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Dear Ms McDonald

Attached is the submission from the Public Health Association of New Zealand on the draft New Zealand Energy Strategy and the draft New Zealand Energy Efficiency and Conservation Strategy.

Thank you for agreeing to the small extension of time.

Yours sincerely

G.M. Keating
National Executive Officer



PHA submission on the draft New Zealand Energy Strategy and the draft NZ Energy Efficiency and Conservation Strategy (NZES and NZEECS)

Summary

The Public Health Association of New Zealand (PHA) is pleased to see government developing energy strategies that consider a wide range of energy options. We are particularly pleased to see the inclusion of affordability, sustainability and concern for the environment.

The major concern of the PHA is that the strategies have chosen to place these issues and the wellbeing of New Zealanders secondary to the policy goal of enhancing the economy. Health is very influenced by energy availability and policies. Economic wellbeing is hugely important, but government policy must offer a balanced future.

Of particular concern is the lack of evidence for some of the policy choices proposed. Cost Benefit and Health Equity Impact Assessment methodologies are now well established and can contribute much to informed policy decision making. There is good local and international evidence of the health consequences of many energy choices.

The strategies do not deal well with carbon induced climate change. There is considerable scope to improve the quality of policy choices and reduce the cost-shifting to future generations, particularly through integrated energy /transport strategies.

The current programme to retrofit insulation and clean heating is an excellent model of government interventions that have benefits for the economy, energy sustainability, reduced environmental impact health and household disposable income. More programmes with a broad success are needed.

Considering the economy, human well being and environmental sustainability together offers hope for energy choices.

There are many developing approaches that offer “win-win” for all three; concentration on the economy to the detriment of human health and the environment misses opportunities to directly improve the economy, Māori health and life for our great grandchildren.

Recommendations for change are placed in this submission within the relevant section, and are gathered together at the end for ease of reference.

1 Introduction

The Public Health Association of New Zealand

The Public Health Association of New Zealand (PHA) is a voluntary association which provides a major forum for the exchange of information and stimulation of debate about public health in New Zealand. Membership of PHA is open to individuals interested in public health. Members belong to the public, private and voluntary sectors. In addition to membership fees, donations and other earnings, the PHA has had a contract with the Ministry of Health to encourage and facilitate informed debate on key public health issues. The PHA is a member of the World Federation of Public Health Associations.

The PHA has particular concern for fairness in health, and supports the World Health Organisation call for “Closing the Gap in a Generation”¹.

We affirm te Tiriti o Waitangi and note the obligations it poses for government and the people of New Zealand.

Public health is defined as the improvement of the health of the whole population ‘*through the organised efforts of society*’ (Acheson, 1988).

This submission

This submission is based on the proposition that the health and wellbeing of New Zealanders is a policy goal that should be considered by government alongside of the economy, not in a subsidiary position. Further, government policy should not increase unfairness, but instead act to create a more equal society. And that in energy policy as in all other matters, the government must consider te Tiriti o Waitangi.

This submission then provides the evidence of the relationship between energy policy and health. Based on the considerable body of evidence, both locally and internationally, we propose changes to the strategies so that government can achieve greater wellbeing for communities and families as well as the economy.

Relationship with other submitters

The PHA has been a member of the Domestic Energy Users Network (DEUN) for some years. We have contributed to the submission provided by DEUN. This submission is an expansion of our contribution to the DEUN submission, and considers health issues broader than the impact on Domestic Energy Users.

As a membership organisation the PHA draws on the contributed expertise of our members. As we draw on evidence in the public domain our conclusions may be similar to other groups who have also considered the evidence concerning energy and health.

2 Energy choices are important for health

The Public Health Association congratulates the government on putting forward strategies on energy sources, energy efficiency, conservation and use. We are particularly pleased at the inclusion of energy affordability (including monitoring household energy affordability) and environmental sustainability and health.

However the emphasis of the strategies on increasing growth of the New Zealand economy relegates to secondary other areas of National Party Vision² that are in line with a public health approach, in particular

- Equal citizenship and equal opportunity
- Strong families and caring communities
- Sustainable development of our environment

Affordable, secure energy is important for families, communities and the country to be healthy. Commercial energy use enables fresh and stored food products to be safe to eat by hygienic manufacturing processes, chilled transport and storage. Hospitals and clinics rely on energy for sterilisation, safe handling of medicines and devices and processes such as diathermy. Domestic energy use is important for heating, cooking, cleaning.

There is no question that energy is important for health. The question that the energy strategies need to consider is

Which energy choices, for families, communities, commerce and the country, best meet our needs for wellbeing and fairness without transferring substantial costs to future generations?

In particular the Strategies give very little attention to differential impacts on families and communities in different situations, especially children in families in poverty.

How does energy policy affect health?

The health impacts of energy use choices by families and communities relate to:

Affordable energy

- For heating, transport, communication, other health promoting choices

Pollution

- Air pollution indoors and outside,
- Health hazards (including injuries) of extraction and processing of fuel
- Risk of environmental catastrophe such as oil spill

Global climate change

- severe weather events and infectious disease burden plus the dependence of health on local and global ecological sustainability

These health consequences of energy policy are discussed in greater detail below.

Government policies shape the choices of energy users, distributors and producers

Government intervention in energy policy (such as creating an energy market, offering subsidies for insulation) has significant ability to affect the choices made by all participants.

The importance of the role of government in setting the framework for energy choices cannot be overstated. In particular, only government can provide the framework for choices to control cost shifting onto other people, the environment or future generations.

The PHA is pleased to see that government proposes better consumer information to inform energy choices. Requiring information disclosure is an important way to empower consumers and communities to make good decisions.

Similarly we are pleased that the government intends to continue to subsidise the retrofit clean heating and insulation to houses.

But much more could be done to improve the energy choices of New Zealanders; both by way of information and subsidies, but also by careful regulation.

Analyses needed

The strategies (rightly) propose to increase information available to consumers to support good decision-making. Good information on costs and benefits is even more important for government, as policy decisions have sustained and widespread impacts.

Cost benefit analysis evidence is lacking in the strategy. Robust analysis that takes into account all of the societal (including environmental) costs as well as benefits across the lifecycle of any proposed strategy is needed to make meaningful policy choices.

Comparative lifecycle health, environmental and economic analyses of alternative options for renewable energy generation will reduce the risk of cost shifting from poor decision making. At least partial lifecycle analyses have already been undertaken for several energy choices, such as oil³ and biofuels⁴, and the methods used in these analyses could be more widely applied.

The techniques for analysis of the health impacts (positive and negative) are now reasonably well developed to provide information for policy decisions. In particular the World Health Organisation (WHO) recommends Health Impact Analysis that considers the impact of policy choices on health equity⁵.

What changes are needed in the strategies?

Alongside a flourishing economy, government energy strategies must have goals of flourishing New Zealanders, with equal opportunities for health, and a flourishing environment to sustain health and wellbeing.

As with any government activity the energy strategies should also explicitly consider te Tiriti o Waitangi.

Choices in the strategies should be back by sound analyses of benefits costs and risks. Health Impact Assessment should be used to clarify the costs and benefits for health and wellbeing and for fairness.

3 Choosing which energy approaches to develop

Government proposes significant intervention in infrastructure to encourage the choice of further commercialisation of petroleum and mineral fuel resources, along with a review of the fiscal and royalty framework.

Unlike renewable energy, which has a proviso to “not compromise security of supply” there are no cautions on the development of mineral fuel resources.

This may be the right choice, but in the absence of information of cost-benefit informed by health equity analysis it is not possible to tell if the costs to health and the environment of further use of fossil fuel.

Choosing renewable energy

The PHA is very pleased to see support for renewable energy, as renewable sources do not have the demonstrated health and environmental costs of fossil fuels. However health impact and other analyses of new technologies (such as biofuel generation) are needed to check for unintended negative health consequences.

Choosing energy efficiency and conservation

The PHA is very pleased to see that government has developed a conservation and efficiency strategy. However, when the full costs are considered, it appears that the government strategy does not go far enough.

Heat Smart an excellent beginning

The Heat Smart programme has been a great example of government considering all the costs of energy options and developing policies to influence energy choices for the benefit of health, energy availability, household costs and employment.

The Housing, Insulation and Health Study⁶ reported significant social and personal benefits of insulation and heating interventions:

- Significant improvement in self-reported housing conditions (i.e., less cold and dampness)
- Significantly fewer days off school and work
- Significantly fewer symptoms of wheeze and colds
- Fewer hospital admissions
- A positive benefit to cost ratio of 2:1
- decreased spending on energy bills, (increased disposable income)

Clearly retrofitting works. However the programme provides for only 187,000 houses to be retrofitted over four years, about a quarter of houses that could benefit.

Anecdotal reports from Primary Care Organisations express concern that the implementation of *Heat Smart* is difficult for many low income households to access. Information about the *Warm up New Zealand: Heat Smart* programme demonstrating the distribution of uptake of the programme by household income needs to be widely available to demonstrate that the programme is contributing to a reduction in socioeconomic and health inequities.

As far as it has gone, Heat Smart has been a success, not only in achieving these gains, but also in demonstrating that energy choices do not need to be seen as a zero sum game in which there are winners and losers – under the Heat Smart programme everyone has been a winner.

Until all households live in adequately heated and insulated dwellings there is a net economic loss to the country.

What changes are needed in the strategies?

Further work is needed in the strategy to clarify the real costs of energy resource choices, particularly in relation to fossil fuel.

Further work is needed in the strategy to clarify the real benefits of alternative energy resources and energy efficiency and conservation.

To achieve adequate housing heating and insulation government needs to modify its framework. Government needs to encourage more landlords and low income property owners to make the heating and insulation investment choices that are economic in the long term, but unaffordable to most low-income consumers.

Options include targets around those affected by both the cost of heating and those living in areas of high deprivation. Particular focus on the insulation of private rental houses is needed.

4 Affordable energy for households

Poverty is one of the key determinants of health and the NZES does not go far enough to address the issue of fuel poverty within the New Zealand population.

The impact of fuel poverty means that people's choices are restricted:

- level and type of energy use
- other healthy choices become limited because of impact of fuel costs (food, crowded houses, school activities, health costs eg glasses, dentist, adult prescription fees)

Direct health consequences of choosing to reduce family energy costs

A major concern is that fuel poverty forces households to make choices to reduce energy use because of cost (rather than a planned approach to energy conservation that retains household function and safety.)

Heating

Rising costs of household electricity reduce the ability to maintain a warm home to prevent respiratory disease morbidity and mortality. New Zealand suffers an excess mortality of 1600 deaths in the months of June through September. Circulatory system deaths – heart attacks and strokes – accounted for 47% of the deaths, and respiratory diseases accounted for 31%.⁷ Other demonstrated impacts of cold and damp housing on health include injuries and stress/depression⁸.

A brief summary of the literature on the health effects of poor heating is available from the *He Kainga Oranga*/Housing and Health Research Programme⁹.

Dirty heating

One of the choices that households sometimes make is the type of energy they will use for heating. Unfortunately, some of the cheaper heating (eg kerosene heaters or unflued gas heaters) produce poor indoor air quality that is related to heart and respiratory illness¹⁰. In general it is not well understood by households that they are caught between poor health from the cold, and poor health from cheaper heating.

Cleaning and hot water

Energy is used for other life-sustaining processes, including cooking and cleaning. Households that cannot afford adequate linen /towels, washing machines and driers, and hot water¹¹ suffer more from serious skin infections, at times requiring hospital intensive care and surgery.

Health consequences of other family spending forgone to afford energy

The Household Energy End-Use Project¹² (HEEP) report produced in 2006 found that houses with winter indoor temperatures below 16° actually spend a higher proportion of income on heating than houses overall. In addition to the poor health effects of such cold housing, these families will have a smaller proportion of income on other needs such as food, recreation and healthcare services.

While there are causes for households to have insufficient income in addition to energy costs, clearly power prices are a factor. It is clear from Ministry of Health and Ministry of Social Development research that household poverty is associated with

- insufficient and poor quality food¹³,
- not going to the doctor¹⁴
- not picking up prescription medicine¹⁵
- insufficient warm dry clothes or bedding¹⁶.

Some of the ways that families choose to manage the cost of heating are to keep in the warmth (reducing ventilation) and sharing housing with other families, both with additional health consequences.¹⁷

As a consequence fuel poverty causes double health disadvantage, both directly and indirectly.

Energy costs

Given the significant impact of fuel poverty government needs to ensure that energy costs are as low as is compatible with long term sustainable production. In view of the special characteristics of the energy market¹⁸ government needs to ensure that the most effective policy tools are used to control costs and cost shifting onto domestic users, not just competition.

Changes needed in the strategies to combat fuel poverty

There are three effective way of combating fuel poverty, none of which is adequately explored in the strategies. The first is to ensure that energy efficiency measures are targeted towards those on low incomes.

The second is that any move to increase the cost of fuel has to be balanced by welfare provisions to ensure that those with fewer choices are not penalized unfairly.

Competition should be regulated to ensure prices reasonably reflect costs, and a range of energy options are available, not crowded out by expanding electricity supply.

5 Pollution kills

Non-renewable energy resources have inherent risks for the environment (as do some renewable sources). Fossil fuels are the classic example of an economic externality – where the full cost of choices are not borne by the decider, but are borne by others. Pollution is one of the key historic reasons for government intervention.

The central costs of pollution are the lives and health of people in the community.

The Health and Air Pollution in New Zealand study¹⁹ shows that air pollution, is associated with around 1,100 cases of premature mortality – that is people dying earlier than they would have if they had not been exposed to air pollution. The study put the total economic costs of air pollution in New Zealand (from both premature death and adverse health impacts) are estimated to be \$1.14 billion per year or \$421 per person.

Considering oil as part of the study, the health cost of motor vehicle particulate pollution is estimated to be approximately \$500 million.

Local and global pollution

There are lifecycle health and environmental costs of extraction, refinement, transport, combustion and waste management of energy sources.

The cost of the recent DeepWater Horizon oil spill in the Gulf of Mexico can be measured not only in tens of billions of dollars but also in the short and long-term threats to health, livelihoods, biodiversity and wildlife.

Simplistic regulation can worsen inequalities

Blunt instruments to control pollution can pose greater costs for the poor, such as when regulation to control air emissions close off options for the use of cheap firewood.

However regulation is not necessarily regressive, if it is part of a comprehensive policy package. Any move to increase the cost of fuel has to be balanced by welfare provisions to ensure that those with fewer choices are not penalized unfairly²⁰.

Equity-based Health Impact Assessment (as recommended by the World Health Organisation²¹) can give government information on the impacts of different types of regulatory packages.

What changes are needed in the strategies?

Environmental sustainability must be an integral part of government energy policy, not an optional extra.

Regulatory packages must be designed to achieve pollution control without increasing health inequalities.

6 Choosing to combat climate change

Climate change is widely considered to be a real and urgent threat to the health and wellbeing of New Zealanders on many levels, and is the greatest challenge to global health this century the biggest global health threat of the 21st century²².

The health and equity costs of climate change for New Zealanders and our Pacific neighbours have been outlined in considerable detail elsewhere^{23 24 25}, and include increased flooding and extreme weather events; increases in food and mosquito-borne illnesses such as dengue fever; an increase in migration of Pacific families experiencing health inequities; vulnerability of low income families to increasing costs of transport and food.

In the light of these concerns and the goals and strategies outlined in New Zealand's Fifth National Communication under the United Nations Framework Convention on Climate Change (UNFCCC)²⁶ it is surprising to see such an emphasis in the strategy on developing petroleum and mineral fuel resources.

Government intervention to reduce greenhouse gas emissions

Government energy strategy policies will either help or hinder New Zealanders to make choices to reduce greenhouse gas emissions. It seems clear that our Emissions Trading Scheme (ETS) alone will be insufficient.²⁷

Therefore a national energy strategy will be critical for enabling households and businesses to respond to market signals by making better energy choices, for New Zealand to start to address its carbon challenges and responsibilities.

Targets

New Zealand must commit to substantial decreases in our greenhouse gas emissions to avoid the worst impacts of climate change on human health, both here and internationally.

Based on the need to limit global warming to 2° C by 2100, and to be an active partner in global cooperation to reduce atmospheric greenhouse gas emissions to 350ppm, New Zealand should:

- rapidly halving our own emissions by 2020 (i.e. a target of at least 40% less than 1990 levels).^{28 29}
- paying our fair share of international investment in a global future³⁰

This target has a strong scientific basis, and if anything may be too lenient; reducing the risk of catastrophic climate change may require greater changes.

Transport choices

The energy strategies need to coherently reflect the work already done in considering transport choices and building from there. Clearly the New Zealand Transport Strategy and the Energy strategies need to be seen as complementary, and there should be alignment of policy objectives and incentive structures.

Transport is the largest contributor to energy-related greenhouse gas emissions, however specific policies that will cut transport related greenhouse gas emissions through the use of non-oil based transport such as electrified public transport, and walking and cycling are disappointingly absent from the strategy.

Which transport policy choices help the most?

Policies that encourage significant increase in walking, cycling and public transport are likely to contribute significantly to reductions in greenhouse gas emissions, while improving air quality, reducing road traffic injury and increasing physical activity³¹.

Transport energy policies have been ranked by the potential for cost effective gains in efficiency while maximizing the health and environmental co-benefits.³² Such policies include :

- encourage switching trips from vehicle use to walking and cycling
- reduce the demand for travel also have high efficiency gains
- increase the mode share of high efficiency public transport
- regulate to improve the fuel efficiency of the existing light and heavy vehicle fleets

Improvements in driver behaviour can offer modest gains in efficiency, with European studies reporting between 5-15% increases in fuel efficiency per trip³³

Improvements in light vehicle technology offer some gains³⁴ but as they apply to new vehicles this will have limited impact in New Zealand with our aging private vehicle fleet with low turnover compared with other OECD countries.

What changes are needed in the strategies?

The Draft New Zealand Energy Strategy requires significant improvement to develop specific targets for the contribution of energy sectors to reductions in greenhouse gas emissions, including clarifying the expected size of contributions to these goals made by switching energy sources, and increasing efficiency of use.

There should be alignment of policy objectives and incentive structures of the New Zealand Transport Strategy and the Energy strategies.

Policies and targets to improve the energy efficiency of the transport system with particular focus on policies that offer cost effective gains in efficiency while maximizing the health and environmental co-benefits are needed.

7 What about te Tiriti o Waitangi?

These draft energy strategies are government strategies; government is bound to protect Māori including the health of Māori. Māori households have disproportionately low income. As a result government must amend the draft Energy Strategies to consider adequately the health impacts for Māori.

While less directly related to health, the apparent failure of the draft Energy Strategies to fulfil the Crown obligation of partnership with Māori in relation to resources will continue to undermine healthy social relationships (which are central to social wellbeing).

Failure to take account of these issues risks increasing ethnic inequalities, particularly for children. This is in direct conflict with the advice of the World Health Organisation to support children to reduce inequalities³⁵.

What changes are needed in the strategies?

The energy strategies need to better consider both opportunities and consequences for Māori of energy policy choices

Recommendations

This section gathers together the recommendations in the text of this submission.

Broaden the approach

Alongside a flourishing economy, government energy strategies must have goals of flourishing New Zealanders, with equal opportunities for health, and a flourishing environment to sustain health and wellbeing.

As with any government activity the energy strategies should also explicitly consider te Tiriti o Waitangi.

Choices in the strategies should be back by sound analyses of benefits costs and risks. Health Impact Assessment should be used to clarify the costs and benefits for health and wellbeing and for fairness.

Energy resource choices

Further work is needed in the strategy to clarify the real costs of energy resource choices, particularly in relation to fossil fuel.

Further work is needed in the strategy to clarify the real benefits of alternative energy resources and energy efficiency and conservation.

To achieve adequate housing heating and insulation government needs to modify its framework. Government needs to encourage more landlords and low income property owners to make the heating and insulation investment choices that are economic in the long term, but unaffordable to most low-income consumers.

Options include targets around those affected by both the cost of heating and those living in areas of high deprivation. Particular focus on the insulation of private rental houses is needed.

Choose fuel affordability

There are three effective way of combating fuel poverty, none of which is adequately explored in the strategies. The first is to ensure that energy efficiency measures are targeted towards those on low incomes.

The second is that any move to increase the cost of fuel has to be balanced by welfare provisions to ensure that those with fewer choices are not penalized unfairly.

Competition should be regulated to ensure prices reasonably reflect costs, and a range of energy options are available, not crowded out by expanding electricity supply.

Choose environmental sustainability

Environmental sustainability must be an integral part of government energy policy, not an optional extra.

Regulatory packages must be designed to achieve pollution control without increasing health inequalities.

Choose to control climate change

The Draft New Zealand Energy Strategy requires significant improvement to develop specific targets for the contribution of energy sectors to reductions in greenhouse gas emissions, including clarifying the expected size of contributions to these goals made by switching energy sources, and increasing efficiency of use.

There should be alignment of policy objectives and incentive structures of the New Zealand Transport Strategy and the Energy strategies.

Policies and targets to improve the energy efficiency of the transport system with particular focus on policies that offer cost effective gains in efficiency while maximizing the health and environmental co-benefits are needed.

Choose to honour the Treaty

The energy strategies need to better consider both opportunities and consequences for Māori of energy policy choices.

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