

**Senate Select Committee on Climate Policy
Australian Parliament**

Why we should act rapidly regarding climate change

Submission by

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Dear Senators,

This submission has a brief and personal introduction. I hesitated to write it, because I fear you will be unpersuaded, whatever I write, and indeed, whoever I am. In point form:

1. In 1991 I published the second academic publication in an Australian journal by a health professional regarding climate change and health, a letter in the Medical Journal of Australia, in 1991. This was followed by a long paper on climate change, ecology and health, in the London based medical journal, the Lancet. That was rare for the country GP I still was. At that time the science of climate change seemed compelling to me, but I thought I would be much older than I am now (54) before I would see overwhelming evidence of it. Of course, the skeptics among you may be influenced by people like the journalist, Andrew Bolt, and some may even think people like me are part of some kind of conspiracy. I wish that there was a wider understanding of the arguments concerning our collective folly but I don't find our collective denial surprising (see "Reasons for our collective failure to address the global ecological crisis", below). I don't understand the workings of the climate models very well, and at the fine scale of things I am doubtful over their precise accuracy. However, before one can dismiss the models (as people like Andrew Bolt seem to), please ask yourself why both the Arctic ice and the Antarctic peninsula are melting more and more, and why much other evidence of climate and other forms of adverse global change is accelerating – questions that I never have heard Andrew Bolt discuss. (To attribute these climate changes mainly to solar variations is implausible, though I agree climate change has human and "natural" causes. There are also human factors which are reducing the extent of climate change [eg haze-forming particles]; the bottom line is that if natural factors are exacerbating climate change then we are doubly unlucky.)
2. For much of my life I have had interests which have not been widely shared in the community. I'm therefore familiar with being part of the minority; and I know that doesn't mean the majority are correct. Much of my time in general practice

- (so far about 15 years; it is possible I'll return to it, though I am now an academic) was passed trying to tell patients about issues such as the risk of smoking, heavy drinking, poor diet, or lack of exercise. There are a lot of people in our community (especially in poor and disadvantaged regions) who either do not take these warnings seriously, or else feel powerless to change. I feel a similar resistance from the community and from leadership, including from many people in the current government, with regard to climate change.
3. Finally, while I know individuals need to contribute, the government needs to lead. Government represents people. I understand that challenging vested and powerful interests such as the coal, oil, gas and uranium lobby is terribly difficult for politicians, but it is even harder for individuals. So, I implore you to be courageous and to act in the collective interest of the whole population over a prolonged time; ie for at least several generations, not just the next five years. I suspect the benefits of this would be apparent much sooner than you think; I recently attended the Climate Congress in Denmark; there is a country which is far ahead of us. I also spoke at a meeting in Aarhus, Denmark – that city plans to be carbon neutral by 2030. We can and should do much better in this country. Action to solve climate change would be a great “social vaccination” which will help protect against the despair which otherwise will engulf us in the coming decades.

See appendix: a modified, shortened paper I have just written for a conference to be held in Bangkok, in May 2009, where I am to be the keynote speaker on environmental issues, for the most important Buddhist conference held each year (United Nations Day of Vesak). I hope the committee has read this far and can read a bit more.

The global environmental crisis and the sustainability of civilization

In my view, one consequence of a hollowed faith would be the complacent view that humanity, or indeed of civilisation and its underpinning technology, is now on an upward and inexorable trajectory towards some form of universal prosperity. Such a position would be a critical and dangerous mistake. There are many influential Western scholars who have propagated excessive complacency. For example, the influential US agricultural economist D Gale Johnson has argued that the “creation of knowledge” has “made it possible for the world to escape the Malthusian trap”.¹ That is, Johnson argues that human ingenuity is at least as important as environmental factors in the production of the food needed to maintain good population health, even considering future human population growth.

While this quote could be argued as a highly selective example, it is part of a widespread current within mainstream economic and social science thought,² or it least, it has been until very recently. Partha Dasgupta, the ecological economist has lucidly commented that ideas like Johnson’s exalt “new ideas as a source of progress, supposing that the growth of ideas is capable of circumventing any constraint the natural-resource base may impose on the ability of economies to grow indefinitely”.³

Gambling with the planet

The world’s scientific and environmental community is increasingly warning that our global civilisation is imperiled.⁴ Several recent papers, written by teams of the world’s most eminent climate scientists, have concluded that the worst-case climate change scenario trajectories are being reached, or even exceeded. The indicators of this worrying

¹ Johnson DG. Population, food, and knowledge. *American Economic Review*. 2000;90(1):1-14.

² Butler CD. Globalisation, population, ecology and conflict. *Health Promotion Journal of Australia*. 2007;18(2):87-91.

³ Dasgupta P. Population and resources: An exploration of reproductive and environmental externalities. *Population and Development Review*. 2000;26(4):643–89.

⁴ Rees M. *Our Final Century*. London: William Heinemann; 2003; Butler CD. *Environmental change, injustice and sustainability*. *Journal of Bioethical Inquiry*. 2008;5(1):11-9; Lovelock J. *The Revenge of Gaia*; Penguin; 2006; Strong M. *Where On Earth Are We Going?* Toronto, Canada: Alfred A Knopf; 2001.

trajectory are diverse: they include the emissions and atmospheric concentrations of greenhouse gases, the rates of melt of Arctic ice, sea level rise, and the number of hungry people. At the recent Climate Congress in Copenhagen, Denmark (held in March, 2009) a keynote speaker, Professor Hans Schellnhuber, chair of the German Advisory Council on Global Change, likened humanity's treatment of the global environmental commons to a form of Russian roulette. In this macabre and cruel game, originally a method of torture, a victim has a 1/6th chance of death. Schellnhuber has argued that to have the same chance of survival as a Russian roulette player the world needs to restrict global temperature rise to no more than 2 degrees C. Already, the world has warmed by 0.8 degrees C since 1900.

Optimists may think that a 5-in-6 chance of survival is a promising gamble. This would be true if you lost something small, such as a day's wages. But if you could lose your life then this risk would not be taken, unless you are suicidal. Clearly, humanity is not consciously suicidal. Yet many think that we are taking this risk with our civilization. At the same conference, Professor Stefan Rahmstorf, another keynote speaker, warned that global sea level is now likely to increase by 1 to 1.5 metres by the year 2100. Rising sea level may well be the "trump" which does the most damage to global civilisation, through its knock-on effects on displacement and loss of fertile coastal land.

Most environmental scientists make these predictions with little emotion. This reflects their scientific training, especially if they are trained in the physical sciences. Scientists who stray too far from their home discipline are rarely rewarded, and often criticized for being "out of their depth". Scientists who study atmospheric chemistry or the melting of glaciers in Greenland can legitimately predict the physical consequences such as the extent of flooding in Bangladesh by 2100, but they virtually never then analyse the likely human sequelae. This role is better performed by social scientists. However, until very recently, most social scientists have been blind or deaf to the emerging environmental crisis, reflective of a long division between the two great avenues of science – physical and social.⁵

In any event, the human, health and social consequences of such disruption are little studied. Low-lying countries and river deltas, such as in Bangladesh and the

⁵ Wilson EO. Consilience. The Unity of Knowledge. New York: Alfred A Knopf; 1998.

Mekong Delta are likely to be flooded, as will cities such as Alexandria and parts of Bangkok. While extensive and expensive sea walls such as those that protect the Netherlands might seem feasible, it will be extremely difficult to build these on the scale needed. Nor (unless we act rapidly to decarbonise the global energy system) will sea level rise peak in 2100. Unless we act now it will continue to rise, possibly for centuries. Nor is adverse global change restricted to sea level rise or even to climate change. Numerous other factors, including falling biodiversity, deteriorating soil quality and the loss and contamination of the world's fresh water combine to threaten human well-being.

It would be a critical error for politicians to ignore these warnings. However, few politicians have much scientific education or understanding. As a group, politicians appear to poorly comprehend the peril that now confronts our civilization. This paper will briefly describe some of the interacting social, economic and environmental factors which are coalescing to form this global “eco-social” crisis. Prominent among these factors are climate change, steadily rising sea levels and changes in global and regional agricultural productivity.

These evolving and emerging elements overlie a background of a world in which some nations have for more than sixty years possessed and controlled nuclear weapons – tools of immense and terrifying destructive power. The severity of the global financial crisis is likely to be dwarfed by the emerging global eco-social crisis, which shares many similar causes. Many rich populations are also vulnerable to this unfolding crisis, especially because of their disconnection with basic ecology and their reliance on long, distant and complex supply systems of food and energy. Wealth, as conventionally measured, has disguised recognition of the ecosocial problem and has fuelled complacency.

Making the diagnosis

There is now a clear risk of a cascade of events, which, should it occur, will exceed the curative capacity of any global institution. But as with any unpleasant disease, diagnosis is essential to give the patient (in this case civilization) a reasonable chance of survival. Because global civilization has not yet collapsed (and indeed, were it not for the global

financial crisis it could seem even more powerful and wonderful than ever) there is enormous skepticism that it is imperiled. Please think about this for a minute. A car that is accelerating towards a wall needs to slow down to avoid collision. But if the “well-being” of the car is measured only by its velocity, then it will be considered to be at its peak immediately before it hits the wall. If we wait for the evidence of global civilization collapse to be obvious to everyone then it will be far too late to correct. Environmental scientists claim that they can see the wall. They appeal to civilization to change course. They fear no plausible method exists to save global civilization if it starts to unravel.

Are there ways to save civilization?

To increase the chance of survival civilization must rapidly move to “decarbonise” the global energy system; to move to a “solar” economy. But we also need to practice self-restraint, self-reliance and to maximise global co-operation. If we can act collectively, courageously and powerfully then we might still enjoy a healthy and prolonged old age. In any case participating in the changes that are required will serve as a form of “social vaccination”, helping to reduce the despair and self-destructive nihilism which could otherwise serve as an accelerant of collapse.

Climate change threatens many more forms of havoc than a rising sea level. Other predicted consequences are more heat waves, bushfires, severe floods and intense droughts. Countries such as India and regions such as sub-Saharan Africa are particularly likely to experience worsened droughts and other negative effects.⁶ The main “greenhouse gas” carbon dioxide (CO₂) is also changing the acidity of the ocean. This is likely to have profound, generally adverse effects on many marine organisms and the food webs which upon them.

Unfortunately, our collective environmental problems do not end with harm to the climate and ecosystems. Numerous other large scale perturbations exist, such as the scale of the global nitrogen cycle and the extent of contamination with endocrine disruptors

⁶ Tubiello FN, Fischer G. Reducing climate change impacts on agriculture: Global and regional effects of mitigation, 2000–2080. *Technological Forecasting & Social Change*. 2007;74:1030–56.

and other health-harming pollutants.⁷ Collectively, these problems are enormously challenging to solve. The longer we delay serious attempts to solve them, the harder the task will be. Indeed, the challenges now are much more serious than they were 20 years ago.

Reasons for our collective failure to address the global ecological crisis

Our world has an extraordinary capacity for global environmental and social observation and analysis, both of current and previous times. We have a growing ability to forecast the near and mid-term future. However, the volume and complexity of this information, combined with its partition into many streams of knowledge has greatly slowed dissemination of the wider scientific understanding which is starting to evolve, and which is vital if we are to cope with our common future. A more complete understanding of our approaching peril has also been blocked by many vested interests which have effectively conspired to fuel doubt and complacency.⁸

For example, many corporations continue to profit from the massive erosion of the Earth's environmental wealth which has occurred, especially in the last century. The fossil fuel industry (oil and coal) have particularly contributed to highly organized and well-funded campaigns designed to challenge the science and severity of climate change and other forms of adverse environmental change. Until recently, the strategy of organized denial of the risk we collectively face has been amplified by several powerful governments, most notably the United States. For example, in the first six months of 2008, as the Lieberman-Warner bill (designed to cap carbon emissions) approached the

⁷ Grandjean P, Bellinger D, Bergman Å, Cordier S, Davey-Smith G, Eskenazi B, et al. The Faroes statement: human health effects of developmental exposure to chemicals in our environment. *Basic & Clinical Pharmacology & Toxicology*. 2007;102:73–5.

⁸ Stauber JC, Rampton S. *Toxic Sludge is Good for You. Lies, Damn Lies and the Public Relations Industry*. Monroe, Maine: Common Courage Press; 1995; Beder S. *Global Spin: The Corporate Assault on Environmentalism*. Melbourne: Scribe Publications; 1998; Butler CD. Globalisation, population, ecology and conflict. *Health Promotion Journal of Australia*. 2007;18(2):87-91.

US Senate floor, the oil and coal industries were reported as spending US\$427 million on advertising and lobbying"⁹

A second powerful set of reasons has also limited understanding of these issues. The most obvious is the psychological difficulty of contemplating the frightening and terrifying chain of events which would unfold if civilisation were to crumble. Here's a hypothetical example. We would lose our capacity to fly around the world. We would no longer be able to launch satellites. Gradually, we would lose our ability to replenish the rare metals and other elements needed to make mobile phones. The price of oil would rise to levels which would make the recent price look modest. The World Food Program would fail to acquire and to ship food to refugee camps and temporarily feed other populations experiencing famine. After some time, the internet would probably break down, as electricity supplies become increasingly fractured and fragile.

As the ability to travel, communicate, and learn from each other declines, there would be an ever-increasing risk of social breakdown and a global loss of co-operation. International trade would slow, and countries that are net food importers would become acutely vulnerable to hunger and famine. Health services would suffer, including because of reduced electricity and pharmaceutical supply. Education systems would deteriorate, as would our collective capacity to design and repair the myriad social, technical and informational systems upon which we depend.

Collectively, this scenario is paralyzing. It's much easier, psychologically, to deny the likelihood of these events, and return to "business as usual". However, business is not usual, and at some point events will intervene in ways which will force us to awaken. But, if we wait too long our actions will be too late.

There is a third major reason for widespread denial. This can be traced to the fable of "crying wolf" as credited to Aesop (620-560BC). In this fable, people are desensitized to hearing the warning, and therefore are unprepared when the wolf finally arrives. Many warnings of collapse were made in the 1960s and early 1970s, most famously in "The

⁹ Pooley E. How much would you pay to save the planet?: Joan Shorenstein Center on the Press, Politics and Public Policy; 2009. Discussion Paper Series #1D-49
http://www.hks.harvard.edu/presspol/publications/papers/discussion_papers/d49_pooley.pdf

Limits to Growth”¹⁰ which sold millions of copies. Yet, to date, collapse has not occurred. Indeed, until just before the global financial crisis erupted, official forecasts of the future have been excessively optimistic, predicting ongoing economic growth for the rest of this century. The fact that no global collapse has occurred in our lifetime, combined with the amazing evolution of technology has made these reassuring forecasts appear plausible, especially to people with little comprehension of the scope of the environmental crisis, its capacity to interact with adverse social factors, and to indeed precipitate civilisation collapse.

Unlike any past civilization, our society today is almost global. It is also armed with thousands of nuclear weapons, controlled by at least nine countries. Resource wars triggered in part by climate change could easily lead to nuclear conflict.

Enormous strides in technology are required. But the world is not as short of climate sparing technologies as coal and oil devotees suggest. In Europe, a “giant array” of linked solar- thermal, wind and geothermal electrical generators has been proposed, both to power Europe and to also enable the desalination of large volumes of seawater.¹¹

Rescue remains possible. As the American writer Thomas Friedman says, pessimists may often be correct, but it is optimists who generate the change we need. However, too much optimism is harmful, because it generates complacency. Perhaps, again, we need a middle path.

PS Dr Rowan Williams, the Archbishop of Canterbury, has recently warned the God is not going to intervene to prevent humanity from wreaking disastrous damage to the environment, and has called for a 'radical change of heart' to prevent runaway climate change. 'This is not a creation in which there are no real risks - our faith has always held that the inexhaustible love of God cannot compel justice or virtue - we are capable of doing immeasurable damage to ourselves as individuals, and it seems clear that we have the same terrible freedom as a human race.’ Without a change of heart, Dr Williams warned, the world faced a number of 'doomsday scenarios' including the 'ultimate tragedy' of humanity gradually 'choked, drowned, or starved by its own stupidity.'

¹⁰ Meadows D, Meadows D, Randers. J, Behrens III W. The Limits to Growth. New York: Universe books; 1972.

¹¹ <http://www.desertec.org/>