Submission on NZ Government Infrastructure Strategy

Kapiti Climate Change Action Group (KCCAG)

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1.	Section 2 Outcomes and principles to guide good infrastructure decision-making	The section mentions climate change : "**Future-focused:** We think about the future while learning from the past, and ensure that our infrastructure is adaptable and responsive to changing circumstances, including climate change." Just 'including climate change' feels weak given the 'emergency' and 'existential threat'. More appropriate would be 'Climate Change' inclusion as its own point of principle with emphasis on its importance as the lens through which all infrastructure change must be viewed. Also some emphasis that every undertaking needs a carbon and environmental footprint assessment both in implementation and long term benefit (note that this is largely addressed in section 5 but should also be explicit in this section)
2.	Section 2 Outcomes and principles to guide good infrastructure decision-making Ditto	"**Evidence-based:** Infrastructure decisions are based on robust and accurate information about costs, benefits, risks, and wider positive and negative impacts, including the quantifications of costs, benefits and risks wherever possible." Although this would be covered above it would emphasise the climate risks by adding 'There needs to be special attention paid to how any project assists in countering climate change, from the perspectives of adaptation, mitigation and restoration'
3.	Section 5: Areas where action is needed to achieve the 2050 vision Building a Better Future	Good to see the first 2 sections relate to climate change: F1. Prepare infrastructure for climate change and F2. Transition energy infrastructure for a zero-carbon 2050
	Section 5: Areas where action is needed to achieve the 2050 vision Building a Better Future F1. Prepare infrastructure for climate change	This section : • Acknowledges the Climate Change Commission advice • Shows good understanding of the ways infrastructure impacts climate change and vice versa • Emphasises we should be looking at a 'true cost of carbon' and that our emissions trading scheme (ETS) is not doing that at the moment. • Transport sector challenges are acknowledged Additional points: • Associated discussion question 5 asks "How could we encourage low-carbon transport journeys, such as public transport, walking, cycling, and the use of

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		electric vehicles including electric bikes and micro-mobility devices?" Answer this by ○ recommending a nationwide advertising campaign to get people thinking about C footprint. We own TV channels so let's insist a proportion of advertising time goes into this. We have to get to a position where a high footprint becomes socially unacceptable. ○ Congestion and higher parking charges on fossil fuel private vehicles and exemption for zero and low emission vehicles ○ Exclusion of fossil fuel vehicles from city centres • The importance of waste reduction is discussed with food and building materials getting specific mention. Discussion Q6 asks "How else can we use infrastructure to reduce waste to landfill?". Our response would be to consider waste concrete as a starting material for synthetic carbon negative aggregate for concrete production. [redacted] at [redacted] has been researching the process being developed by 'Blue Planet'. With a realistic carbon price attached to normal concrete manufacture this process could quickly become viable and be utilised in much of NZ's infrastructure program in its main centres at the same time sequestering carbon. • Section "Areas where action is needed to achieve the 2050 vision", point F1.1 – "Adapt business case guidelines to ensure full consideration of mitigation and adaptation" should include climate restoration as well as mitigation and adaptation (p52). Good to see point F1.1 as an overarching action for <u>all</u> infrastructure projects. • We support all proposed actions F1.2 – 6. It would also be worth considering reducing peak travel fares to encourage use of public transport though off peak travel reductions should be greater to encourage better use of resources. The former is likely require additional public transport infrastructure (rolling stock etc.) On the topic of waste (F1.7 and F 1.8): • There is nothing here about reducing waste at source as a mechanism for reducing landfill. We need stricter legislation around packaging reduction and

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		compulsory coding of plastic recycling as well as schemes to minimise food waste such as control over deliberately early 'use by' dates. Food waste is a particular problem leading to methane GHG and we should look overseas at some of the schemes already in place to reduce food waste such as specialist shops collecting and onselling end of day food which has traditionally been wasted.
	Section 5: Areas where action is needed to achieve the 2050 vision Building a Better Future F2. Transition energy infrastructure for a zero-carbon 2050	There are aspects in this section which are complex and require specialist knowledge and evaluation beyond our capability. However we make the following points: • Energy has 2 requirements, namely movement between locations and storage (the latter unless such energy is used directly at source). Both need to be considered in our future set up. • Electricity is possibly the easiest form for us to move renewable energy from one location to another and then convert to other energy forms, mainly thermal (heating), motion (transport , machinery etc.) • Storage of energy is somewhat more difficult when in the electrical form. Battery technology is improving but is still limited and expensive. Pumping water back up the hydro system is one way to utilise excess, but involves movement of electrical power over long distances and subsequent loss of power. • Much of our renewable energy supply is in the form of potential energy stored on hydro lakes but these are mainly in the South Island. • There is also energy from natural thermal activity in various parts of NZ (eg. Taupo, Rotorua) • It would seem prudent therefore: o To generate electricity from other renewable sources (wind, solar) and utilise this energy as far as possible as generated through the grid avoiding the need for storage and reducing transmission costs o To utilise hydro and thermal energy as the backup position as they are already in a stored form (more or less) o Develop additional means of storage of energy (eg. Replenishing hydro lakes) • We should also consider how we use our energy. It is more efficient to utilise solar and thermal energy directly for heating when that energy can be utilised locally. Moving energy from one form to another

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		always results in energy loss. Solar water heating would be a good example of more efficient usage. We should therefore also be trying to build this component into our energy infrastructure strategy. • Additionally we currently waste huge amounts of energy (just go into Wellington and see how many office blocks remain illuminated when workers have gone home). This needs to stop. We did it during the various energy crises so why aren't we doing it now? • Make it easier for community solar and windfarm projects to be built
	Section 5: Areas where action is needed to achieve the 2050 vision Building a Better Future F4. Respond to demographic change	This section confines itself to looking at population projections and their uncertainty. Shouldn't it also include the changing population distribution within local body areas as suggested by the Climate Change Commission? Consideration of higher density housing and reduction of travel for work and recreation does not appear here
	Section 5: Areas where action is needed to achieve the 2050 vision Building a Better Future F6. Ensure security and resilience of critical infrastructure	Acknowledges the increased risk to critical infrastructure through climate change.
	Section 5: Areas where action is needed to achieve the 2050 vision Enabling Competitive Cities and Regions	Q18. "For the 'Enabling Competitive Cities and Regions' Action Area and the Needs: What do you agree with? • What do you disagree with? • Are there any gaps?" Climate change and our need to reduce dependency on fossil fuel driven vehicles needs to be included here as a problem. The Aotearoa 2050 survey results quoted mention the needs for local pedestrian and cyclist safety and the need to get people using public transport and building better public transport networks. Yet climate change is not specifically mentioned in the action areas and needs.
	Section 5: Areas where action is needed to achieve the 2050 vision Enabling Competitive Cities and Regions C2. Coordinate delivery of housing and infrastructure	"Integrated planning and the delivery of infrastructure and development can reduce the pressure that growth places on infrastructure networks, particularly transport and water infrastructure. It can also identify cost-effective ways to develop new housing. This in turn helps to address issues with housing supply and affordability, and reduces the environmental impacts of growth, such as carbon emissions from vehicle use and water runoff issues"

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		From a climate change perspective the word 'can' (highlighted above) should be 'must' to align with the Climate Change Commission's recommendations. "Large reductions in vehicle travel, and corresponding increases in the use of public transport, walking and cycling, can be achieved by developing in areas that are close to jobs and designing developments and transport networks that make it easy to walk and use public transport. Reducing the quantity of residential and on-street parking has been shown to reduce vehicle ownership and, as a result, the traffic impacts of new development" does align well with CCC recommendations.
	Section 5: Areas where action is needed to achieve the 2050 vision Enabling Competitive Cities and Regions C3. Improve access to employment	There is commentary here on the need to relieve traffic congestion but no mention in this section of the importance of locating work and housing in close proximity in order to reduce travel altogether. This would reduce fossil fuel commuter transport in the short term and overall energy consumption in the longer term, both recommended in the Climate Change Commission recommendations. There is also no real consideration of encouragement to move employment to areas where urban redesign is easier than in central cities. This approach could also help address equity problems. Climate change is not given as a reason for improving access to employment in this section when it should be one of the primary reasons. Overall congestion charging is likely to be of benefit in addressing climate change in that car usage would be deterred, and is therefore supported. Zero carbon or low carbon vehicles could be encouraged by exemption.
	Section 5: Areas where action is needed to achieve the 2050 vision Enabling Competitive Cities and Regions C4. Plan for lead infrastructure	Planning for lead infrastructure is important from a climate change viewpoint though this is not mentioned. Preservation of wetlands and potential water runoff problems can be better handled where lead infrastructure planning precedes development.
	Section 5: Areas where action is needed to achieve the 2050 vision Enabling Competitive Cities and Regions	The connectivity of NZs regions is generally poor which results in significant dependence on car and air transport. This is a significant factor in private transport usage and requires significant work from the climate change viewpoint if people

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	C5. Improve regional and international connections	are to give up their cars, reduce flying and turn to public transport. In order to decarbonise international aviation – which will rely on the production of large amounts of sustainable fuels - this will have major infrastructure implications. Depending on what route is chosen this will require large processing plants to be built and a significant increase in renewable electricity. Decisions need to be made urgently as to the decarbonisation strategy for international aviation. Similarly we need vast improvements in our rail network if we are to encourage freight transport away from road transport where we have limited alternative to fossil fuels at present and in any case want to see more efficient rail transport utilised.
	Section 5: Areas where action is needed to achieve the 2050 vision Creating a better system	Commitments to zero-carbon 2050 having funding impacts is acknowledged.