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Auckland Council

Submission to Auckland Council on the Auckland's Energy Resilience and Low Carbon Action Plan

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Thank you for the opportunity for OraTaiao: The New Zealand Climate and Health Council to make a submission on Auckland's Energy Resilience and Low Carbon Action Plan.

We wish to make an oral presentation in front of the Auckland Council.

OraTaiao: The New Zealand Climate and Health Council comprises approximately 180 senior doctors and other health professionals in New Zealand very concerned about the impact of climate change on health and health services.

This submission has been written with consultation from OraTaiao members based in Auckland and represents their views.

Yours sincerely,

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Executive Summary

OraTaiao generally supports the Auckland's Energy Resilience and Low Carbon Action Plan. We support the Council's vision for a low carbon, quality, compact Auckland.

Climate change has far-reaching effects on human health. Well-planned climate change mitigation strategies can also generate significant co-benefits for health. As health professionals, we see this plan as an opportunity to create a healthier future for Auckland. It is also an opportunity to reduce inequities and help combat the non-communicable disease epidemic.

In order to achieve these goals, we recommend a transformative vision for a liveable, vibrant, cohesive, low-carbon Auckland in 10 – 15 years' time. This must involve, among other things, a dramatic reduction in fossil fuels and a transport system that allows Aucklanders to be much less reliant on cars for transport.

We strongly recommend more ambitious emission reduction targets be adopted in the Plan, especially in the short-term leading up to 2020. There is extensive evidence that global temperature rise must be kept to less than 2°C in order to avoid the most serious effects of climate change. To play its part in achieving this, Auckland must reduce its carbon emissions by 40% by 2020. Even this more aggressive target for Auckland would be conservative in comparison to other liveable cities, some of which have targets of being carbon neutral by 2025.

In particular, we identify enormous opportunity for quick and cost-effective emission reductions in the transport and housing sectors. Mitigation strategies in transport and housing are also able to reduce inequity, create green jobs and generate large health co-benefits such as reducing obesity, heart disease, respiratory diseases and asthma in children. We highly recommend completing a comprehensive walking, cycling and public transport network by 2020. We also recommend improving housing standards including implementing a warrant-of-fitness for rental homes, retrofitting more of Council's own properties and requiring all new homes to reach HomeStar 6 by 2020.

Carbon footprint analysis for procurement and the international shipping and aviation sectors is missing from the draft Plan. We urge the Council to account for these missing emissions and to advocate for climate change mitigation in these sectors.

Additionally, we recommend the Council to ensure that legislation and funding are in place for the implementation of the Plan.

General Position Statement

1. Thank you for the opportunity to submit on Auckland's Energy Resilience and Low Carbon Action Plan (hereafter referred to as *The Plan* in this document).
2. OraTaiao generally **supports** Auckland Council's plan to make Auckland an energy resilient, low carbon city.
3. It is encouraging to see a low carbon plan being developed for Auckland according to the agreement that 'developed countries should develop low carbon development strategies or plans' at United Nations Framework Convention on Climate Change (UNFCCC) 16th Conference of Parties (COP16) in Cancun in 2010.(1)
4. We support the Council's vision of a quality, compact Auckland with a strong sense of community that could be one of the most liveable cities in the world.
5. Indeed, this plan will do more than reducing abstract amounts of greenhouse gases in the air. As doctors and health professionals, we can see that this plan has the potential to give the people of Auckland cleaner air, improved housing and better health and wellbeing. We also see this plan as an opportunity to create a more equitable Auckland and to help combat the impending epidemic of non-communicable diseases.

Health effects of climate change

6. Climate change has profound adverse effects on human health, which is widely recognised by a number of renowned authorities in health.(2-4) The Lancet, one of world's leading medical journals, calls climate change 'the biggest threat to global health in the 21st century'.(5)
7. In New Zealand (including Auckland), the effects of climate change on health could include:(6-9)
 - a. Primary effects
 - Injury and illness due to more frequent and severe extreme weather events
 - Heat-related death
 - More photochemical air pollution due to higher temperature, causing more respiratory illnesses
 - b. Secondary effects
 - Food and water insecurity, loss of agriculture and farming production
 - Climate migrants and refugees from low-lying Pacific islands
 - Vector-borne infectious diseases such as Dengue fever
 - Loss of stratosphere increasing rates of skin cancer
 - c. Tertiary effects
 - Mental health problems due to loss of livelihood in farming community, migration and extreme weather events
 - Economic collapse
 - Conflict
8. These adverse health effects may be more profound in Auckland, especially in urban areas, as the population is projected to increase. Climate change will disproportionately affect vulnerable urban populations, including Māori people, Pacific people and migrants.(10) Climate change threatens to substantially increase health inequities.

9. The very recently released Fifth Assessment report from Working Group Two of Intergovernmental Panel for Climate Change (IPCC) warns that impact of climate change is ‘severe, pervasive and irreversible’ and ‘nobody on this planet is going to be untouched by impacts of climate change’.(11) These adverse health effects of climate change will be costly to society and will put major pressure on our healthcare system.

Health co-benefits of climate change mitigation

10. Low carbon urban designs can help to prevent adverse effects on health through mitigating climate change and they also carry significant co-benefits for health.(12) Some examples of these climate change mitigation strategies with health co-benefits include:
 - a. Active transport (walking and cycling) and public transport can increase physical activity, thereby reducing obesity and cardiovascular diseases, and also reduce air pollution and road traffic injuries.(13) They tend to be more accessible to people from socioeconomically deprived groups and can therefore improve social and health equity.(14)
 - b. Well-insulated, warm and dry houses can reduce the incidence of respiratory diseases such as asthma and chest infections, especially in Māori and Pacific families. Interventions to improve housing quality can therefore have significant benefits for health equity.(15)
 - c. Renewable energy such as hydropower, solar and wind power can reduce air pollution associated with fossil fuel use and reduce the burden of respiratory and cardiovascular diseases.
 - d. Reduced red meat consumption can decrease obesity and colon cancer.

More ambitious emission reduction targets in Auckland Low Carbon Action Plan

We recommend 40% emission reduction by 2020.

11. Our main concern is that emission reduction targets as set out by the plan are not ambitious enough to limit the substantial adverse health effects of climate change in the future. We would like to see more ambitious targets, especially by 2020. Achieving higher emission reduction by 2020 is both crucial and achievable.

New Zealand’s responsibility

12. In order to stay below the internationally recognised safe limit of temperature rise of 2°C (beyond which positive feedback loops come into play, the balance tips and the risk of adverse effects from climate change increases steeply), total global emissions need to stay below a certain threshold.(16) Climate change is an issue largely caused by developed countries but disproportionately affecting developing countries. According to the principle of common but differentiated responsibility underlying the Greenhouse Development Rights framework, New Zealand is responsible for reducing its emissions by 40% by 2020.(17) This target is also reinforced by IPCC reports and extensively argued for in a number of key New Zealand public health reports.(9, 18)

Ambitious emission reduction targets by 2020

13. In order for the world to stay below 2°C of temperature rise, emissions reduction in the decade between 2010–2020 is of utmost importance. Emissions need to peak before 2020 in order for there to even be a chance of staying within the 2°C guardrail.

Comparison to other cities

14. Auckland Council's target (and indeed the national target) of reducing emissions in Auckland by 40% by 2040 is too low and too slow. As acknowledged in the Plan, cities like Vancouver and London have plans to reduce emissions by nearly 40% by 2020. Rotterdam is reducing its emissions by 50% by 2025. And these cities are by no means leading the way in transitioning to a low carbon future: cities such as Copenhagen plan to be carbon-neutral by 2025.⁽¹⁹⁾ We are already years behind other cities in terms of intensification and public and active transport infrastructure. Therefore Auckland needs much greater and more urgent emissions reduction if it hopes to keep pace with other cities in the transition to a low-carbon, liveable city.

Why Auckland should take leadership

15. Recognised as one of the most liveable cities in the world, Auckland has so much potential. New Zealanders pride ourselves on innovation and ingenuity, and a can-do attitude. Auckland is very vulnerable to extreme weather events from climate change. Auckland is also an incredibly culturally diverse city and the hub for migrants (and potential climate migrants) from the Pacific and elsewhere. Building a resilient, low carbon Auckland is a unique opportunity for a liveable and equitable community.

Transformative Vision for Low Carbon Auckland in 2040

We recommend the Plan to have a transformative vision for a low carbon Auckland

This vision includes:

- Public/active transport for most trips
- Minimal need for cars in the future
- A future without fossil fuels.

16. The draft Plan is too similar to business as usual. Though changes outlined in the plan are visionary, it is proposed that these changes will take 30 years to achieve. In order for Auckland to transform into a liveable, vibrant, cohesive, low-carbon city, the future has to look very different from the present.

17. In order to achieve the more ambitious emissions reduction targets we recommend adopting, transport patterns will need to undergo profound change. The implications are that in 10 – 15 years' time, most Aucklanders will be using buses, trains, ferries, cycling or walking to school and work. There will be much less reliance on private motor vehicles for everyday travel. As a result of a smarter, compact, more efficient urban environment, energy demand will be lower despite population growth. Aucklanders will be more physically active, less exposed to air pollution and therefore healthier – with significant benefits for productivity and cost savings for the healthcare system.

More ambitious emissions reduction targets in transport and housing sector

18. In particular, the transport and housing sectors offer large potential for easy gains in emission reduction. They also benefit:

- Health – creation of health co-benefits such as reducing obesity, air pollution, road traffic injuries, respiratory infections and asthma
- Job creation – creation of employment opportunities in building public and active transport infrastructure and in retrofitting houses
- Equity – through access to low cost public and active transport and warm, dry houses.

19. Transport accounts for 39% of emissions in Auckland, yet Auckland Council only predicts transport to contribute to 5-10% of total emissions reduction by 2020 (Figure 1). Yet the transport sector has considerable potential for low cost emissions reduction and health co-benefit creation that the draft Plan fails to capitalise on.

Prioritising completing infrastructure for public and active transport by 2020

20. As noted by the World Health Organization and drawing on a comprehensive review of the literature, land use change and public transport has much greater potential for reducing emissions and creating health co-benefits than improving vehicles or fuels in vehicles.(14, 20) Modelling undertaken in Auckland shows that the benefits of completing a network of separated cycle-lanes would outweigh the costs by a factor of 10-25.(21) It is clear that the emphasis should be on completing infrastructure for public and active transport by 2020.

Less emphasis on improving vehicles or fuels

21. While it is encouraging to see the Council's plan for initiatives in electric cars and alternative fuels, one has to be wary of their limitations. For example, biofuel has the same air pollution profile as fossil fuel and can take up land for food production causing food insecurity.(22) Electric cars, whilst able to reduce air pollution, cannot provide health co-benefits from other pathways such as increasing physical activity.(20) At the moment, the plan still has too much emphasis on fossil fuel itself, biofuel and electric cars.

Housing Sector

22. Housing is regarded as the sector with the largest immediate potential for cost-effective mitigation of climate change. Well insulated homes have benefits for both climate change mitigation and adaptation. Resilient housing can protect people from heat waves, extreme weather events and other environmental risks. Cost-benefit analysis of a randomised community trial of retrofitted houses in New Zealand shows that the benefits of retrofitting are at least one and a half to two times the cost of doing so.(23)

Other unaccounted for carbon emissions

Procurement

23. A major component of Auckland's footprint that is missing from the Auckland low carbon action plan is procurement – goods and services that Aucklanders purchase. As the council has pointed out, 52% of emissions produced by Aucklanders is from food consumption. For example, in the UK, procurement contributes towards 61% of emissions produced by the National Health System (NHS).(24) The Auckland Council as a public agency might have a similar emission profile and a sizeable contribution to emissions from procurement.
24. Auckland Council should perform its own procurement footprint analysis and adopt life cycle analysis (LCA) for all its decisions in procurement. Additionally, Auckland Council should conduct procurement footprint analysis for Auckland as a whole and facilitate low carbon procurement for all goods and services in different sectors.

International emissions

25. Another missing component of Auckland's footprint is emission from the international shipping and aviation sectors. Wellington Council noted that 18% of the city's emissions come from fuel in the aviation sector.(25) Auckland's emissions from international aviation sector are likely to be similar, if not higher. These emissions are not accounted for by the Council in the Low Carbon plan. The Council should also actively advocate and facilitate the international shipping and aviation sectors to reduce their emissions.

Ensure financial and legislative support for Auckland Low Carbon Action Plan from local and central government

Recommendations

26. In general, we recommend:

- The Plan to have more ambitious emissions reduction targets, especially by 2020. We recommend a target of 40% reduction by 2020
- The Plan to have a transformative vision for a low carbon Auckland
- The Council to ensure that the Plan is legally binding
- The Council to advocate for legislative and governance changes to reduce barriers to the plan and ensure the realisation of the Plan

27. Transport

- More ambitious emissions reduction targets in the transport sector

Element 1 – reducing demand for travel

- Reinforcement of urban intensification as set out by the Unitary Plan
- Focus on mixed zoning along transport corridors
- Revising transport and parking costs to make public and active transport more attractive to users
- Setting an ambitious target for the percentage of area of the city with minimum parking requirement and off-street parking requirements

Element 2 – increasing the use of public transport, walking and cycling

- Completing public transport and cycling network by 2020
- Reducing current speed limit along proposed cycle lanes
- Completing the City Rail Link by 2020
- Completing a bus network with high coverage on all-day bus lanes on all frequent bus routes by 2020
- More comprehensive bus lane priorities by 2020
- Speed reduction along inner city roads and major cycle ways
- Having an ambitious target for streets with walkable designs eg 100% of urban streets by 2020
- Making public transport, cycling and walking the transport mode of choice by 2020
- Markedly increasing Aucklanders' average public transport usage by 2020

Element 3 – moving away from the use of fossil fuels

- Introducing hybrids to private vehicles and the public transport fleet before full conversion to electric vehicles and fleets
- 50% reduction in fossil fuel sales by 2020
- Less reliance on non-sustainable biofuels
- Dramatic reduction in the use of cars by 2040

28. Energy

- Specifying the percentage of Auckland's energy consumption that is from renewable energy. We recommend 50% of Auckland's energy supply is generated through renewable sources by 2020.

29. Housing

- More ambitious targets in improving housing standards and insulation
- Retrofitting more of Council's property by 2020 (80%)
- All new homes reach Homestar 6 by 2020

- Enforcing warrant of fitness for rental homes by 2020
- Ensuring that large-scale public procurement of housing such as the Tāmaki Redevelopment should set an example for best practice in housing standards
- Introduce a tool of assessing health and safety of homes that is available for renters and buyers

30. Waste

- Support the zero waste target by 2040
- Reduce production and improve management of waste in all sectors
- Allocation of areas for new forest planting

31. Procurement

- Facilitate reduction of carbon due to procurement in all sectors
- Auckland Council to analyse its own carbon footprint from procurement
- Auckland Council to perform procurement footprint analysis for Auckland as a whole
- Extend life-cycle analysis beyond merely building and building materials to all goods and purchases

32. International emissions

- Account for international emissions from shipping and aviation as a part of Auckland's emissions profile
- Advocacy for emissions reductions in the international aviation and shipping sectors

33. Additionally, we recommend:

- Reinforcement of urban intensification as set out in the Unitary Plan
- Advocacy for emissions reduction in the healthcare sector
- Using health impact assessment to guide policy-making in climate change mitigation
- Utilising cost-benefit analysis tools to assess the value of health co-benefits of various climate change mitigation strategies
- Creation of employment through green jobs in building transport infrastructure and retrofitting houses
- Supporting a stronger Emissions Trading Scheme for New Zealand

References

1. UNFCCC. The Cancun Agreements - Developed country emission reduction targets 2010 [cited 2014 31st March]. Available from: <http://cancun.unfccc.int/mitigation/developed-country-emission-reduction-targets/>
2. Chan M. Climate change and health: preparing for unprecedented challenges. Bethesda, Maryland, USA: World Health Organization 2007.
3. WMA Declaration of Delhi on Health and Climate Change. New Delhi, India October 2009.
4. McMichael AJ. Globalization, climate change, and human health. *The New England journal of medicine*. 2013;368(14):1335-43.
5. Costello A, Abbas M, Allen A, Ball S, Bell S, Bellamy R, et al. Managing the health effects of climate change: Lancet and University College London Institute for Global Health Commission. *Lancet*. 2009;373(9676):1693-733.
6. Woodward A, Hales S, De Wet N. Climate Change Potential Effects on Human Health in New Zealand. Wellington Ministry of Environment; 2001.
7. Howden-Chapman P, Chapman R, Hales S, Britton E, Wilson N. N. Climate Change and Human Health: impact and adaptation issues for New Zealand. In: Nottage R, Wratt D, Bornman J, Jones K, editors. *Climate Change Adaptation in New Zealand: future scenarios and some sectoral perspectives*. Wellington New Zealand Climate Change Centre; 2010. p. 112-21.
8. Phipps R, Randerson R, Blashki G. The climate change challenge for general practice in New Zealand. *The New Zealand medical journal*. 2011;124(1333):47-54.
9. Policy statement on Climate Change Wellington: New Zealand College of Public Health Medicine; 2013.
10. King D, Penny G, Severne S. The Climate Change Matrix Facing Māori society. In: RAC N, DS W, JF B, K J, editors. *Climate Change Adaption in New Zealand: future scenarios and some sectoral perspectives*. Wellington: New Zealand Climate Change Centre; 2010.
11. *Climate Change 2014: Impacts, Adaptation, and Vulnerability*. Working Group II Contribution to the IPCC 5th Assessment Report. Cambridge, UK: Intergovernmental Panel on Climate Change; 2014.
12. Haines A, McMichael AJ, Smith KR, Roberts I, Woodcock J, Markandya A, et al. Public health benefits of strategies to reduce greenhouse-gas emissions: overview and implications for policy makers. *Lancet*. 2009;374(9707):2104-14.
13. Lindsay G, Macmillan A, Woodward A. Moving urban trips from cars to bicycles: impact on health and emissions. *Australian and New Zealand journal of public health*. 2011;35(1):54-60.
14. Hosking J, Mudu P, Dora C. Health Co-benefits of Climate Change Mitigation - Transport sector. Geneva: World Health Organization 2011.
15. Philippa H-C, Anna M, Julian C, Helen V, Malcolm C, Tony B, et al. Effect of insulating existing houses on health inequality: cluster randomised study in the community. *Bmj*. 2007;334(7591):460.
16. Metz B, Davidson O, Bosch P, Dave R, Meyer L. Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [Internet]Cambridge: Intergovernmental Panel on climate Change 2007 [
17. Baer P, Athanasiou T, Kartha S, Kemp-Benedict E. The right to development in a climate constrained world: the Greenhouse Development Rights framework. Heinrich Böll Foundation, Christian Aid, EcoEquity, Stockholm Environment Institute; 2008.
18. Metcalfe S, Woodward A, Macmillan A, Baker M, Howden-Chapman P, Lindsay G, et al. Why New Zealand must rapidly halve its greenhouse gas emissions. *The New Zealand medical journal*. 2009;122(1304):72-95.
19. Copenhagen 2025 Climate Plan. Copenhagen: City of Copenhagen, the Technical and Environmental Administration June, 2012.
20. Woodcock J, Edwards P, Tonne C, Armstrong BG, Ashiru O, Banister D, et al. Public health benefits of strategies to reduce greenhouse-gas emissions: urban land transport. *The Lancet*.374(9705):1930-43.

21. Macmillan A, Connor J, Witten K, Kearns R, Rees D, Woodward A. The Societal Costs and Benefits of Commuter Bicycling: Simulating the Effects of Specific Policies Using System Dynamics Modeling. *Environmental health perspectives*. 2014.
22. Hill J, Polasky S, Nelson E, Tilman D, Huo H, Ludwig L, et al. Climate change and health costs of air emissions from biofuels and gasoline. *Proceedings of the National Academy of Sciences of the United States of America*. 2009;106(6):2077-82.
23. Chapman R, Howden-Chapman P, Viggers H, O'Dea D, Kennedy M. Retrofitting houses with insulation: a cost-benefit analysis of a randomised community trial. *Journal of epidemiology and community health*. 2009;63(4):271-7.
24. Carbon Footprint update for NHS in England 2012. Sustainable Development Unit; December 2013.
25. Wellington City's 2013 Climate Change Action Plan Wellington City Council 2013.