Doctors for the Environment Australia
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Submission to the Targets and Progress Review Draft Report

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Submission from
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Introduction

The Australian Government Climate Change Authority is currently reviewing its emissions control measures and has sought submissions on its Targets and Progress Review Draft Report published in October 2013.

Doctors for the Environment Australia (DEA) made an earlier submission to the Climate Change Authority Caps and Targets Review in May 2013[18]. The substance of that submission remains valid and will be included in this latest submission.

DEA will again outline the health imperative to reduce Australia`s emissions as quickly as possible. We present the strong case for increasing Australia`s emission reduction target from 5% to 25%, in line with other progressive nations and based on current climate science.

In this submission we will again argue that increasing Australia`s CO_2 reduction target will have significant health co-benefits for the Australian public and conversely the failure to reduce greenhouse gas emissions will have major health impacts on our citizens in both the short, and particularly the longer, term.

DEA is an independent, self-funded, non-government organization of medical doctors in all Australian States and Territories. Our members work across all specialties in community, hospital and private practice. We work to minimise public health impacts and address the diseases and injuries-local, national and global-caused by damage to our natural environment.

Health impacts of climate change and Australia`s responsibility to reduce our emissions

There is no doubt that climate change is one of the greatest threats to human health. The Climate Commission`s 2011 report: *The Critical Decade: Climate Change and Health*[1] outlines the ways that climate change will impact on the health of Australians. Australia`s per capita emissions are the highest amongst OECD countries, with only five countries being higher-Bahrain, Bolivia, Brunei, Kuwait and Qatar[2].

Therefore, Australia has a significant role to play in reducing our emissions and, as a wealthy country, has the means to do so. Global atmospheric carbon dioxide levels have reached 400ppm, which has not been the case in more than three million years[3]. This is a global emergency, given that emissions continue to rise. Given this, it is incumbent on all countries, including Australia, to take action to

significantly reduce emissions as a matter of priority. A target of a 5% reduction in emissions by 2020 does not go far enough.

Stationary Energy

Stationary energy is overwhelmingly Australia`s largest source of $CO_2$ emissions[4]. This is largely due to the combustion of coal which provided 77% of Australia`s electricity generation in 2008[5]. Since that time, electricity demand in the states supplied by the National Energy Market (NEM) (Victoria, South Australia, Queensland, New South Wales and Tasmania) has fallen. In addition, the share of electricity supplied by coal-fired power stations in the NEM has fallen to less than 75% following the introduction of the carbon price[6]. While this is encouraging, there is still a long way to go.

The carbon price aimed to incorporate one of the external costs of coal combustion-CO_2 emissions. However it did not take into account the full externality costs relating to coal mining and combustion. The full costs of mining, transporting and combusting coal need to be taken into account when determining the optimum stationary energy source for Australia. These include the cost of land degradation, threats to water security, damage to tourism and agricultural industries, traffic injuries and the health impacts of air pollution and dust.

The CSIRO has estimated that solar thermal with storage will become cost-competitive with coal for electricity generation as early as 2016[7]. If the full cost of coal externalities were taken into account, it is likely that solar thermal with storage would already be cost competitive with coal.

A number of studies in the USA, Europe and Australia estimate the costs due to air pollution from coal mining and combustion. These are summarised at http://dea.org.au/images/general/How_coal_burns_Aust._-_True_cost_of_burning_coal_04-13.pdf.

Epstein et al[8] estimated that the external costs of coal add 18 cents per KWh to the cost of electricity generation in the USA. In Europe the health cost of air pollution due to coal combustion has been estimated to be 42.8 billion Euros per year[9].The health impacts in Europe include 22,300 premature deaths every year due to air pollution from coal combustion, mainly due to respiratory and cardio-vascular disease. The Australian Academy of Technological Sciences and Engineering has estimated the health burden of coal due to air pollution in Australia to be $2.6 billion per year, or $13 per MWh[10].

None of these studies take into account the additional external costs of coal mining, transportation and combustion listed above, nor the cost of subsidies to the coal industry that are currently in place in Australia.

As there are readily available alternatives to fossil fuel combustion for electricity generation in the form of renewable energy sources, reduction in stationary energy emissions is the low hanging fruit for emissions reduction in Australia.

Divestment from fossil fuels, coal in particular is gaining momentum world-wide, and has significant implications for Australia. It provides both an incentive to invest in renewable technologies and disincentive to support out-dated fossil fuels industries.

Transportation

Transportation produces a little over 15% of Australia`s emissions[4]. Australia`s transportation system is heavily dependent on oil, and cars and trucks are the largest source of pollution in the urban setting[11]. If it was to include transportation, a carbon pricing mechanism would provide an incentive to reduce dependence on cars and trucks for transportation. In addition to reducing urban air pollution, this could also increase opportunities for physical activity due to active transport, reduce traffic injuries, reduce urban noise and increase the amenity of our cities[12].

Air pollution likely accounts for many more deaths than motor vehicle accidents in Australia. Therefore there are significant health benefits from reducing Australia`s transport emissions by reducing our use of cars and trucks for transportation. This will require an increased investment in public transport and rail and cycling infrastructure, and has additional benefits of reducing traffic congestion and transit time.

There are significant economic and health co-benefits from these actions; ie resulting from reduced congestion, reduced air pollution and noise, greater physical activity. Lower rates of heart disease, diabetes, dementia, anxiety and depression reduce health costs and improve productivity.

Studies in both US and Europe have demonstrated significant short term cost benefits from lower levels of air pollutants as a co-benefit of lower greenhouse gas emissions.

Emerging challenges

The Climate Change Authority document has emphasized that if the world is to stay below 2 degrees (rise), there must be deep and rapid cuts in global emissions and total emissions from now until 2020 must stay within a tightly constrained budget[13].

The Authority also stated that Australia`s high level of exposure to the impacts of climate change mean that it has a strong interest in avoiding temperature increases of 2 degrees or more. DEA is in full agreement on both points.

The experience of the past few decades is providing firm evidence that the average global temperature is rising on land and in the seas where 90% of excess heat is stored and will continue to expand as a consequence[14].

Sea levels are rising, as a consequence of land ice melting and water expansion, at 3.2mm per year, double that which was observed during the 20th century when the average was 1.6mm per year.

2013 is shaping to be in the top ten hottest years on record and January 2013 was the hottest month in Australia on record. In contrast with 2012, when the USA in particular observed record high temperatures, the warmth in Australia in 2013 was the most extreme.

Heat extremes are occurring more frequently and are directly correlated with adverse health outcomes including; emergency department presentation, mental health episodes, cardiac events and all-cause mortality. The risk of bush fires is also increased with attendant increased risk of direct injuries, air pollution and socio-economic impacts in affected communities.
http://dea.org.au/images/uploads/submissions/Extreme_Weather_Events_Submission_01-13.pdf

But surface temperatures are only part of the problem. Warmer air holds more moisture and results in greater evaporation. The result is both heavier precipitation events and droughts.

Extreme weather events are becoming more frequent and whilst it is not possible to know if any specific weather event is directly caused by climate change, weather systems are affected by climate change, increasing their energy and moisture. The impact of cyclones has been made very clear in recent years by a series of tragic events, most recently Haiyan with winds speeds in excess of 200km per hour it has resulted in over 5,000 deaths. A major factor in the humanitarian disaster was

caused by the storm surge and this in turn is exacerbated by rising sea levels.

Food and water security are also likely to be compromised directly and as a result of impacts on biodiversity and ecosystem and the provision of natural services they provide. Australia will not be immune for these challenges. The SW of WA has also seen a consistent fall in annual rainfall, a phenomenon that was projected by all climate models and set to continue. The PMSEIC report (Nov 2010) estimates that Australia's food yield will be up to 15 % less than it would otherwise have been as a result of climate change.

Australia`s response

Australia`s approach at the recent UN Climate Change Conference in Warsaw, Poland has placed our country, along with Canada, as the worst two industrialized nations with respect to their performance on emissions control. Australia`s policy evaluation was much worse than previous years and has fallen backwards to a rank of 57th from 51st place[15]. At a crucial juncture in history, when a clear vision for effective and sufficient carbon emission reductions is required globally, Australia has failed to deliver and in fact has given excuses to other countries which may otherwise have given commitments for stronger action.

A growing number of countries, or states within them, are instituting measures to price carbon emissions. By the end of 2013, an estimated 850 million people will be covered by a carbon price, including China and California[16] (the ninth largest economy in the world).

Delays in setting higher emission reduction targets will result in future economic costs and much greater health costs because of the actual and the predicted further impacts of climate change.

Not only is Australia remaining reluctant to commit to a national carbon emission reduction target greater than 5%, it is proposing to reduce renewable energy targets and the vigorous pursuit of energy efficiency standards. Proposed Australian government policy will also weaken controls of further land clearing.

Australia is now even more determined to mine and extract large deposits of coal, oil and gas for export overseas. The eventual carbon emissions resulting from the combustion of these fossil fuels in the importing countries are not factored into the already inadequate Australian carbon emission target.

Insurance cost burdens

As droughts, bush fires, tornadoes, floods, storm surges and other extreme manifestations of climate change become predictably more frequent, insurance burdens on individuals and businesses large and small will rise to match the risk. There is now ample evidence from the world's large re-insurers such as Munich Re that this is occurring.

The additional cost burden will cause individuals and businesses in some situations to forgo insurance or be unable to purchase it. The burden will cause some businesses to close their doors and conceivably mount future class actions against specific national and multinational carbon polluters. Economic stress as a result of environmental hazard and associated increased cost burdens can also have a major impact upon mental health with tragic outcomes for some individuals.

Environmental refugees

As sea levels slowly but surely rise, low lying countries and coastal planes in others will suffer most. The devastating storm surge caused by the recent typhoon in the Philippines proved how dangerous they can be. The water table in Bangladesh is rising and is compromising the country`s fresh water supply. We are beginning to see a new class of refugee as those affected by environmental change seek a new country. The United Nations Convention on refugees does not recognise the concept of environmental refugees as an entity and humanitarian crises will probably occur.

As habitation becomes more difficult or even impossible in some areas, there is real concern that conflicts will occur. Not only does health suffer under those circumstances but the overall national security is put at risk. The Pentagon in the USA is well aware that this is so and presumably Australian defence professionals are also.

Conclusion

If Australia and the world needed any reminder that humanity and indeed all life on earth is under threat because of climate change, then 2013 has provided it.

The sober assessment of the vast majority of climate scientists and the world`s scientific academies points consistently towards the widespread and increasingly damaging health, environmental and economic consequences of climate change and the urgent need for all nations to

play their effective part in halting and then reversing their rate of greenhouse gas emissions and the total global quantity of atmospheric carbon[17].

Ordinary people throughout the world are beginning to appreciate what the scientists have been saying and what political leaders have often been slow to respond to. There is a gradual realization that the environment is becoming more uncomfortable for habitation in many areas including Australia. People are realizing that alterations to climatic patterns can lead to droughts and floods and an increased propensity for bushfires and falling levels of water in dams in our country.

Health will also be affected from direct trauma by bush fires and by other heat related deaths. Air pollution from the mining, transportation and combustion of fossil fuels is underappreciated as a cause of morbidity and mortality in Australia and elsewhere. There are multiple other health challenges due to environmental factors.

A number of other countries are taking effective action to set their CO_2 emission reduction targets much lower than Australia`s current target and we are in danger of falling further behind. The current target of a 5% reduction in emissions is well below that which will be necessary to limit the average global temperature rise to 2 degrees. DEA strongly supports a minimum 25% reduction target by 2020 and to use all available effective measures to achieve it.

Australia is blessed with a stable democracy, a well- educated community, a reputation for invention and innovation, tremendous natural resources suitable for renewable energy technologies and for the development of public transport and energy efficiency measures.

It just requires visionary political leadership, sound scientific evidence, incentives for innovation and well-informed community support. Without them, we will be consigning future generations to a very dismal environmental future indeed.

Doctors for the Environment Australia supports the conclusions of the Draft Report.

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