers, and deserves the dedication of resources to study options for policy. It is clear that councils should be seeking to limit investment into services to these areas, and there should be no consents for further building in the threatened areas. Presumably the

population currently living in these areas will slowly translocate and this will add to the needs to accommodate people in the higher areas. Nelson and Motueka will be particularly affected by sea level rise. A managed retreat from areas below 1.5metres above current sea level is suggested for relevant areas in Nelson and Motueka.

Coastal erosion, salinisation and sea level rise as current and future issues has generated the helpful *Coastal Hazards and Climate Change: Guidelines for Local Governments (2017)*, issued by the NZ Government. This outlines a Dynamic Adaptive Pathways Planning (DAPP) process which promotes public participation and allows for changing projections of risk. It is to be noted that the planning process by TDC for Mapua and Ruby Bay is cited in this document as an example of good practice. The DAPP process is applicable to planning issues other than sea level rise.

An idea we have not seen discussed elsewhere is the possibility of shifting valuable topsoil from shore areas which will be inevitably lost to sea level rise.

Bushfires

Tasman and Nelson's recent disturbing experience with bushfires is an unhappy reminder that the incidence of drought and destructive fires is projected to increase with global warming. Adaptation to this risk is a strong argument for increased density of the city rather than sprawling into bushland, creating high risk suburban areas. The issue of 'densification' will be further dealt with below.

Mitigation of climate change

Principles

We need to halve our fossil fuel use by 2030 and cease its use by 2050; our energy must come from renewable sources, and we must adapt to living with lower energy demand; we must use all safe opportunities to sequester carbon; we must minimise our use of other natural resources (which take energy to process); we must minimise our waste of energy and natural resources, moving towards a circular economy.

How will these principles apply to meeting the needs of increased population in our region?

Housing

To reduce carbon emissions and indirect emissions through material throughput,

- Do not allow further incursions on rural land surrounding towns, especially highly fertile land. This will protect soil and biomass carbon on this land, and increase food security in the case of disaster.
- increase the population density of urban housing in our two cities and many towns and villages. This can be done in the first instance by allowing people to build a second dwelling on their urban plot. In the second instance, 'densification' can be achieved by new or replacement dwellings being townhouses of one, two or three storeys, with shared side walls. These should, wherever possible, be built with a solar north orientation, to allow for passive solar heating, and solar hot water. They should be well insulated to minimise energy input. They should provide their own PV electricity, and have arrangements for roof

rainwater collection. Where they are near to public transport (which should become more available) they can be built without garages.

Energy

Municipalities spend a large portion of their budgets on moving water around.

Transport

Transport

By far the biggest challenge to be planned for in the next 30 years is the need for a dramatic cut in emissions of greenhouse gases. From the current situation in which emissions are unsustainable and still increasing, these will need to be turned around urgently, to reduce to net zero in that time frame. This is huge and unprecedented, and will require major changes in living and work patterns.

There is a close and obvious link between the location and type of dwellings, their proximity to work and key services, and the need for transport. Road transport is a very large emitter of greenhouse gases, and a direct cause of some inappropriate development. No further development should be allowed in Nelson/Tasman unless it is close to, and ideally within walking distance of, a current or planned public transport route or hub. For outlying areas, hubs should be developed in suitable places to allow parking or drop-offs, to facilitate the use of public transport or car-pooling from there.

A number of items should be considered in this regard:

- The design of our living spaces needs to allow, support and encourage walking, cycling, scooters, mobility scooters and other nil- or low-emission alternatives. Routes need to be safe, user-friendly, interconnected and fun to use.
- We need to avoid the problems of scattered development, which lead to total dependency on private cars. Over time, as pressure to eliminate emissions intensifies, some recently-developed areas may become quite isolated. Future patterns of growth need to focus on more intensive living: inwards and upwards, not further out.
- Electric vehicles are a useful answer to reducing emissions, but not the answer to all transport issues; EVs will still require roading, parking and infrastructure, and the space needed for these will mean that development will continue to be more spread out than desirable. Regardless of their energy source (and EVs will still result in emissions from their manufacture and power sources) single occupancy vehicle travel needs to be discouraged, and alternatives strongly promoted.
- More frequent and efficient public transport will also help, and should be planned for years in advance, but this will always be limited in some areas. This should have priority over private vehicles on key routes in peak hours.
- Increasingly, cycleways need to have priority over roads to encourage their use and need to be designed for transportation as well as recreation.
- Even aside from the overarching need to reduce emissions, other trends suggest roading for private vehicles should have lower priority. Fewer people aged under 40 are learning to drive, and the number of people holding a driver's licence has dropped in NZ in recent years.¹ Older people - and the proportion in Nelson/Tasman will be higher than most areas –

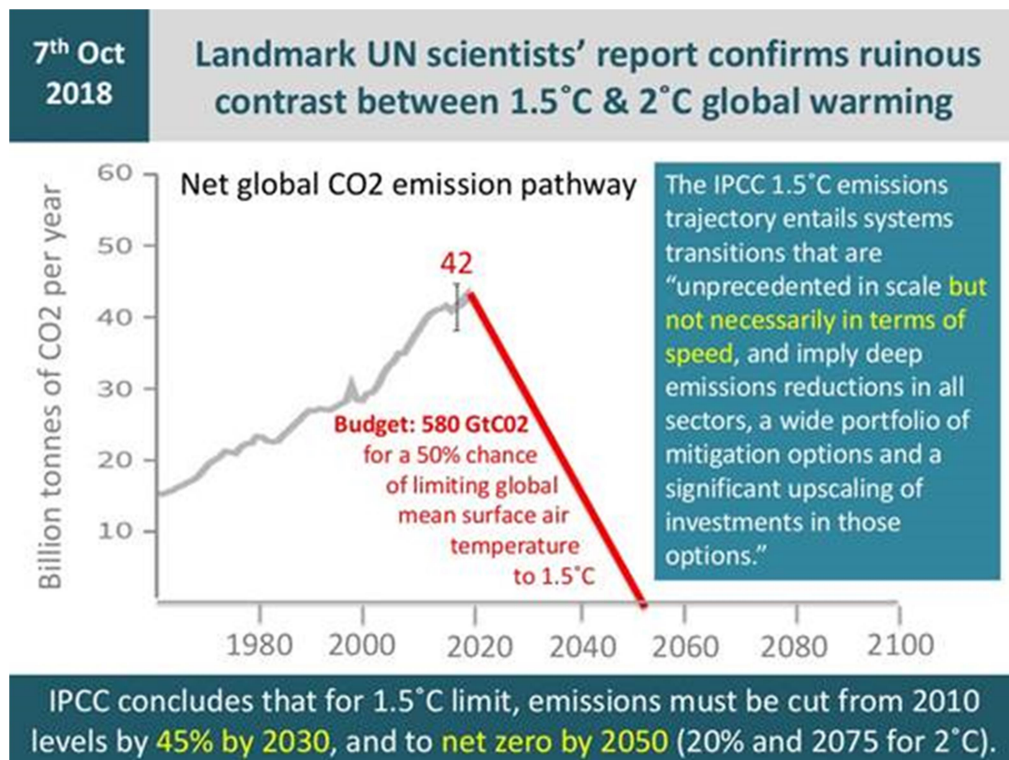
¹ <https://www.radionz.co.nz/news/national/316897/fewer-young-people-learning-to-drive>

drive much shorter distances and require other forms of transport. These trends could mean the demand and the available revenue for roading will decrease.

There are many positives from building an environment which gives priority to intensification of desirable living spaces with low-emission transport options, over roading and urban sprawl. These include health and fitness benefits; improvements to social well-being; more safe spaces for walking, cycling and recreation; improvements in air quality and tranquility; and lower infrastructure costs for new construction and for ongoing maintenance.

Other Items

Include this graph, showing the urgency of changes needed in order to limit temperature rise to 1.5 degrees. Nothing I've seen illustrates how dramatic the changes needs to be.



Other things we could include

Impacts of CC appear to be increasing faster than projected, in NZ and overseas. These impacts may be non-linear, so they could accelerate much faster than projected, and cuts in emissions could become even more urgent.

Also include planning for better Waste, Reuse & Recycling processes? This applies especially in Richmond, which currently lacks a Reuse collection point at the transfer station. Waste has a strong climate connection.

Food, soil and agriculture

Trees, parks and biodiversity

Some key issues for ZCNT joint submission

Having quickly browsed the drafts or summaries I've seen so far, we probably want to focus on:

- Summary of climate issues, urgency & the need to change
- Discussion re Growth (pros & cons)
- Managed Retreat (buildings & infrastructure)
- Intensification & benefits from this
- Planning issues
- Roads, cycle ways, parking & transport
- Construction & materials
- Farm land & food production
- Trees, parks & biodiversity
- Waste
- Summary of benefits from new directions

TOPICS FROM EMAILS SENT TO ZCNT SO FAR (Feb 4th):



"Climate Change Responses 101":

- Mitigation* = stop making it worse - stop sawing;
- Adaptation* = Reduce chances of failure
- Resilience* = survive failure

Lindsay (following Nelson meeting)

- Climate change is a game-changer, and recognising it can no longer be "development as usual";
- Community-led development strengthens neighbourhoods and gives many diverse co-benefits
- Emphasise challenges of time! e.g. Reduce emissions 100% in 30 year life of Strategy
- Many benefits of widespread urban intensification and many drawbacks to low-density subdivision.
- Essential to rethink our approach to "growth" and seek "prosperity without growth"
- Urge the councils to show true leadership in visionary development
- Need to lift our game on innovation and stop shrinking from rethinking sacred cows (like car-centred society; growth economy; drivers of urban segregation...)
- The various social, commercial and environmental issues demand integrated responses and must not be treated in isolation.

Joanna

- Growth. We should not encourage growth by trying to attract people to our region, as some regions do.
- Sea level rise, whether temperature rise held to 1.5 degrees or not. Do not develop in areas at risk, and plan for gradual retreat.
- Health and social well-being: Pattern of growth should allow for people to reach desired destinations by walking, cycling and public transport, for health, social cohesion, social equity and other benefits.
- Cut greenhouse gas emissions and overall energy use: lower car use is desirable, even with more electric vehicles or shared autonomous vehicles; reduce energy use by domestic and commercial buildings, with transition to renewables and passive solar buildings; locally produced food and no incursions on food productive land.
- Lower resource and energy use, promote carbon sequestration: Construction is a highly emissions-intensive sector; need to promote lower emissions-intensive materials

(laminated timber, alternative cements) benefiting local industry; limit new roading and reticulation pipes.

- Housing: encourage medium density townhouses with easily accessible 'pocket parks'

Jenny

NB. A good discussion on background, urgency, need for managed retreat, and the next 30 years as our last chance to get the region into a state to cope with sea level rise and climate extremes. Also:

- (a) Housing. Any new residences should be built around transport hubs, building up rather than out, and affordable housing throughout the district so people don't have to travel far to work. To cater for the ageing population more rental facilities like Abbeyfield which provide a cheaper option to retirement villages, and more flexibility for second dwellings on properties.
- (b) Transport. Public and active transport options are needed to reduce the use of fossil fuel. (To be expanded)
- (c) Farming. It is essential that housing stops sprawling on to productive land (with good soil, aspect and water). Council needs planning rules that stop this short term and irreversible behaviour. We need land to grow a more plant based diet to assist with our carbon neutral target, and we need soil farmed in the correct conditions for decades to sequester carbon. Intensive farming and market gardening will have to reduce their use of nitrate fertiliser, as NOx is a potent GHG, but there are many examples of regenerative and restorative farming to follow.

Peter

NB. Peter's is really good, but much of it is an Architect's or Planner's perspective, not really 'ours'.

- **Sea Level Rise**
- **Roading Patterns Endure: important to get them right.**
- **Will present car dominated, car dependant developments predominate in the future?**
- **Settlement patterns determine Transport demand:** This is probably the most important statement in this submission.
- **Cascade of good effects of allowing higher densities:** More Walkable Living environments; less Car dependency, therefore urban environments less car dominated; less area needed for car parking releases land available for shops and offices and pocket parks (reverse snowball effect - because less land is needed for car parking this allows more shops to be closer together, because things are closer together there is even less need to use a car so there is more space for people, more space for things more interesting and useful than parking; less obesogenic environment - you don't have to get into the car to do everything; less Infrastructure costs so less embodied energy gone into the infrastructure
- **Density of Activity = Vibrancy of the Inner City**
- **Townhouse examples are rare here**
- **Allow Second Dwellings as of right for Inner Suburbs:** More than any simple thing this could have the biggest effect on city vibrancy and affordability.
- **Missing Middle Density in Nelson:** Having more people living close into town centres is a key plank to increased city vibrancy
- **Big Trees everywhere except on people's properties**
- **Parks every 500m** - even if they are pocket parks

- **Cul-de-sacs and Arterials versus Grid pattern and Dispersed Traffic**
- **Settlement patterns to Mitigate Climate Change Effects** - Business as usual = sprawl means more energy used for transport even if that energy is not fossil fuel energy. So people commuting in electric cars is still an issue as electricity supply is going to be constrained by a) moving everything over to zero emissions and hence electricity demand will increase and b) the time and energy needed to make new renewable generation assets .
- **Low Density Subdivisions Cost Councils in future maintenance**
- **Councils can mandate affordability**
- **Covenants on Sections determining unaffordability:** Many of our Architects have been confronted with covenants that insist that buildings be large, that the buildings must be complex, and that they can't use natural CO2-neutral timber claddings or recycled materials. Councils must refuse such subdivision consents.
- **Aging Population = Changing Demands**

Bruce, random

- Trend against driving and car ownership, regardless of energy & climate issues
- Growing interest in tiny (or very small) houses



Nelson

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