

PUBLIC HEALTH ASSOCIATION

of Australia Inc

ABN 41 062 894 473

The Secretary Senate Rural and Regional Affairs and Transport Parliament House Canberra ACT 2600

Dear Committee Secretary,

Inquiry into Australia's future oil supply and alternative transport fuels

The Public Health Association of Australia (PHAA) is a forum for the promotion of the health of the public as well as being a professional resource for public health personnel. The Association provides opportunities for the exchange of ideas, knowledge and information on public health and actively undertakes advocacy for public health policy, development, research and training. PHAA's aims include:

- to encourage research and promote knowledge relating to the problems, needs and development of public health; and
- to advocate the objects and policies of the Association.

The PHAA recently became aware of the Inquiry into Australia's future oil supply and alternative transport fuels. While we are aware that the period for making submission's has closed, we have prepared the following short submission in the hope that it can be made available to the Members of the Inquiry, even if it is not counted as an official submission.

The PHAA approaches this issue from two perspectives:

- on a global scale, continued reliance on fossil fuels will worsen global warming;
 and,
- locally, there are alternatives to fossil fuel use that increase physical activity and promote more people friendly urban design.

Measures undertaken to change the current Australian reliance of fossil fuels, increase our use of alternative fuels and encourage alternative urban design will provide for improve health outcomes for all Australians, but especially those in urban areas.

A copy of the PHAA policy on Climate Change is attached for your information (ATTACHMENT A):

Based on this policy, the PHAA believes that:

- there is both a need and a capacity for improvement in the fuel efficiency of all transport vehicles;
- there is a need for the introduction of policies at all levels of government and within private corporations to minimise private vehicle use and promote the use of public transport, bicycling and walking.

The PHAA calls on the Australian Government to raise fuel efficiency standards for all new and used vehicles and to fund the enforcement of these standards.

In response to the Inquiry's Terms of Reference, the PHAA makes the following comments:

a. Projections of oil production and demand in Australia and globally and the implications for availability and pricing of transport fuels in Australia.

No comment.

b. Potential of new sources of oil and alternative transport fuels to meet a significant share of Australia's fuel demands taking into account technological developments and environmental costs.

Australia needs to recognise that global warming and consequent climate change is occurring now and that this needs to be accepted and built into all aspects of planning (urban planning, industry development planning governmental policies). In so far as transport fuels are concerned, the Australian Government needs to directly address mechanisms for ensuring a continuous reduction in reliance on oil (fossil fuel) sourced products and the development of plans to reduce demand for such fuel including the introduction of alternative fuels.

Such alternatives include: biofuels, hydrogen power, electric power both in individual vehicles and from grids. While not within PHAA's area of expertise, it is clear from reports in the media that progress is being made in these areas with extensive work being done on biofuels (eg the trial of hydrogen powered buses in Perth, and development work on various form of electric powered vehicles, increased acceptance of wind power generation).

c. Flow-on economic impacts in Australia from continuing rises in the price of transport fuel and potential reductions in oil supply.

Unable to comment specifically, however, the limited reserves of oil and increased costs of extracting it suggest that the economy would be better served by developing alternatives and reducing demand.

d. Options for reducing Australia's transport fuel demands

Options for reducing Australia's transport fuel demands can be seen from two

perspectives:

- · reduction of need for motorised transport; and
- increases in the efficiency of all forms of motorised transport.

Reducing need for motorised transport

For many journeys, alternatives to driving (such as walking and cycling) are possible. Urban design that promotes the safe and easy use of cycles and pedestrian access can be encouraged. Shade, water, safe cycle / walk ways are all services that help encourage physically active alternatives to motorised transport. Social marketing of the use of such alternatives would both help the physical fitness and health of Australians, as well as help to decrease the reliance on fossil fueled transport.

Increasing the efficiency of motorised transport

While the PHAA cannot comment directly on this issue, it is clear that increasing the efficiency of engines will help to limit the use of oil based fuels. Similarly, reducing the size of cars also has the potential to lead to reduced fuel use. Encouraging the use of hybrid powered cars could also help. Finally, encouraging use of a range of public transport options would also mean fewer vehicles would be required to move the same number of people.

Detailed strategies to achieve these outcomes are beyond the scope of the PHAA and this submission. However, we believe that Governments at all levels, have capacities to help in the reduction of Australia's reliance on fossil fuels. These range from use of town planning mechanism through to the use of taxation policies.

I would be happy to discuss the PHAA's submission and the health impacts of government policies in this area should that prove useful. I can be contacted on (02) 62852373 or at plaut@phaa.net.au

Yours sincerely,

Pola Laut
Pieta Laut
Executive Director
9 March 2006



Climate Change Policy V6

This Policy should be read in conjunction with the Climate Change Background Paper and the Climate Change Action List.

The Public Health Association of Australia notes that:

- 1. There is substantial evidence from the Intergovernmental Panel on Climate Change that Earth's climate is changing as a result of human activity.
- 2. These climate changes are expected to have a range of effects on human health that will be, on balance, adverse.
- 3. Reducing the total level of greenhouse gas emissions is a primary preventive health strategy.
- 4. The Australian Government has shown no leadership internally or internationally on this issue.
- 5. Actions are urgently required NOW to reduce greenhouse gas emissions.

The Public Health Association of Australia affirms the following:

- Our obligation to meet our international responsibilities to help reduce global climate change as a Kyoto Protocol participant.
- Equity between generations: the right of future people to a world as diverse and habitable as today.
- The principle that producers of pollution should pay the costs of cleanup.
- The cost of goods should reflect the hidden environmental costs of production (i.e. waste disposal, use of sustainable materials).

The Public Health Association of Australia resolves that it will:

- support all measures that reduce the production of greenhouse gases, promote energy saving,
 and minimise the health impacts of global warming.
- encourage members to reduce fossil fuel consumption, and to use their influence to extend this behaviour more broadly (e.g. within their workplace).
- work to reduce fossil fuel consumption among the broader society by:

- increasing the awareness of the health sector and general community about the health, environmental, and social impacts of climate change
- → stimulating debate about changing social systems to reduce the consumption of fossil fuels.

The PHAA will particularly focus on activities outlined in the PHAA Climate Change Action List.

PHAA Policy adopted at the PHAA Annual General Meeting held 9 October 2004

Climate Change Background Information Paper V6

This document provides the background material that was used in the development of the Public Health Association of Australia's Climate Change Policy. The bolded headings below are the substantial points that were noted in that Policy, and the unbolded text is the explanatory material behind each point.

1. There is substantial evidence that Earth's climate is changing as a result of human activity.

The work of the Intergovernmental Panel on Climate Change (IPCC), (established by the World Meteorological Organization and the United Nations Environment Programme in 1988) has placed beyond scientific doubt the fact that Earth's climate is changing at an unprecedented rate, and beyond the bounds of normal variability. 1,2

Atmospheric concentrations of heat-trapping "greenhouse gases" in the lower atmosphere (in particular carbon dioxide, methane and nitrous oxide) have increased by approximately 50% relative to pre-industrial levels.³ These gases modify the way in which radiant energy is absorbed or scattered, resulting in global warming. At about 372 ppm, today's atmospheric carbon dioxide concentrations are higher than at any time in the past 420,000 years at least.⁴

The impact of this enhanced greenhouse effect is already being documented. In the past century, average global temperatures have risen by about 0.6°C.^{3} The ten hottest years on record have occurred since 1991. In that same period, the global sea level has risen by 10-20 cm – due to a combination of melting land ice and thermal expansion of the oceans. The ice caps are disappearing from many mountain peaks, and summer and autumn Arctic sea ice has thinned by up to 40% in recent decades. ^{5,6}

The current predictions of future changes to the climate system are for a further temperature rise of around 2-3°C by 2100, within a plausible range of 1.4-5.8°C, representing a greater rate of change than at any time in the last 100,000 years. Sea level rise is projected to increase by 9-88cm (central value 48cm) over the same period.³ In addition, it is very likely that there will be:

- higher maximum temperatures, more hot nights, hot days and heatwaves
- higher minimum temperatures, and fewer cold and frost days
- more intense precipitation events.³

In Australia, the prediction is for an increased tendency towards El Niño-like conditions. This would mean significant decreases in rainfall for much of mainland Australia; the likelihood of increases in the intensity of tropical cyclones, mid-latitude storms and heavy rain events; and changes in the frequency of tropical cyclones. Combined with the predicted increase in temperature (and hence evaporation), these conditions are likely to have adverse impacts on water resources.

Carbon dioxide concentrations have increased mainly because of the burning of fossil fuels, deforestation, and land use changes spurred on by economic and population growth. Important sources of carbon dioxide include transport, with high rates of road freight and car usage, high reliance on coal-fired power stations for electricity, and energy-intensive industries.

Carbon dioxide presents a particular problem because it has a very long half-life in the atmosphere and will continue to accumulate over the next 100 to 300 years, even if carbon dioxide emissions due to human activity are very significantly reduced over the next 100 years.

Clearance of old-growth forests releases large stores of carbon from the forest and its floor that will not be replaced completely until a new mature forest has grown over hundreds of years. For example, in Tasmania the carbon store of old growth forest is at least twice that of regularly harvested regrowth plantation. Clearance therefore increases greenhouse emissions.

2. These climate changes are expected to have a range of effects on human health that will be, on balance, adverse.

The IPCC has developed predictions of climate based on intricate modelling for each country. The impact of global warming will not be uniform around the world. At the global level, perturbations in the climate system are likely to include an increase in direct effects:

- · heat-related mortality and morbidity
- deaths and injuries from extreme weather events (floods, cyclones, and bushfires)

as well as indirect effects:

- the range and seasonality of vector-borne infectious diseases (temperature strongly determines pathogen replication, as well as vector maturation, range, and infectivity period)
- food-borne infections
- water-borne diseases (due to increases in heavy precipitation)
- famine and malnutrition (due to disturbances of food-producing ecosystems, especially in countries already on the margin of agricultural productivity)
- damage of the public health infrastructure from weather disasters, influencing the ability of a region to respond to a range of health conditions
- population displacement and its impact on health and well being (due to physical hazard, land loss, economic disruption, or civil strife).

In Australia specifically, very likely impacts include: 8,9

- an increase in climate-related deaths from heat stress.
- southern expansion of the areas suitable for dengue and malaria transmission

Other possible impacts, about which little research has yet been conducted, may be:

- an increased incidence of bacterial food-borne disease (particularly in temperate climates)
- · changes in the seasonality and distribution of Ross River and Barmah Forest virus diseases
- an increased number of outbreaks of water-borne disease following extreme rainfall
- · an increase in ciguatera food poisoning
- an increase in the production of certain air pollutants and aeroallergens (spores and moulds).

Populations who are already vulnerable – particularly Indigenous Australians, people on low incomes and the elderly – will be least able to adapt to the changed conditions. Thus an indirect effect of climate change could be to increase the already widening gap in health outcomes between the rich and the poor in Australia. 10

The substantial changes to the climate that are predicted are likely to impact on agricultural systems, waterways, and ecological biodiversity in ways that are difficult to estimate or quantify.

3. Reducing the total level of greenhouse gas emissions is a primary preventive health strategy.

Per capita emissions of greenhouse gases in industrialised countries is far in excess of those of the countries most at risk of the impacts of climate change. Australia has the highest level of per capita emissions in the industrialised world, ¹¹ more than 20 times those of India and twice the industrialised country average of 13.4 tonnes. Australia's emissions are so high because, while our energy emissions per person are a little below those of the USA, we have high levels of emissions from land clearing and agriculture. ¹²

Owing to the inertia of the climate system, the rate of climate change can be slowed but not stopped altogether in this century. Due to the thermal expansion of the oceans and the slow melting of the polar icecaps, sea level rise may continue for centuries after greenhouse gases are stabilised. 13

The time for invoking the precautionary principle is already past. There is no longer uncertainty that the effects of global warming will occur: they are already occurring.*

However, if carbon dioxide concentrations in the atmosphere could be stabilised at a plausible low level, there is still the opportunity to mitigate many of the projected effects of climate change. For instance, current models suggest that stabilising carbon dioxide emissions at around 550 ppm by 2100 (instead of the predicted 1000 ppm if consumption of fossil fuels continues as at present) could reduce flooding frequency by some 80 to 90% along the most vulnerable parts of the Indian and Bangladesh coastlines. If

All forms of carbon dioxide emission mitigation – whether they be activities that negate the demand for utility supplied energy (e.g. clothes line versus clothes dryer), make more efficient use of energy (e.g. fluorescent versus incandescent lighting), use non-polluting energy (e.g. wind versus coal generated electricity) or reduce the release of carbon (e.g. measures to control deforestation) – will help reduce the global warming trend and the magnitude of harmful effects on the global population.

Based on IPCC estimates, a 90-95% reduction in carbon dioxide emissions by industrial nations is required for the sustainable release of greenhouse gases. ¹⁵ The costs of minimising greenhouse gas emissions may be more perceived than real, and should not be permitted to create a barrier to action. Reducing carbon dioxide emissions does not necessarily make nations poorer. ¹⁴

However, mitigation efforts after impacts emerge will be costly and will require considerable resources to implement — with the risk that they will not be performed in a uniform manner and increasing the relative vulnerability of those who are already vulnerable.

4. The Australian Government has shown no leadership.

The Australian Government operates a National Greenhouse Gas Inventory, that serves the dual purpose of providing greenhouse gas emission estimates for the United Nations Framework Convention on Climate Change and for tracking Australia's progress towards its Kyoto target of limiting emissions to 108% of 1990 levels over the period 2008-2012.

The most recent data indicate that Energy sector (includes stationary combustion sources, fugitive emissions, and transport) emissions in 2001 totalled 369 Mt CO2-e, accounting for 68% of net national

^{*} The precautionary principle was featured in the 1992 Rio Declaration on Environment and Development as Principle 15, stating: "Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation."

emissions. Total emissions from the Energy sector in 2001 were 1% higher than in 2000, and 29% higher than in 1990.

The Government's Mandatory Renewable Energy Target (MRET) commenced on 1 April 2001. The Renewable Energy (Electricity) Act 2000 requires the generation of 9,500 gigawatt hours of extra renewable electricity per year by 2010 (and sustain that level until 2020), enough power to meet the residential electricity needs of four million people.

The MRET legislation was recently reviewed by a panel chaired by the Hon. Grant Tambling and the report provided to the Government in September 2003. The review panel found that after almost three years of operation, MRET is meeting its objectives, with industry taking up the challenge of delivering new renewable energy projects. Under MRET, the interim targets for the first two years have been exceeded and the industry is well on the way to meeting targets for the third and fourth years. In a recent media statement the Government said it was "carefully examining all the recommendations of the report and will consider its response in the next few months in the context of broader energy and climate change directions." ¹⁶

The Tambling review disappointingly demonstrated a lack of leadership in retaining previous clean energy targets at the level of 9,500 GWh for 2010 and also failed to couple this target to electricity growth rates. With current electricity demand growth, the target may not increase the actual proportion of renewable energy in our electricity mix. Germany's renewables target is a high 12 per cent by 2010 and the UK's target is 10 per cent by 2010 and 20 per cent by 2020.

5. Actions are urgently required NOW to prevent greenhouse gas emissions.

Climate change is a major threat to human health. If global emissions of greenhouse gases are not stabilised and subsequently reduced, health services will not be able to cope adequately with the health impacts of climate change.

PHAA recognises that personal choices and behaviours influence energy consumption from non-renewable sources and are an important key to sustainability. From years of experience with health promotion, PHAA also recognises that to be successful, individual change requires supportive policy and environments that foster appropriate lifestyle choices. It is the creation of a supportive environment that is the main focus of the policy statement attached to this Background Paper.

6. There are several strategic areas requiring systemic change, including:

6.1 Kyoto protocol

The Kyoto Protocol on climate change is the only legally binding international agreement that sets targets for developed countries to reduce their greenhouse emissions.

Australia signed onto the Kyoto Protocol when it was negotiated in Kyoto, Japan in 1997 – but the Australian Government has refused to ratify even though the Protocol gives Australia the right to increase our greenhouse emissions by eight per cent above 1990 levels. Most other developed countries will have to reduce their emissions.

Whilst the Protocol does not go far enough to reduce greenhouse gas emissions to the extent required, it remains extremely important for both its symbolic and political value in securing commitment, as well as for its utility as a mechanism by which progress can be monitored and reported against.

6.2 Alternative energy policy

The connection that exists between energy policy, the source of energy supply, climate change and health should be emphasised to governments, to industry and to the community. Energy use is the dominant source of greenhouse gas emissions in Australia, contributing 55 percent of the nation's total emissions.¹⁷ It is therefore an urgent priority to both reduce the carbon released per unit of energy supply and improve the efficiency of converting energy into services, with a goal of achieving world best practice within five years.

6.3 Carbon economy

Introducing carbon user charges would be one of the most efficient ways for Australia to meet its responsibilities. The revenue from carbon charges would need to be used responsibly, for example to support research into energy efficiency in the Australian context and to assist Australians in conserving energy (eg, supporting public transport where this is efficient, and supporting greater use of home insulation). Even if carbon user charge revenue is not directly linked to these types of expenditure, carbon charges would still provide a more desirable source of government revenue than income taxes on low-income groups. Therefore the introduction of carbon charges should ideally be balanced to some extent by reducing income tax rates for low-income groups.

6.4 Transport

The transport sector contributes significantly and increasingly to global CO2 emissions. An integrated transport policy including the improvement of public transport promises multiple health benefits, including lower greenhouse gas emissions, less air pollution, less noise, reduced density of cars on the road leading to reduced morbidity and mortality from road accidents, improved perception of safety and amenity for cyclists and pedestrians, and reduced physical inactivity and its associated adverse health effects.

Transport is currently the third largest emitter of greenhouse gases in Australia, and the fastest growing emissions sector. Transport emissions accounted for 14% or 77 Mt of net national emissions in 2001, and were 0.3% above 2000 levels and 25% above those recorded in 1990.¹⁷

There is an urgent need to introduce policies in Australia that overcome excessive private vehicle use. More than 50 per cent of new vehicles registered each year are sold to fleets, and the single largest fleet operators tend to be Governments¹⁸, therefore the onus is on Governments to lead the transition to a more sustainable vehicle fleet. In addition, it should be an urgent priority to improve the overall fuel efficiency of the vehicle fleet. The present tax structure is actually encouraging a shift to larger, heavier and less efficient private vehicles

6.5 Adaptation measures

PHAA should anticipate what are now inevitable adverse health stressors arising from very high levels of greenhouse gas concentrations. It is important to plan for and develop the infrastructure to minimise the health effects of global warming on Australians. This includes: maintaining and strengthening communicable and arboviral disease surveillance systems; food safety workforce development; water quality improvement processes and capacity; and a robust emergency response infrastructure within public health and other government areas.

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PHAA Climate Change Action List v6

This Action List should be read in conjunction with the Climate Change Policy and the Climate Change Background Paper. The Public Health Association of Australia will focus on the following activities:

Transport

The PHAA, through SIGs and Executive, will advocate for improvement in the fuel efficiency of all transport vehicles, and the introduction of policies to minimise private vehicle use and promote public transport, bicycling and walking.

Renewable energy policy

The PHAA will educate governments, industry and the community about the connection between renewable energy use, energy supply, climate change and health.

Kyoto Protocol

The PHAA will advocate for the ratification and implementation of the Kyoto Protocol on Climate Change by the Australian government, and for the government to promote ratification by the USA and other countries who have not yet done so

Carbon economy

PHAA will advocate governments, industry and the community to explore ways to reduce fossil fuel dependence and carbon emissions, including: (i) a mechanism for replacing income tax with carbon user charges, (ii) changing building codes so that energy-efficient design principles and solar orientation are required, mandating solar hot water (where practicable), and encouraging use of gas for cooking and heating in preference to coal-fired electricity, and (iii) investigating the introduction of a system of emissions trading to provide financial incentives for emission reduction.

Adaptation measures

Given the concentration of greenhouse gases in the atmosphere, and predicted future increases, adverse climatic stressors are inevitable. It is prudent for PHAA to support the development of adaptive planning and policy strategies.

PHAA will advocate for an increase in climate change risk assessment, research into climate and disease relationships, identification of vulnerable groups, public education about possible impacts, and planning regarding the infrastructure needed to minimse the health effects of global warming in Australia.

The Public Health Association of Australia calls upon the Australian Government to:

- Ratify the Kyoto Protocol.
- Support renewable energy through ensuring similar prices to fossil fuel power.
- Commit to much greater investment in renewable energy industry research and development.
- Show leadership by setting new mandatory renewable energy targets and standards that go well beyond the recent findings of the Panel chaired by Grant Tambling – Australia should be striving for 10% new renewable energy by 2010.

- fund major work relating to reduced energy consumption within the health sector, auspiced by AHMAC.
- Abolish the Fringe Benefit Tax rules that inadvertently promote excessive motor vehicle use (i.e. the sliding scale that provides lower rates of FBT when higher kilometres are travelled).
- Create tax incentives that favour the use of public transport and bicycles by employees through enabling employer claims for tax deductions on outlays that purchase public transport for employees, and examine FBT rules in relation to provision of car parking by employers.
- Abolish GST on public transport.
- Raise fuel efficiency standards for all new and used vehicles (and fund the enforcement of these standards).
- Remove current tax advantages for imported four wheel drive vehicles as "goods-carrying vehicles", as they are less efficient in fuel use than lighter vehicles (diesel engines also emit more polluting particulate emissions, and cause more severe injuries in collisions with other cars).
- Introduce a rational system of carbon user charges that better address the public health and environmental externalities of fossil fuel use.
- Consider increasing public acceptability of carbon user charges by:
 - i) using the revenue gained to fund energy efficiency initiatives such as improved public transport;
 - ii) lowering income tax rates for low-income citizens at the same time as any new carbon user charges were introduced;
 - iii) better educating the public about the current and potential adverse impacts of the use of fossil fuels;
 - iv) ensuring that the actual charges (when introduced) are not initially high in absolute terms
- Provide greater funding for research into energy efficiency in the Australian context.
- Given that greenhouse gas emissions will continue to influence climate for several hundred years, invest in greater research effort towards how humans can adapt to climate change, as a secondary prevention strategy.

The Public Health Association of Australia calls upon State Governments to:

- Implement energy efficiency regulations.
- Commit to stopping the Shale Oil development near Gladstone, Qld.
- Stop the development of new coal-fired power stations.
- Improve public transport options. Further subsidies for public transport should be considered where this is efficient (eg, where such services reduce air pollution and fossil fuel as well as time wasted due to traffic congestion in urban settings).
- Promote cycling and walking through infrastructure provision such as appropriate cycle ways and paths (with the added benefit of reducing population obesity).
- Mandate minimum standards of fuel efficiency in the government vehicle fleet.
- Lead the way in low-fuel vehicles and alternative fuel vehicles through expanding these components
 of the government vehicle fleet.
- Make government-owned buildings and housing stock more energy efficient through regulations and economic incentives.
- End clear-felling deforestation practices that release more carbon into the atmosphere and reduce the level of carbon sinks. The current clear-felling of old-growth forest in Tasmania is an extreme example.

The Public Health Association of Australia will monitor progress of the International Climate Change Taskforce, and use the results to advocate implementation of the Taskforce's recommendations to the Australian government.

Adopted at the Public Health Association of Australia Annual General Meeting held on 9 October 2004