

Submission to Senate Committee

Recent trends in and preparedness for extreme weather events

David McInnes,
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The Sustainable Business Group of Australia (SBGA) welcomes the opportunity to respond to the terms of reference published by the committee.

The Sustainable Business Group of Australia is a private company supplying research and consultancy services to business.

SBGA has a co-operative agreement with Monash University and the CEO of SBGA, David McInnes is a Professorial Fellow at the Monash Sustainability Institute.

The Sustainable Business Group of Australia assists businesses in recognising and implementing sustainable business practices that address both environmental impacts and economic performance by:

- Reduced wastage;
- Reduced costs to businesses;
- Reduced operating risks and risks to business reputations;
- Facilitated compliance with regulatory and reporting obligations;
- Introduction of opportunities for innovation and market development;
- Enhancing brands,
- Engaging staff, and
- Enhancing the efficient and economical use of resources and improve environmental outcomes.

We offer a range of consulting services related to sustainable business practices. These include:

- Strategy and program development
- Individual project services
- Membership of SBGA
- Staff mentoring/coaching/training
- Compliance and reporting
- Change management services
- Sustainability related guest speaker services
- Sustainability seminar organisation and facilitation
- Research and analysis
- Executive engagement
- Monthly F35 sustainability briefings
- Implementation and support

SBGA accepts that the bulk of scientific evidence that climate change, occasioned by human induced global warming is a reality and has advocated and supported actions to reduce emissions of Greenhouse Gases. We recognise that recent extreme weather events are consistent with the scientific predictions as one of the impacts of climate change.

Our experience is that proactive involvement by industry to take action in reducing greenhouse gases is most commonly only implemented where there is an accompanying economic justification for doing so.

Thus far the imperative to reduce emissions in order to preserve the environmental integrity of the atmosphere has been an inadequate motivation.

The existing Energy Efficiency Opportunities Act public reports document opportunities for savings in energy and consequent emissions which founder on the obstacle of economic justification.

One of the dilemmas of course is that changes to the composition of the global atmosphere are not a uniquely Australian issue and to an extent it allows those who seek to avoid action to do so by quoting other countries, who have emissions profiles greater than that of Australia with little, apparent action to reduce them.

However on the issue of adaptation, no such excuse is valid. This is a problem that Australia will need to deal with and the scale of events is likely to outstrip the existing civilian capacity to respond to emergency situations that will arise from the increasing frequency and widespread distribution of extreme weather events.

One of the few countries that has managed to mount a credible response to the impacts of climate change has been the Netherlands, who realising the impacts of sea level rise have undertaken a national program to reinforce and raise the level of dykes in anticipation of these events occurring and implemented a variety of changed building codes and planning controls to deal with higher sea levels and rainfall. The Dutch government has been reported as planning to spend the equivalent of \$100 per person per year over the next century to progressively improve these defences. This level of commitment seems to have been uncontroversial and widely supported by the population.

In Australia, sea level will impact on some communities but the impact of a hotter, drier land mass seems much more likely to cause damage.

Realising this there is a role for government in the following areas:

- Planning – regulating the development of areas so as not to exacerbate problems by locating communities in areas that are likely to be increasingly vulnerable to the predicted and recently experienced impacts of climate change
- Regulation – specifying building and infrastructure codes to meet the likely weather conditions predicted for the next century at least
- Facilitation – encouraging homeowners and businesses to take voluntary actions to reduce their susceptibility to adverse impacts from extreme climate events perhaps through a system of matching grants to undertake works
- Education – a public education program, tailored to regional priorities on extreme weather events and how to minimise vulnerability. This needs to include both formal and informal education for those attending schools as part of a structured education program and those who have left school through community education programs. In the previous reference to the Netherlands there was no particular need to educate the Dutch population about the need to reinforce their sea defences; they have a history of the impacts of not doing so. Australia, particularly those parts where most of the population lives, do not yet have such a history of the deadly impacts of climate change to rely on to inform their behaviours. It would be better that they learned this through education rather than through the much harder school of firsthand experience.
- Greater awareness of the impacts of heat stress and a program to better equip individuals to identify and treat heat stress for themselves and for others
- Renovation of public facilities to serve as shelters from extreme weather events. This could include bus/tram shelters, train stations, etc. that provide areas which can provide refuge from extreme weather - in Europe this is typified by heated shelters for passengers and members of the public, in Australia suitably cooled areas could fulfil exactly the same function but for an opposite climate impact.
- Improved Responsiveness utilising existing resources - greater utilisation of Australian Military Forces in emergency situations caused by extreme weather events causing direct threat to Australian civilians. The Australian Government allocated A\$24.2 billion to the Australian Defence Organisation in the 2012–2013 financial year. This level of expenditure is equivalent to approximately 1.56% of

Australian Gross Domestic Product and 6.65% of the Government's planned expenditure over the 2012–2013 financial year. There is no doubt that a Defence force capacity is needed to protect Australia's security from external threat, it would seem however that the current threat of climate change to Australia is likely to result in more deaths than those occasioned by aggressive actions on the part of nations opposed to or having territorial ambitions over Australia.

Successive governments have committed significant funds to safeguard against potential threats, climate change and global warming is a real and present danger that could be partially mitigated through the redeployment of military resources, without compromising the capacity of our military capacity.

Some of the threat to the health of citizens of Australia has been summarised by the National Health and Medical Research Council (NHMRC) on its web site at URL:

<http://www.nhmrc.gov.au/your-health/climate-change> where it noted that:
"According to studies prepared for the Australian Medical Association [1], the Australian Government Department of Health and Ageing [2], the Garnaut Climate Change Review [3] and others, the future climate-change health implications for Australia are likely to include:

Heat-related deaths – if we don't adapt, heat-related deaths could more than double to 2,500 a year by 2020. In the short term, warmer winters will mean fewer annual 'winter deaths' but, in the medium to long term, these would be greatly outnumbered by the additional heat-related deaths.

- **Flood-related deaths and injuries** – increasingly frequent and extreme weather events such as floods, droughts, hurricanes and tornadoes are projected. Extreme rainfall is expected to increase in many parts of Australia, leading to a 240% rise in flood-related deaths and injuries in some regions.
- **Mosquito-borne diseases** – rises in temperature and rainfall may cause the southwards expansion of tropical mosquito-borne diseases such as malaria, dengue fever, Australian encephalitis, Japanese encephalitis and epidemic polyarthritis.
- **Water-borne diseases** – as temperatures rise, the quality and quantity of drinking water could fall in some areas because of drought. As water quality falls, health disorders related to water contamination by bacteria, viruses, protozoa and parasites will rise. This contamination will also occur at the other weather extreme, as heavy rainfall and runoff cause microbial and toxic agents to overflow from agricultural fields and human septic systems.

- **Food-borne diseases** – *food-borne disease is caused by a number of different viruses, bacteria and parasites. Because bacteria replicate more quickly at higher ambient temperatures, it is likely that the rates of food-borne diseases such as gastroenteritis and hepatitis will increase as average temperatures rise”.*

It is an interesting to observe the dichotomy between the amount we spend on Defence (\$24.2 billion pa) to address a potential threat and yet seem reluctant to commit similar resources to a known, quantifiable and real threat that has already resulted in deaths of citizens in Australia. The equivalent Commonwealth expenditure on Climate change from the latest data we have been able to obtain is \$3.8 billion over 4 years.

All of these actions however, are treating the symptoms of climate change rather than the cause, which is global warming as a result of increased Greenhouse Gas emissions. Extreme weather events are just one manifestation of climate change, more insidious changes such as some of those identified by the NHMRC will occur more slowly and less dramatically as will changes in land productivity for agriculture, flora and fauna.

Addressing this issue becomes more difficult the longer it is left unattended or inadequately responded to. Australia, as a relatively small nation can have little material impact on the level of global emissions as a result of its domestic greenhouse gas profile, but it can have a powerful influence in supporting, innovating and leading in the international movement to reduce greenhouse gas emissions.

The effort that was put into securing a place on the UN Security Council was impressive, it shows that Australia when it is determined to make a difference can do so. In the case of the Security Council, assist in preventing and resolving regional and international tensions and conflicts. Climate Change is a far bigger issue because it threatens not just a few warring states; it threatens the future of human civilisation as we know it. In Australia we face particular vulnerabilities that must be responsibly addressed to minimise harm to our communities. We now have reasonable certainty as to the type, magnitude and timing of likely events. As has been pointed out earlier in this paper we have been very vigilant in committing resources and priorities to our defence against much more uncertain threats from other nations, we must now put a similar priority on our defences against a much more predictable threat, that of climate change.

I thank the committee for the opportunity to respond and commend these ideas in the conduct of their deliberations. Many more Australians are now aware of the grave danger that they will face in the future from climate change, particularly and most obviously extreme weather events and encourage the committee to be bold in its decisions to act to minimise consequent harm.