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Draft Strategy Submissions
Energy Efficiency and Conservation Authority
PO Box 388
WELLINGTON

Submission on the Draft New Zealand Energy Efficiency and Conservation Strategy (NZEECS)

1. Thank you for the opportunity for the Auckland Regional Public Health Service to provide a submission on the Draft New Zealand Energy Efficiency and Conservation Strategy (NZEECS).

2. This submission represents the views of the Auckland Regional Public Health Service (ARPHS). ARPHS provides public health services for the three district health boards in the Auckland region (Auckland, Counties Manukau and Waitemata District Health Boards), with the primary governance mechanism for the Service resting with Auckland District Health Board. This submission represents the views of the ARPHS and does not necessarily represent the views of the three District Health Boards.

3. ARPHS understands that all submissions will be available under the Official Information Act 1982, except if grounds set out under the Act apply.

4. The primary contact point for this submission is:

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Key Issues

5. ARPHS supports the overall objectives of the NZEECS and considers that improved energy efficiency, if implemented appropriately, has substantial potential to improve public health and wellbeing.

6. ARPHS believes that the NZEECS would be more effective in supporting Government's priorities if a Health Impact Assessment (HIA) were carried out on the proposed policy and the recommendations from such an HIA were implemented.

7. ARPHS recommends that greater priority be given to implementing those portions of the NZEECS that have the greatest collateral benefit for improving population health, reducing health inequalities and improving Maori health.

8. In the NZEECS sector of *Our homes*, ARPHS considers that additional measures are needed to increase insulation and energy efficiency in homes. Such measures should be implemented in ways that reduce health inequalities and socioeconomic inequalities.

9. In the NZEECS sectors of *Transport* and *Planning and partnerships*, ARPHS considers that greater emphasis is needed on the promotion of active transport (walking and cycling) and public transport. Greater emphasis is also needed on urban design that reduces the need for travel.

10. Specific ARPHS recommendations are listed at the end of each section within this submission.

Introduction

11. The Auckland region faces a number of public health challenges through changing demographics, increasingly diverse communities, outstanding infrastructure needs, the balancing of transport needs, and the reconciliation of urban design and urban intensification issues.

12. Policy to affect health gain is often marginalised to medical care. However, health is influenced by a broad range of policy decisions and is not solely the responsibility of the health sector. Planning and policy decisions by central government, local government and non-government agencies can have a large impact.

13. There is a shared responsibility between the health sector, local authorities, central government agencies, non governmental organisations and individual community members, to advance population health and community wellbeing. There is a need to foster stronger partnerships that work collaboratively to improve the health of New Zealanders, with ARPHS' particular focus being the people of the Auckland region.

14. ARPHS has identified six 'vital few' service delivery outcomes that it believes are critical to achieving public health:

- Reduction in the incidence and impact of infectious disease.
- Reduction in the incidence and impact of obesity, diabetes and cardiovascular disease.
- Reduction in the incidence and impact of tobacco and alcohol related harm.
- Reduction in the incidence and impact of cancer.
- Reduction in the incidence and impact of environmental inequalities.
- Reduction in the incidence and impact of environmental hazards.

Government Priorities

15. Government has three strategic priorities for the decade 2006-2016[1], namely:

- Economic Transformation
- Families, Young and Old
- National identity

16. The NZEECS and the New Zealand Energy Strategy directly support the economic transformation theme of world class infrastructure and environmental sustainability.

17. The second of Government's three stated priorities for 2006-2016 is 'Families, young and old'. This priority has several sub-themes:

- strong families
- healthy confident kids
- safe communities
- better health for all
- positive ageing

ARPHS considers that the NZEECS has substantial potential impacts on the families, young and old theme and the collateral benefits to the families, young and old theme should be explicitly acknowledged and the synergies captured.

[1] http://www.dpmc.govt.nz/dpmc/publications/government-priorities.html

For instance, reducing traffic volumes and speeds may not only promote energy efficiency but will also help protect children and elderly people, who are particularly vulnerable road users. Similarly, housing insulation is likely to disproportionately benefit both children and elderly people.

Much of this submission on the NZEECS outlines the collateral benefits for Government and society attainable by ensuring that a 'whole of government' perspective is taken in the development and implementation of the NZEECS.

Health inequalities

18. Substantial inequalities in health status exist between population groups in New Zealand. These inequalities are particularly evident for lower socioeconomic groups, for Maori and for Pacific peoples. Improving the health status of those currently disadvantaged is identified by the New Zealand Health Strategy[2] as a fundamental principle that should be reflected across the health sector. It is also recognised that addressing these health disparities requires intersectoral action. The NZEECS has the potential for substantial impacts on health inequalities in New Zealand. Specific instances of this will be discussed in the body of the submission.

19. ARPHS recommends that, for all strategic policy, operational policy and delivery decisions, one of the factors used for decision making around implementation and sequencing is the impact on health inequality.

Maori health

20. As a population group, Maori have the poorest health status of any ethnic group in New Zealand. Accordingly, improving Maori health and reducing Maori health inequalities are major goals of the New Zealand health system, as reflected in key health sector documents such as the New Zealand Health Strategy[3] and He Korowai Oranga – Maori Health Strategy[4].

21. He Korowai Oranga – Maori Health Strategy sees Maori participation in decision-making as an important pathway to improving Maori health and reducing Maori health inequalities. As the potential impacts of the NZEECS on Maori health are substantial, ARPHS believes that Maori participation in decision-making regarding the NZEECS is important.

[2] Ministry of Health. The New Zealand Health Strategy. Wellington: Ministry of Health, 2000.
[3] Ministry of Health 2000.
[4] Minister of Health, Associate Minister of Health. He Korowai Oranga – Māori Health Strategy. Wellington: Ministry of Health, 2002.

Comments on the NZEECS

General comments

22. Health impact assessment (HIA) is a formal approach used to predict the potential health effects of a policy, with particular attention paid to impacts on health inequalities. It is applied during the policy development process in order to facilitate better policy-making that is based on evidence, focused on outcomes and includes input from a range of sectors.[5, 6]

23. The Parliamentary Commissioner for the Environment released a report in 2006 entitled 'Healthy, Wealthy and Wise – A health impact assessment of *Future currents: Electricity scenarios for New Zealand 2005-2050'* that used health impact assessment (HIA) to assess the health effects of energy policy choices. The HIA found small scale sustainable energy supply and energy efficient homes meant better health, as well as lower power bills and reduced emissions of greenhouse gases.[7]

24. Given the substantial impacts that the NZEECS could have on health, ARPHS recommends that a health impact assessment be undertaken of the NZEECS. Further information on health impact assessment in New Zealand can be found at http://www.nhc.govt.nz/phac/health-impact-assessment.htm

25. The NZEECS has the potential to have substantial impacts on health. The NZEECS has been written largely from an economic perspective, however the economic impacts on decisions around health have been largely ignored. The economic impact of the NZEECS at an individual level should mean that a greater proportion of income is available for discretionary spending with the potential for such spending to improve health, particularly from those suffering substantial disadvantage. At a population level beneficial or adverse health impacts from any decisions would be largely externalised to the health sector. From a 'whole of government' perspective these externalities need to be acknowledged and given due weight in decision making.

[5] Public Health Advisory Committee. A Guide to Health Impact Assessment: A Policy Tool for New Zealand. Wellington: Ministry of Health, 2005.
[6] Public Health Advisory Committee. An idea whose time has come. New opportunities for health impact assessment in New Zealand public policy and planning. Wellington: Ministry of Health, 2007.
[7] http://www.pce.govt.nz/reports/allreports/1_877274_28_3.shtml

26. Government should lead the way on energy efficiency measures, as represented in the NZEECS objective 'Government leading the way – partnership and innovation'. This should include building and using energy-efficient buildings; supporting the use of energy efficient travel modes; reducing the need for car travel by locating government agencies centrally and close to public transport networks; supporting alternatives to air travel such as videoconferencing; and using renewable energy.

Objective: Healthy homes – more comfortable with less energy

27. Warm, dry housing is a fundamental human need. Indoor cold is associated with asthma, other respiratory illnesses and an increased risk of cardiovascular disease. Colder houses place more physiological stress on older people, babies, and the sick, all of whom spend more time inside. Cold temperatures have an independent effect on health outcomes and will almost certainly exacerbate existing health conditions and may lead to early winter mortality. Winter excess mortality for people over 65 years is greater in New Zealand than in Northern Europe, which may reflect differences in the quality of housing.

28. Houses that are cold are also more likely to be damp and this can lead to mould growth, which can cause respiratory symptoms. The link between cold, damp, crowded housing conditions and health has been highlighted in a number of international reports.

29. High humidity, poor insulation, poor maintenance, low levels of heating and a tendency for some newer low cost homes to be very airtight mean that many households live in damp and cold conditions.

30. Poor housing conditions are associated with a wide range of health conditions including respiratory infections, asthma, lead poisoning, injuries, and mental health[8]. Secure and affordable housing improves the ability of households in greatest need to provide a stable environment for their children with consequent improvements in health, employment and educational outcomes[9].

[8] Krieger F, Higgins D. Housing and Health: Time Again for Public Health Action. American Journal of Public Health;2002:758.
[9] Housing New Zealand Corporation. Building the Future: Towards a New Zealand Housing Strategy: a discussion document. Wellington, 2004.

31. The Housing, Insulation and Health research undertaken by the Wellington School of Medicine and Otago University[10,11] found that families in insulated homes had fewer hospital and general practitioner visits for respiratory conditions and fewer days off work and school. Energy use decreased a small but significant amount and houses were drier and warmer once insulated.

32. A lack of affordable and adequate housing is a significant issue particularly within the Auckland region. In Auckland house prices and rents are higher and rising at a higher rate than the rest of the country and Aucklanders spend more of their income on housing. Significant overcrowding is an issue in Auckland and this is due partly to a lack of affordable housing and to a large percentage of New Zealand homes having three bedrooms and not being large enough to adequately cater for large families. The high cost of housing leaves less money for other items essential to good health including a nutritious diet, primary health services, winter heating, education and transport. Thus, measures to improve energy efficiency should be implemented in a way that does not further disadvantage low-income households.

33. ARPHS supports an increase in the level and quality of insulation required in all occupied buildings. An international systematic review on housing improvement interventions[12] found that improved energy efficiency (including the installation of heating) led to improved respiratory and other symptoms. Energy efficiency measures such as central heating and double glazing can directly raise temperature and reduce dampness. Homes also need to be well positioned to access sunlight.

34. Natural light/sunlight is also needed in commercial buildings where people spend a lot of time in order to prevent vitamin D deficiency, especially in winter time, which has a number of ramifications for health. Inadequate Vitamin D can lead to a range of health problems, including osteomalacia in adults, osteoporosis, rickets in children, and is associated with increased risk for some types of cancer (such as breast, ovary, prostate and colon cancers). Recent studies have also shown that Vitamin D insufficiencies are associated with reduced lung function, increased risk of Type I Diabetes, development of disease in peripheral arteries, and reduced muscle strength and function in elderly people.

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[10] Howden-Chapman P, Crane J, Matheson A, et al. Retrofitting housing with insulation to reduce health inequalities: aims and methods of a clustered, randomised, community-based trial. Social Science & Medicine 2005;61:2600-10.

[11] Howden-Chapman P, Matheson A, Crane J, Viggers H et al. Effect of insulating existing houses on health inequality: cluster randomised study in the community. BMJ 2007;334:460.

[12] Thomson H, Petticrew M, Morrison D. Housing improvement and health gain: a summary and systematic review. Glasgow: University of Glasgow: MRC Social and Public Health Sciences Unit, 2002:45.

35. Insulation can also reduce the need for heating. This reduces energy demand, and can also reduce the need for use of energy sources such as wood burning. While wood is a renewable energy source, it can contribute to local air pollution, making increases in wood burning in urban areas undesirable. In comparison, energy efficient homes may help reduce air pollution by reducing fuel use.

36. ARPHS believes it is very important to maintain proper ventilation, including when the windows are closed. This means that it is energy efficiency measures for buildings need to provide for adequate ventilation. Airtight homes that lack adequate ventilation can allow toxic fungi to grow. In some cases, natural ventilation may not be appropriate, such as where opening windows regularly exposes occupants to significant levels of noise or outdoor air pollution.

37. ARPHS supports the Energy Efficiency and Conservation Authority's target to achieve an internal temperature in residential and commercial buildings of not less than 18ºC and not more than 25ºC at reasonable cost and without the need for resorting to significant heating or cooling energy.

38. Hot water cylinders can be a significant source of energy wastage. However, ARPHS believes that there is a need for hot water cylinders to be kept at 60ºC or higher. This temperature is necessary to reduce the risk that stored water will become contaminated with bacteria. Raising the temperature this high, however, presents a risk in use. ARPHS believes that it is necessary to have the cylinder appropriately insulated and the system supported by a tempering valve to mix the hot water with cold water and reduce the temperature at the tap to a safe level. The recommended temperature from a hot tap should be no more than 55ºC; however, 50ºC is an optimum temperature.[13] At 60ºC, a child's skin can sustain a serious burn in one second. At 54ºC, it takes ten seconds to burn. Young skin burns more quickly and deeply than adult skin, and at lower temperatures.[14] These factors should be taken into account when formulating energy efficiency measures for hot water cylinders.

[13] Safekids, 1996, Safe as houses? Recommendations for Safe Housing New Zealand Homes
[14] Safekids Childhood Burn Injury Fact Sheet

39. In considering appropriate energy sources for home heating, the use of unflued gas heaters should be discouraged. ARPHS would like to see the sale of unflued gas appliances banned in NZ. Not only do these appliances run on non-renewable energy sources, they pose multiple serious health risks. There is a risk of carbon monoxide poisoning from unflued (or incorrectly installed flued) gas heaters and other gas appliances. Unflued gas heaters also pose further health risks through the production of indoor air pollutants such as nitrogen dioxide, carbon monoxide and water vapour (which can affect health by increasing the spread of mould). The New Zealand Energy Safety Service (Ministry of Consumer Affairs) has recorded fifteen fatal cases (some involving multiple fatalities) with gas appliances.

40. The cost of heating is an important factor to consider. Many lower socioeconomic households suffer from "fuel poverty" where families may spend a higher proportion of their income on heating than average but it is still insufficient to heat their homes to a safe and comfortable level. The main causes of fuel poverty are a combination of poor energy efficiency, low disposable income, and the high price of fuel or heating.

41. The consequences of fuel poverty can be misery, discomfort, ill health and debt. People struggling to pay heating bills often make the choice between cooking a hot meal and turning on a heater. The benefits of insulation and improved energy efficiency not only have a positive impact on health but also have the potential to reduce inequalities in fuel poverty.

ARPHS recommendations for the objective 'Healthy homes – more comfortable with less energy'

42. ARPHS believes that the NZEECS strategic policy, operational policy and delivery should be prioritised to deliver the greatest support to those facing the greatest inequalities and need. For example there will be slow, but increasing benefit from initiatives that address the energy efficiency of future homes. Much greater impact would be achieved by selectively targeting pre-existing housing stock and substantially extending and supporting the existing Energy Wise Homes Grant and the design, development and implementation of larger-scale energy efficiency retrofit programme.

43. ARPHS strongly supports proposed strategic policy to identify opportunities to improve rental housing energy performance. While most Energy Wise Homes Grants programmes subsidise insulation for home owners and landlords it is the low socio economic communities (often renters) whose health could most benefit from insulation. In initiatives where insulation retrofitting is free (e.g. Snug homes in Auckland) barriers are removed for those low socio economic households in rental accommodation.

44. ARPHS supports all the proposed healthy homes actions, particularly the following:

- improving insulation levels required under the Building Code 2008
- substantially increasing the rate at which pre 1978 homes are insulated to adequate levels
- introducing a home energy rating scheme (HERS)

45. In addition ARPHS recommends that all pre 1978 housing stock that is used for rental accommodation be required to meet minimum current building code standards for insulation within a set timeframe. It is recognised that financial incentives play a significant contribution to achieving this. ARPHS therefore recommends that there is an ongoing and strengthened commitment to long term funding/subsidising of insulation retrofitting initiatives as is currently available through the Energy Efficiency and Conservation Authority's (EECA's) Energy Wise Home Grants.

46. Any scheme that improves private rental properties needs careful design and implementation to ensure that tenants receive the benefits rather than the landlord being able to demand an increased rent or sale price from an improved property. Any resulting increase in rent would put further pressure on already stretched household budgets leading to either greater hardship or tenants moving to other 'possibly un-insulated' property with no net health gain for those suffering greatest inequalities. Any change that has the potential to increase the turnover of rental tenancies will bring increased social dislocation and act directly against the themes in the Government Priority – families, young and old.

47. EECA Energy Wise Home Grants currently stipulate that with tenanted properties landlords cannot put up the rent for 6 months after work is completed.[15] In order to maximise benefits for low-income tenants and improve health for those who are most in need, ARPHS recommends that the freeze on rent increases in this policy be extended to 12 months.

48. In large regions such as Auckland, there are multiple agencies competing for Energy Wise Home Grants and funding sources. ARPHS suggests that a regional co-ordination approach be explored by EECA in the design, funding, development and implementation of larger scale retrofit programmes for the region.

[15] Energy Efficiency and Conservation Authority. EnergyWise home grants – Application Guidebook 2007/08. Wellington: Energy Efficiency and Conservation Authority, 2007:38.

49. While initial financial costs of some energy saving devices may be high the long term fuel costs could be greatly reduced through measures such as solar water heating. ARPHS supports measures to increase the uptake of solar water heating. Given the high initial costs and subsequent savings, financial incentives should give particular priority to low-income families. Other measures could include making it mandatory for new buildings to have solar water heating installed. ARPHS also supports the need for buildings to have energy efficient ratings.

50. Standards exist, for new houses, that are considerably more energy efficient than current building practices. The 'PassivHaus' or Passive House standard is one example. PassivHaus dwellings typically achieve an energy saving of 80-90% compared to existing housing.[16] In Europe more than 6000 dwellings, with a wide variety of designs, have been built according to PassivHaus principles. The extra costs of this standard are estimated to be less than 10% of the total building costs and in fact, with careful design and increasing competition in the supply of the specifically designed Passivhaus building products, in Germany, it is now possible to construct buildings for the same cost as those built to normal German building standards. In the long run, annual energy savings between DM 1000 and DM 2000 (€ 511 and € 1023), coupled with tax advantages make passive houses (in Germany) more economical than conventional construction.[17] Adoption of this standard for new homes would be a relatively inexpensive way to achieve the goals of keeping houses warm, improving the health of occupants and greatly reducing energy use.

51. Strategies to improve the energy efficiency of houses should prioritise low-income populations. Low-income populations are more likely to have poor health, and thus the health benefits of energy efficiency measures such as insulation are potentially much greater. Tenants of Housing New Zealand should receive priority for this reason. Low-income households who are not Housing New Zealand tenants should also receive greater priority.

52. Any measures that increase the cost of heating or energy to homes could disproportionately disadvantage low-income populations, as these homes may be more likely to be poorly insulated and have appliances that are poorly energy efficient. This could worsen the health of some of the most vulnerable populations in New Zealand. ARPHS considers that any cost increases in this area must be accompanied by programmes that help such households improve their energy efficiency, such as highly subsidised insulation.

Transport, planning and partnerships

53. Transport and urban design have significant impacts on public health.

[16] http://www.passivhaus.org.uk
[17] http://www.passivehouse.com

54. Lack of physical activity accounts for a significant proportion of global disease burden in New Zealand and globally; walking, cycling and public transport are all important ways to keep New Zealand's population active and healthy.[18] Road traffic crashes cause much death and disability in New Zealand, and have been predicted to be the third highest cause of disease burden globally by 2020.[19] Air pollution has significant health impacts on people at all ages, and causes more deaths in New Zealand than road traffic crashes. Noise also has important public health impacts, and health may also be negatively affected through the social severance that roads can cause.[20]

55. Overweight is an international pandemic, with 51% of Auckland adults currently overweight or obese. The downstream costs of obesity and the chronic diseases caused by obesity are extremely significant in terms of morbidity, mortality, and monetary cost to NZ society (2-7% of the annual health budget). The best evidence suggests that this is due to increasingly inactive lifestyles. Greater car use is associated with higher obesity levels.[21] This may be due to displacement of walking and cycling, and displacement of other activities that are more active than car use.

56. In summary, walking, cycling and public transport are favourable to public health, compared with car travel. Promotion of such 'active transport' should also be accompanied by measures that promote safe environments for active transport. Walking and cycling ('active transport') are also the modes that contribute most to the aims of the NZEECS.

57. Active transport is very energy-efficient, and involves no carbon emissions. Public transport also tends to be more active than car travel, and is also more energy efficient and emits less carbon.

58. The purpose of transport is not *mobility* but *accessibility*.[22] It is preferable (from both an energy efficiency and a public health perspective) to enable access to services and amenities without requiring people to travel – such as by ensuring proximity through good urban design.

[18] Hosking J. Health impacts of school travel plans: evidence, indicators and costs. Auckland: School of Population Health. 2005.
[19] Murray CJL, Lopez AD. Alternative projections of mortality and disability by cause 1990–2020: Global Burden of Disease Study. Lancet 1997; 349: 1498–1504
[20] Hosking 2005.
[21] Frank LD. Andresen MA. Schmid TL. Obesity relationships with community design, physical activity, and time spent in cars. American Journal of Preventive Medicine 2004;27(2):87-96.
[22] Barton H, Mitcham C, Tsourou C. Healthy urban planning and transport. Paper presented at the Healthy Cities International Conference, Athens, 20-24 June, 1998 [cited 26 Feb 07]. URL: http://www.thepep.org/en/workplan/urban/documents/HBartonpaper.pdf

59. Public health typically focuses on 'upstream' approaches to prevent disease and promote health.[23] 'Upstream' approaches may be the most effective way to protect and promote public health, and may also be the most effective approach to energy efficiency. In transport, reducing the need and demand for travel is more 'upstream' than increasing fuel efficiency. While action is required at all levels, 'upstream' travel demand management measures, such as good urban design, are particularly important.

60. Good urban design can encourage active transport and public transport. Compact urban form makes public transport more feasible, and reduces the distances that need to be travelled, which makes active transport more feasible. In comparison, urban sprawl is more suited to (and promotes) car use. Urban sprawl is associated with higher obesity levels, presumably due to greater car use.[24]

61. Mixed land use, whereby residents and businesses or other amenities are located in relatively close proximity, reduces the need for to travel long distances. This can reduce the need and demand for car travel and facilitate active transport. This can both promote energy efficiency and improve public health. However, some activities such as industries that are significant emitters of hazards (e.g. air pollutants or noise) should not be located close to residents.

62. ARPHS supports the adoption of land use policies and urban and regional development plans to enable people to have easy access to settlements, housing and working areas, and shopping and leisure facilities by cycling, walking and public transport. Reducing the reliance on private vehicle transport as part of the development of "active living communities" is seen as an important step to improving the overall health and wellbeing of the population as it helps integrate physical activity into the population's daily life.

63. The patterns of physical activity established in childhood are perceived to be a key determinant of adult behaviour. A growing number of children do not get regular exercise through travelling to school. Offering a wider choice of transport modes, by creating facilities more accessible to people walking, cycling and a more efficient public transport system promotes physical exercise[25] as people walk the first and last part of their journey to connect with public transport.

[23] Wilson N, Watts C, Signal L, Thomson G. Acting upstream to control the obesity epidemic in New Zealand. New Zealand Medical Journal 2006;119(1231).
[24] Ewing R. Schmid T. Killingsworth R. Zlot A. Raudenbush S. Relationship between urban sprawl and physical activity, obesity, and morbidity 2003;18(1):47-57.
[25] Barton H, Tsourrou C. Healthy Urban Planning. London: published on behalf of the World Health Organization Regional Office for Europe by Spon. 2000.

64. Active transport is also low-cost transport. This makes it particularly attractive to low-income families. As such families are also more likely to suffer from poor health, including diseases linked to physical inactivity, measures to facilitate active transport should give higher priority to areas with high proportions of low-income families.

65. In summary, urban design that facilitates active transport and public transport, and reduces the need for car use, is both energy efficient and good for public health. The EECS should promote the concept of this 'energy efficient urban design'.

ARPHS recommendations on objective 'Efficient Freight Movement'

66. Aviation is an important source of carbon emissions, accounting for 13% of transportation emissions in 1992. However, the climate change impact of aviation is greater than simply carbon emissions, with other factors such as contrails substantially increasing the impact of aviation on climate change.[26] For this reason, limiting the need for use of aviation is a particularly important strategy to address climate change.

67. ARPHS supports actions to improve fuel efficiency in the aviation industry (p13 and p37). However, the potential to reduce energy use (and address climate change) through improvements to aviation fuel efficiency are limited; it is even more important to reduce the use of aviation (both for freight and for other purposes). Given the significant contribution of aviation to climate change, the NZEECS should include measures to reduce the use of aviation, such as targets for reducing the volume of freight transported by air.

68. Measures to reduce the use of aviation should include support for videoconferencing. Improved videoconferencing technology and uptake could reduce demand for air travel, especially for businesses, within New Zealand and (potentially) internationally. This would be a useful area in which government could take a lead, by ensuring government departments have access to high-quality and effective videoconferencing technology. The cost of such facilities could be less than the cost of the air travel avoided.

ARPHS recommendations on objective 'Introducing renewable transport fuels'

69. ARPHS supports the use of renewable electricity for transport (p13). This can reduce air pollution and carbon emissions. However, it will have no effect on physical activity levels or road traffic crashes. Where possible it is preferable to reduce the demand for travel, including car travel in particular – a more 'upstream' approach.

[26] Intergovernmental Panel on Climate Change. IPCC special report. Aviation and the global atmosphere: summary for policymakers. Intergovernmental Panel on Climate Change, 1999.

ARPHS recommendations on objective 'Living and working – better mobility, lifestyles and communities'

70. ARPHS supports the actions identified under 'living and working – better mobility, lifestyles and communities'. However, the use of the term mobility is inappropriate and should be changed. As described above, the purpose of transport is accessibility, not mobility – a more appropriate (and upstream) response is to decrease the need for mobility. Where travel is still needed, it should be through active transport or public transport where possible.

71. Urban design that facilitates active transport and public transport, and reduces the need for car use, is both energy efficient and good for public health. The EECS should include and promote the concept of 'energy efficient urban design'.

72. The city of York in the United Kingdom has adopted a hierarchy of transport users when making decisions related to land use and transport and in implementing transport measures. This hierarchy prioritises pedestrians, people with mobility problems, cyclists and public transport users above other transport users. A summary table is shown in Appendix One. ARPHS considers that a hierarchy such as this can be an important and valuable tool in achieving both good public health and energy efficiency outcomes, and that the NZEECS should adapt and include this hierarchy for use at a national level.

73. ARPHS supports the use of economic instruments to influence travel (p13 of the NZEECS). Such instruments should be implemented in ways that reduce inequalities, particularly health inequalities. For example, to achieve this, the implementation of additional charges should be replaced by or accompanied by subsidies – such as increased public transport subsidies.

ARPHS recommendations on transport-related consultation questions (p55)

74. Response to question 10 (p55): transport targets should include decreases in car travel (e.g. vehicle kilometres travelled); decreases in car speeds in areas with high numbers of pedestrians and other vulnerable road users, such as residential streets, town centres and near schools (more people will walk and cycle if traffic speed is reduced[27]); increases in walking and cycling; and an increase in the mode share of public transport.

[27] Edwards P, Tsouros A. Promoting physical activity and active living in urban environments: the role of local governments. Geneva: World Health Organization, 2006.

75. Response to question 11 (p55): it is important to increase the energy efficiency of freight movement. Promoting the use of rail will increase energy efficiency, and also help integrate the use of rail into business decisions (e.g. choosing to locate high-freight businesses close to rail). Economic measures to integrate health, social and environmental costs into freight costs can also help to achieve this. As well as improved energy efficiency, reduced road freight could also improve public health through reduced air pollution, noise and road traffic injury.

Climate change

76. Climate change has been described as the world's most urgent public health problem.[28]

77. The public health threats posed by climate change include those from thermal stress (e.g. heat waves), extreme weather events and infectious diseases. There are also potential impacts through food shortages from impaired crop, livestock and fisheries yields. Environmental degradation may also have socioeconomic impacts through loss of livelihoods and displacement, leading to further adverse health effects.[29]

78. In New Zealand, several adverse health effects from climate change have been predicted as likely. Floods and droughts are likely to have important, though indirect, effects on health. Increased transmission of diseases such as dengue fever is likely. Increased ultraviolet radiation may lead to more skin cancers. New Zealand may also be affected by environmental refugees from Pacific countries, which would find it more difficult to adapt to climate change.[30]

79. Given the major potential health impacts of climate change, both globally and in New Zealand, reducing carbon emissions is of critical importance to public health and wellbeing.

80. Public health typically focuses on 'upstream' approaches to prevent disease and promote health.[31] In addressing climate change, reducing energy use through reduced energy demand and energy efficiency is more 'upstream' than promoting renewable energy use or mitigating the adverse health consequences of climate change. Action is needed at all levels, but 'upstream' strategies should receive particular emphasis.

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[28] Stott R. Healthy response to climate change. BMJ 2006;332:1385-1387

[29] McMichael AJ, Woodruff RE, Hales S. Climate change and human health: present and future risks. Lancet 2006; 367: 859–69

[30] Woodward A, Hales S, de Wet N. Climate Change: Potential Effects on Human Health in New Zealand. Wellington: Ministry for the Environment, 2001.

[31] Wilson N, Watts C, Signal L, Thomson G. Acting upstream to control the obesity epidemic in New Zealand. New Zealand Medical Journal 2006;119(1231).

81. Energy efficiency and reduced energy use are solutions to climate change that, compared with measures that do not reduce energy use (such as building more renewable energy generation capacity), are likely to be better for public health. For instance, building renewable energy generation capacity (e.g. dams) can lead to social disruption, which in turn can have negative health effects for affected communities. Energy efficiency measures can reduce carbon emissions without having such negative effects.

82. ARPHS has identified sustainable development as one its six strategic priority areas. A sustainability working group has been established and a range of measures have already been put in place to improve sustainability within the organisation, with further measures to be identified. ARPHS also contributes to sustainability planning at the regional level.

ARPHS recommendations pertaining to climate change

83. Energy efficiency is not the same as a reduction in energy use. In some situations, energy efficiency may even increase overall energy demand, since energy efficiency may reduce costs and stimulate energy demand.[32] Thus, energy efficiency measures should where possible be accompanied by other measures to ensure that energy use reduces.

84. It was announced in the Prime Minister's statement at the opening of Parliament on 13 February 2007 that 34 core public service departments will begin immediate work to achieve carbon neutrality, and that the wider state sector will also be encouraged to join in the programme.[33] ARPHS supports this initiative, given its potential to reduce the risks of climate change to public health, and notes that energy efficiency is a core part of achieving carbon neutrality. ARPHS believes that this initiative should be rapidly expanded to all parts of the public sector and made mandatory, and that this should form part of the NZEECS objective 'Government leading the way – partnership and innovation'.

[32] Monbiot G. Heat: How to Stop the Planet Burning. London: Penguin, 2006:61.
[33] http://www.mfe.govt.nz/issues/sustainability/prime-minister-statement.html

Conclusion

85. Thank you for the opportunity to comment on the draft New Zealand Energy Efficiency and Conservation Strategy. ARPHS supports the overall aim of the NZEECS.

86. ARPHS wishes to be heard in support of this submission, if there is an opportunity to do so.

87. ARPHS believes that incorporating its suggested changes to the NZEECS will both improve the NZEECS and also better enable the strategy to support Government's wider priorities around improving the health and wellbeing of all New Zealanders.

Yours sincerely

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Appendix One

Designing cities around people, not cars	
The City of York has won numerous awards for developing an integrated transport network that does not rely on private cars and meets local air quality objectives. An integral part of that strategy promotes sustainable active alternatives to the private car that are both convenient and reliable by using public transport, walking and cycling. York was one of the first local authorities to adopt a hierarchy of transport users when making decisions related to land use and transport and in implementing transport measures. The order of priority is:	
1. Pedestrians	5. Powered two-wheelers
2. People with mobility problems	6. Commercial or business users (includes deliveries and heavy goods vehicles)
3. Cyclists	7. Carborne shoppers and visitors
4. Public transport users (includes bus, coach, water, taxi and rail)	8. Carborne commuters

Source: Edwards P, Tsouros A. Promoting physical activity and active living in urban environments: the role of local governments. Geneva: World Health Organization, 2006: 8.