Submission to the Senate Select Committee on Climate Policy

Doctors for the Environment Australia, Inc.

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Summary

Climate change is considered a significant threat to the environment and the economy. Doctors for the Environment Australia (DEA) regards climate change primarily as a threat to human health and survival. Its progression is destroying the Earth's ecological systems upon which all life depends. A comprehensive response is urgently required.

DEA regards effective carbon reduction strategies as human health protection measures. Reducing greenhouse emissions will ameliorate the health impacts detailed below. An effective emissions policy will also encourage the development of renewable energy modalities which, in themselves, have positive health impacts compared to the negative impacts of fossil fuel industries and utilization. These effects relate not only to Australians but to the global population as well. Climate change is a form of globalized illness; consequently our decisions will contribute positively or negatively to the health and wellbeing of all. For these reasons DEA wishes to see the development of *effective* legislative measures to reduce emissions - within a framework that is revenue neutral and that allows for both industry *and* individuals to contribute by reducing carbon output.

The health dangers of climate change are recognised in Australia by statements and policy from the AMA, the medical Colleges and from DEA. Moreover, government has acknowledged the problem. The Australian Government's *National Climate Change Adaptation Research Facility* (NCCARF), *National Health and Medical Research Council* (NHMRC) and the CSIRO have recently identified health and climate change as a strategic priority for research. $10 million is being provided to fund the effort. This is a start that must be followed through to encompass all sectors of the economy in any analysis, not just the direct health impacts.

Whilst a move to an Emissions Trading Scheme (ETS) is to be applauded for its intent, we have concerns that it may not, in the face of numerous real-world difficulties, have the effect nationally or internationally that is sought. Moreover, the proposed levels at which the ETS seeks to reduce carbon emissions is inadequate as a response to climate change. We observe that a carbon tax, with off-sets being made through the extant tax system, may be easier to implement and to harmonize. Further, a carbon tax approach will enable individuals to make a meaningful contribution to emission reduction.

This submission argues that while we are notionally a small net emitter of carbon globally we are, on a *per capita* basis, profligate. If we are to attain any moral legitimacy we must move to reduce carbon output. Unfortunately, we have a large reliance on fossil fuel exports (primarily coal and gas). We urge government to support the development of more efficient power generation infrastructure using advanced ignition, combustion, scrubbing and pollutant reduction systems; together with encouragement for station-attached serial energy generation through such technologies as solar troughs. We appreciate that coal fired power stations will not be retired overnight - and that base load power and storage remains a challenge for sustainable technologies. Nonetheless, this will not be overcome until a market is encouraged to develop these technologies, and community behaviour is encouraged to change. This requires investment, education and resources.

DEA is concerned that neither the 2020, nor 2050 greenhouse gas emission targets, currently proposed by the Government, could be considered adequate. We are supportive of a Cap & Trade approach if the cap is set at a level sufficient to obtain the necessary carbon reduction required, and on the proviso that the issue of no-cost permits is strictly limited or, preferably, not undertaken. However, we have concerns that the market operation of a Cap & Trade system will not deliver results in the time-frame needed. Again, a carbon tax model is potentially preferable, and arguments in support of such an approach have been made by, amongst others: James Hansen (NASA), former US vice-president Al Gore, Nobel laureate Gary Becker and Harvard professor Gregory Mankiw.

Whatever form Australia's response takes it must facilitate the urgent reduction of emissions and a planned adaptation to the impact of inevitable climate change.

1) Introduction.

Climate change presents a grave threat to humanity.

Extensive peer reviewed scientific analysis and independent data support the contention that global climate change is upon us. While there is some variation in the system as a part of natural influences there is a significant component, notably in the long term-trends, that is arguably a result of human activity, and particularly that since the Industrial Revolution.

Moreover, climate change is now presenting as readily detectable events, manifesting themselves over time periods in the order of months or years, indicating an accelerating rate of change. These include a global increase in the rate of glacial melting, an increase in the rate of Greenland and Antarctic ice-cap melting and reduction of sea-ice in the Arctic. Numerous other events are discernible including an increase in the thawing of the permafrost in the tundra of the northern hemisphere, changes in the distribution of species in the boreal forests, and changes in breeding cycles and migration habits of an increasing number of species globally. Oceanic pH is becoming more acidic through the product of carbonic acid as CO_2 is absorbed, in turn resulting in effects on planktonic species that are potentially detrimental to the marine food chain.

In the last two hundred and fifty years global GDP has risen dramatically. In the last thirty years over 400 million people have been lifted out of poverty in China - an unprecedented achievement. The scourge of famine no longer resides in India in the way it once did. These are outstanding efforts made possible by the development of appropriate technology and its application, notably in the generation and distribution of energy, the provision of transport and mechanized appliances, and the development of selected food crops, notably the grains. Science and civil engineering have also played an enormous part. Immunization is an example, as is the ability to deliver clean water, safe food and comprehensive sewage systems. (The last three alone have arguably contributed more to public health than any other activity).

At the same time the population of the world has increased rapidly. With that increase in population has come a demand for more and more goods and services, an increase in economic activity and a concomitant increase in, and expectation of, higher standards of living. In and of themselves these are not necessarily bad things. However, our reliance upon fossil fuels in particular to drive our energy and transport requirements has proved to be a two-edged sword. When relatively few people relied upon the burning of coal for steam power, and later electricity, the environmental impact was relatively low. As population and economic activity increased so did the demand for coal. Its use in electric and motive power began to have an effect on both the environment and the health of the population. For a period of time there was a level of ignorance regarding the health and environmental impacts stemming from that activity. Fairly rapidly, however, the detrimental effects upon both became clear. Nonetheless, we persisted in using these resources. Pea-soup fogs were common in London until the passage of the Clean Air Act of 1956. These were a result of both weather conditions and the extensive use of coal. In December 1952 thousands were killed during a particularly dense smog – largely a result of respiratory infections prior. That is only 57 years ago.

In 1962 Rachel Carson published "Silent Spring". At that time our global population was approximately 3 billion. It is now nearly 7 billion. By 2050 it is reckoned to be 9 billion, with the potential to reach 12 billion. It is highly unlikely that the ability to deliver higher living standards across the world will be realized simply because of a lack of resources, lack of fair and equitable distribution and the now worryingly close likelihood of devastating climate change.

As a result of our consumption, pollution and environmental track record we are not in any moral position to deny the aspirations of the emerging nations, including India and China. If, as seems likely, those aspirations are for a standard of living generally equal that of the wealthy Western nations, then the challenges of global resource use, population numbers and environmental damage will be massive.

It is already seen as likely that war over resources such as water may be fought. It is an easy jump then to think that war over other resources may occur (either militarily or economically), or that these will be sought from more and more inaccessible and environmentally fragile areas (eg: Antarctica, the abyssal plains, the remnant rainforests of South America, East Asia and Africa).

Population continues to drive demand and environmental pressures, resulting in unsustainable behaviours that are efficacious only in the short term. The population challenge will remain so long as there is the massive imbalance in global wealth distribution that denies decent health services to hundreds of millions and their "buy-in" to smaller families (ie: having a vested interest in maintaining wealth-derived standards of living as opposed to that derived by sheer numbers of working hands).

Disconcertingly, where we have had an opportunity to address resource use and population numbers over the last century we have largely not done so. Moreover, and particularly in the West, we have failed to assess our levels of consumption, types of consumption, and other behaviours as inappropriate. Whilst the rest of the world is not blameless, the wealthy nations have engaged in a gross error of judgement and, in some cases, have perpetrated significant injustices.

Now we are in a dire predicament. Global climate change threatens us to such an extent that some suggest a global population of 2 billion people in 2050 may be optimistic. The potential for global climate change, as it is now being tracked, to reduce food production, water availability and habitable land cannot be underestimated. The robust and select crops that delivered food wealth to India have been displaced by commercial crops built on such a narrow lack of variety that the ability to grow these in a world with worsening climatic disruption is doubtful. The existence of wild and other phenotypes in seed banks is reassuring but is, by itself, probably inadequate. Displacement of large populations, the spread of disease and disease vectors outside of what are considered to be normal ranges, and the emergence of new diseases present as threats.

Tragically, just as we have developed the understanding and techniques to extend our knowledge many-fold we are, through the effects of climate disruption, resource demand and population, denying ourselves access to undiscovered plant and animal species that are being destroyed by human activity. These treasures may well provide molecules and structures, the result of aeons of evolution, whose scientific and medical importance is profound.

2) Medical and Health concerns.

Doctors for the Environment Australia, Inc. (DEA) is a voluntary organisation of medical doctors in all states and territories. We work to help prevent detrimental health outcomes – local, national and global – caused by damage to the earth's environment.

At present the World Health Organisation (WHO) estimates that environmental factors are contributory to, or responsible for, 40% of global illness. In 2008 WHO made "*Protecting Health from Climate Change*" its theme and DEA has the health aspects of climate change as its priority in education and advocacy.

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Climate change affects human health in the following ways:

- By causing injury and death in cyclones, storms, wild-fires, flooding and heatwaves. The latter is shown by an increase in hospital admissions and deaths in a number of countries. The elderly, the very young and those with existing heart and respiratory disease are the most vulnerable.

- With stress, social disruption and depression in farming communities from drought and a fall in food yields. In parts of Africa the problem is causing the movement of large populations, effectively as 'environmental refugees'. In Australia the mental health impacts are evident in the Murray-Darling basin where rural communities and farms are suffering from appalling levels of stress. Over the decade long drought currently being experienced a number of farmers have simply quit the land. The average age of the farming community is increasing and the ability to cope is arguably decreasing.

- By causing changes in the geographic range and seasonality of some climate-sensitive infectious diseases such as Dengue fever and malaria.

More significantly, we know that climate change is harming water flows, plant growth patterns, the biological cycles of animals and insects, and whole ecosystems which support healthy life on earth. Humanity also depends on these systems for health and, ultimately, survival.

Data from the FAO correlate the impact of climate change on soil ecosystems as world food yields fall and damage to the ecological systems of the sea (eg: acidification) decreases fish yields, a vital source of protein to many populations. Moreover, critical planktonic species upon which much of the marine food chain is built are being reduced in terms of viability.

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2.1) Principles of an effective policy.

Our members, with their scientific training, strongly support the *Intergovernmental Panel on Climate Change* (IPCC) reports, and indeed some members have contributed to these reports. We recognise that climate change is a complex problem which will increasingly affect all aspects of human life, including the viability of systems of government.

Complex problems are inherently difficult to comprehend - and decisions are bedevilled by special interests and factual or conceptual misunderstandings. The apparently insoluble problem of the Murray River illustrates, on a small scale, the national and international problems of climate change.

Recommendation:

Policy must encompass two interlocking aims:

1) ***The urgent reduction of emissions.***

2) ***Adaptation to the impact of inevitable climate change.***

Our detailed recommendations are available at: http://www.dea.org.au/node/91.

We regard these as measures essential for the maintenance of public health.

2.2) Reduction in emissions.

Australia must act urgently to reduce its green house emissions. In doing so we must recognise that our wealth, both relative and absolute, enables us to make this change more effectively than less fortunate countries. It is essential that we offer leadership that will facilitate international agreements. We do not subscribe to the view that because we produce only 1.3% of world emissions we can have no impact. Australia has become rich on the export of fossil fuels which have contributed significantly to the problem. It is arguably in our best interests to move to reduce carbon emissions not only because of the moral imperative that obliges us to do so, but because Australia can take advantage of the opportunity to develop new and sustainable industries.

That having been said, the urgency is clearly dictated by the increase in the rate of rise of emissions world wide, and the scientific evidence that several mechanisms are now acting on seas, forests and soils to make the progress of climate change irreversible in our lifetimes.

For these reasons we support the urgent introduction of emissions trading. We can see no reason why proposed policy should not be refined, and made effective, by curtailing free permits. We do not subscribe to the chorus of vested interests over the threat to jobs. The necessity for humanity to make its affairs sustainable will offer a plethora of jobs in, for example, renewable energy, new building products, land care and water conservation.

We do not subscribe to the view that action should be deferred because of financial crisis. While appalling in its effect, it is the latest in a series. It is likely confidence will be restored, although the combined lack of lending policy, institutional oversight and extent of personal greed upon which this particular crisis is predicated is arguably unprecedented. It will take exceptional efforts on the part of societies as a whole, and governments in particular, to restore that confidence and to establish any trust in the institutions, private and public, that conspired to generate this financial devastation. Nonetheless, we at least have opportunities to get it right. By contrast, we have only one opportunity to mitigate the more significant crisis of climate change.

We support the analysis of many distinguished economists, including Nicholas Stern, that climate change will cost us more the longer action is delayed.

The activities of DEA reflect our belief that each one of us has a responsibility to address the issue personally. Doctors offered leadership on fighting lung cancer by their commitment to stop smoking. This same commitment has involved us in the development of green clinics (low carbon footprint) and the education of peers and patients regarding climate change. There is clearly a willingness on the part of individuals to do the right thing. Consequently, governments must do more to encourage and harness this potential through the development of incentives including realistic and uniform feed-in tariffs, and tax deductions or exemptions on sustainable technology development and purchase.

2.3) Adaptation to climate change.

In Australia the most vulnerable communities are rural. In general these areas will be hotter, drier and will suffer greater loss of biodiversity and vegetation cover than urban regions. This will translate into social stress, ill health, depopulation and, potentially, economic demise. We favour aggressive policies to bring increased self-sufficiency to these regions through the undertaking of local renewable energy production, appropriate water conservation programs, and regional land reform based on a comprehensive scientific, economic and environmental sustainability assessment that rewards good land and forest stewardship. We also call for the development of appropriate management programs for marginal lands as part of any national soil and water stewardship program. Again, we regard these as essential in the underwriting of long term public health measures.

2.4) Other considerations.

This submission acknowledges the economic costs involved in any response and, more importantly, the potential to harm individuals. Any move to a new industry and economic paradigm must provide for a transition period in which workforces in industry sectors effected have the opportunity to retire, retrain or support industry moves to new, functional and sustainable operations. A commitment to training and education is essential if this is to occur.

This submission calls for the incubation and development of clean energy and low emission technologies, with support to develop an industry base driving such outcomes. This must be supported by mechanisms encouraging market adoption. There should be a limit to the extent of incubation before such industry must be able to compete viably in the national and international marketplace. To do this Australia must aggressively develop its ability to engage in advanced research and development, high-end manufacturing, specialized service and process delivery, and intellectual property development. Australia cannot continue to rely on extractive industries, "old-school" manufacturing (or mass manufacturing, except in certain niche areas) and financial services in order to survive. It is being rapidly out-paced in terms of its ability to compete. If it remains a "quarry in the South Pacific" it is likely to find circumstances prejudicial to its prosperity in future years.

We argue that the ability to lower barriers for individuals to invest in, and adopt, sustainable technologies in the electric power and transport sectors is critical. We suggest that government move to eliminate legislative and bureaucratic blocks, and encourage uptake by providing subsidies and tax-breaks in these areas. This would also support local industry efforts to develop a domestic market.

This challenge should be seen as an opportunity to develop new industries, operating on a sustainable basis (competitively, innovatively, financially and environmentally). In doing so Australia could become an exemplar nation, moving to a genuinely sustainable and rational mode of operation.

The vast majority of the pollution now contributing to global warming has come from the wealthy nations. Some of this has arisen from historical legacy and circumstance. Much of it, notably in the

last 30 years, has been driven by levels of consumption that are neither sustainable nor appropriate. The outcome of these consumption levels is reflected in a range of indicators, including our national obesity and diabetes rates, our excessive expenditure on roads, our lack of expenditure on quality public transport, our poor approach to urban planning and our degraded environment. Australia is not alone in this, although that does not excuse us.

The ideal (zero emissions) is not a realistically achievable scenario at this time. However, we urge the government to move quickly to support cost and tax rewards for smaller engine vehicles and for pure electric, H_2 fuel cell, compressed hydrogen and compressed air vehicles. We urge tax rebates and/or subsidies on, for example, double glazing, insulation and awning retrofits for domestic and commercial structures. We recommend adopting a building code that sets, for example, double glazing; awnings or reflective window surfaces; wall, ceiling and roof insulation; and thermally efficient materials and designs, as a mandatory part of any built structure adapted to local climatic conditions. We support stamp duty being removed from any home development or sale to encourage affordability and adoption of energy efficient materials and designs. We recommend the development of a National Building Energy Certificate rating system for all climatic zones. This will enable commercial and domestic structures to be rated independently in terms of energy use. Such a system will act to push the market to respond to consumer demands, will encourage consumers to buy more energy efficient built structures, and will insert into the marketplace a pressure on vendors, developers and architects to implement the best energy efficient practices.

This submission notes that Australia, by itself, will not change the outcomes of global warming. That requires concerted international effort. Determining what is a fair and equitable contribution to the global emission reduction effort is difficult. However, it must take account of our net emissions, our *per capita* emissions and our historic development to wealthy nation status. Allowance for the aspirations of emerging nations must also be made.

Ultimately we should seek to reduce our *per capita* emission to those of the *per capita* emissions of the current averages of China and India, *viz*: approximately 20% of current emissions. Reduction to 1990 levels represents a decline of approximately 10% to around 15 metric tons per person. We argue that a reduction to at least 10 metric tons per person in the first instance, and aiming for approximately 5 per person thereafter, is more appropriate. We suggest that otherwise we have no moral right arguing for those massive, developing nations, to reduce their emissions.

This will only come about through approaches including the adoption of a cap & trade (*suitably structured)* or a carbon tax. We also argue that transition to a sustainable mode of operation will be enhanced by removal of any taxes and charges on sustainable technologies (eg: electric vehicles, solar cells etc), subsidy and incubation support for uptake of same, vehicle registration fees based on weight and carbon emission, investment in public transport, support for a national energy rating for buildings, better urban design with a reduction of urban sprawl and, arguably, limits to population numbers that are a balance between our human rights obligations and considerations, and our financial and environmental prosperity.

We note that the ability for individuals to engage in carbon reduction is essential. While we are supportive of the right Cap & Trade approach it is likely that individual responses will be more easily facilitated and encourage under a carbon tax model. NASA scientist James Hansen, former US vice-president Al Gore, Nobel laureate Gary Becker and Harvard Professor Gregory Mankiw have advocated a carbon tax over a cap & trade system.

John Humphreys, Research Fellow at the Centre for Independent Studies in Sydney has argued in favour of a carbon tax over cap & trade as has Richard Denniss, Executive Director of the Australia Institute. The latter has stated:

> "If a household spent thousands of dollars putting solar panels on their roof and insulating their ceiling, and rode their bikes everywhere, it would not reduce Australia's emissions by a single kilogram. Here's why. Each year the federal Government will issue a fixed number of carbon pollution permits. Most will be given to the big polluters and some will be auctioned. It will be illegal for big polluters to generate more emissions than

> the number of tonnes allowed by the permits they hold. The second step is where the trading comes in. If a big polluter wants to increase the amount of pollution it releases, it can do so, but only if it can buy a permit from one of the other big polluters. While the total number of permits issued by the Government will mandate a decline of 5 per cent in the Australia-wide level of pollution by 2020, there will be no need for any individual polluter to reduce emissions. In fact, a polluter can go on increasing its emissions as long as it can find another polluter willing to sell it permits. This is where the problems begin. Under the proposed scheme, if individuals, communities or state governments try to do their bit for the environment, all they will achieve is the freeing up of permits for the big polluters to increase their emissions. Fewer emissions from an individual mean more emissions from an aluminium smelter. Fewer emissions from one state simply mean more emissions from another state."

The Carbon Tax Center (New York) notes that a carbon tax may be superior to a carbon cap-and-trade system, for reasons including, but not limited to, the following:

- Carbon taxes will lend predictability to energy prices, whereas cap-and-trade systems will do little to mitigate the price volatility that historically has discouraged investments in less carbon-intensive electricity generation, carbon-reducing energy efficiency and carbon-replacing renewable energy.

- Carbon taxes can be implemented much sooner than complex cap-and-trade systems. Because of the urgency of the climate crisis, we do not have the luxury of waiting while the myriad details of a cap-and-trade system are resolved through lengthy negotiations.

- Carbon taxes are transparent and easily understandable, making them more likely to elicit the necessary public support than an opaque and difficult to understand cap-and-trade system.

- Carbon taxes can be implemented with far less opportunity for manipulation by special interests, while a cap-and-trade system's complexity opens it to exploitation by special interests and perverse incentives that can undermine public confidence and undercut its effectiveness.

- Carbon tax revenues can be rebated to the public through dividends or tax-shifting, while the costs of cap-and-trade systems are likely to become a hidden tax as dollars flow to market participants, lawyers and consultants.

- Border tax adjustments are able to be made in a manner that is far easier to implement than the wait for international harmonization.

3) Conclusion.

If we are to protect national health (even in the face of an obesity challenge) we must move on the climate change threat in a comprehensive manner, with all the urgency a national emergency demands.

We have to make a decision. Change is a natural part of our world and we, as a part of that world can consider any change we make to be natural. However, we also need to judge whether any change we initiate is beneficial. If so then there may be an argument for allowing that change. If not then clearly it is in our interest to maintain the *status quo*. Climate change is arguably not in our interest.

We have evolved, from our last common ancestor with the great apes, over a 7 million year period. Our average levels of wealth were extremely low until the 1800s. But in less than 300 years we have brought this planet to a point where the very real threat of global climate disruption severe enough to greatly reduce or decimate the human species now exists. We have a very limited time in which to make the appropriate decisions and take the right actions. We must act now.