

Submission to:

Senate Select Committee on Climate Policy  
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By:

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Two years ago, in opening the National Climate Change Summit (Rudd, 2007), Kevin Rudd stated that “Climate change is the great moral challenge of our generation.” In anticipation of the release of the Carbon Pollution Reduction Scheme (CPRS) (Commonwealth of Australia, 2009) your Government claimed to recognise that the threat of climate change requires a “decisive and strong response” (Department of Climate Change, 2008), that Australia “must stand ready to play its role in the global mitigation effort” (Department of Climate Change, 2008).

However, under the terms of the CPRS there is a vast gap between the Government’s rhetoric and the policy and practical outcomes that the CPRS will deliver. Even more disturbingly, there is a significant disjunction between those outcomes and the scientific consensus on what action must be taken if we are to have a reasonable chance of averting a global climate change catastrophe.

It is suggested that there are four principles to which any effective emissions trading scheme must adhere: environmental integrity, flexibility, economic efficiency and equity (Christoff, 2007). The CPRS has serious deficiencies in meeting each of these principles, however it is on the question of environmental integrity, and in particular, the nature of

the scheme's greenhouse gas (GHG) reduction targets, that the CPRS clearly fails to meet either its purpose of a "decisive and strong response" or its objective "to support the development of an effective global response to climate change"(Commonwealth of Australia, 2009).

The Government accepts the Garnaut Climate Change Final Review Report's view that stabilising global GHGs (or "carbon dioxide equivalent" - CO<sub>2-e</sub>) at 450ppm by 2100 would be in Australia's national interest (Garnaut, 2008). The Government argues that the CPRS will deliver "substantial reductions in emissions" and that "it offers the best chance of building international confidence and influencing others to follow our lead" (Department of Climate Change, 2008).

To achieve this the CPRS proposes a long-term target of a 60% reduction in Australia's GHGs from 2000 levels by 2050 and a medium-term target of between 5% and 15% below 2000 levels by 2020. However these targets will neither achieve "substantial reductions" in Australia's emissions nor "build international confidence", and if this approach influences others to "follow our lead", we are all in big trouble.

On the Government's own figures our long-term target is well behind the long-term targets of the United Kingdom (80% below 1990 levels), the EU (60-80% below 1990 levels), and the US (80% below 1990 levels) (Department of Climate Change, 2008).

In relation to the medium-term 2020 targets, the Government's comparison with other countries' per capita targets is neither relevant nor accurate. It is not relevant because the aim of the exercise is to reduce *overall* global emissions, not per capita emissions. If per-capita reductions was the measure of choice, China with 3.9 CO<sub>2-e</sub> tons per capita and India with 1.9 CO<sub>2-e</sub> tons per capita would have no reason to reduce their emissions because they are leagues behind Australia's massive 25.6 CO<sub>2-e</sub> tons per capita, the highest of all developed nations (World Resources Institute, 2008).

Neither is the per capita comparison accurate. The US and EU figures do not include emission reductions achieved through land use change and forestry, whereas Australia's do. Excluding land use and forestry reveals a more damning comparison. In 1990 Australia's emissions were 418 million tonnes. Treasury projects a 2020 figure of 560 million tonnes including the Government's "unconditional" 5% target. This is 34% *higher* than in 1990 and therefore the projected reduction is much less than the EU and US per capita targets (Pearse, 2009).

Furthermore, CPRS liable entities are entitled to purchase an unlimited number of overseas carbon credits under the Kyoto Clean Development Mechanism in addition to the limited allocation of Australian permits. Thus Australian emitters can emit an unlimited amount. It follows that there is no guarantee that Australia's emissions will be reduced at all, let alone by a substantial amount. On the contrary, it is possible that Australia's emissions will actually increase under the CPRS. Leading the world? Not

really. Even the latest US proposal requires extraterritorial credits be additional to, not substituted for, national emissions savings (Davies, 2009).

### **Climate Sensitivity, risk and vulnerability**

One also questions the Government's acceptance of Garnaut's finding that a stabilisation of CO<sub>2-e</sub> at a target of 450ppm would be in Australia's national interest, even while overlooking that the Government's own reduction targets, if adopted worldwide, would come nowhere near to achieving a 450ppm level.

Garnaut acknowledges that the effect climate change will have on the world as a whole, and Australia and its regions in particular, is largely determined by climate sensitivity, risk and vulnerability (or exposure). Climate sensitivity is "the global mean temperature increase that would result... after a doubling of CO<sub>2-e</sub> concentration above the preindustrial level of about 278ppm" (Hare, 2009). The atmospheric level of CO<sub>2-e</sub> is currently in the order of 385ppm (Hansen et al., 2008). If CO<sub>2-e</sub> was stabilised at 550ppm climate sensitivity as assessed by the IPCC is "likely to be in a range of 2° to 4.5° Celsius" with the possibility of being even higher. The IPCC gives a "best estimate" of some 3° warming (United Nations Intergovernmental Panel on Climate Change, 2007).

The uncertainty regarding likely climate sensitivity means that the risk of any particular temperature increase occurring is best described in percentage terms. Thus, while stabilising CO<sub>2-e</sub> at 550ppm would incur a 75% risk of warming exceeding 2°, stabilising

at 475ppm would still incur a risk of 50% of warming exceeding 2°; that is, an even chance (Hare, 2009). 475ppm is only slightly higher than the 450ppm suggested by Garnaut and adopted by the Government. It would therefore appear that the Australian Government is prepared to stake our future on little more than a coin toss.

What could this mean for Australia? Garnaut found that “Australia’s level of exposure to sensitivity to the impacts of climate change is high” (Garnaut, 2008) and that without effective mitigation those impacts “are likely to be severe” (Garnaut, 2008). On Garnaut’s own projections 450ppm CO<sub>2-e</sub> would mean 7638 heat related deaths, an increase in infectious diseases, increased frequency and severity of floods, cyclones, bushfires and storms, sea level rise and changes in rainfall patterns. And this in a country that “has a high level of capacity to plan for and respond to the impacts of climate change” (Garnaut, 2008). Pity those countries that do not.

How then can 450ppm be considered a “safe” level? In the light of the most recent scientific observations it has been argued that today’s level of 385ppm CO<sub>2-e</sub> is “already too high to maintain the climate to which humanity, wildlife and the rest of the biosphere are adapted” and that the initial target level we should strive for should be 350ppm with the potential to aim even lower if science deems it necessary (Hansen et al., 2008).

Australia’s CPRS does not acknowledge this information. Nor does it acknowledge the danger posed by “tipping points”, events caused by global warming which may lead to “feedback loops” which cause warming to escalate far more rapidly than even the most pessimistic IPCC projections. For example, the recent loss of Artic sea ice exceeds IPCC

modelling. This may already be allowing melting of permafrost within the Arctic Circle, an area which is already warming faster than any other area on earth. The subsequent release of vast quantities of methane, a far more potent GHG than CO<sub>2</sub>, could rapidly escalate warming, in turn leading to more permafrost melting and more methane being released (New Scientist, 2009).

Observations in Antarctica are also causing grave concern. A recent report by the United States Geological Survey has shown that the Worthie Ice Shelf and the Northern part of the Larsen Ice Shelf in Antarctica have completely disintegrated, an occurrence which the report describes as unambiguous evidence of the effect of global warming (Jane G. Ferrigno, 2008, Department of Climate Change, 2008). And on 3 April 2009 the European Space Agency reported that the ice bridge connecting the Wilkins Ice Shelf to the Antarctic Peninsula is at risk of imminent collapse (European Space Agency, 2009), an event that the US National Snow and Ice Data Centre attributed to “rapid climate change in a fast-warming region of Antarctica” (National Snow and Ice Data Centre, 2009).

## **Conclusion**

Two days after the Climate Pollution Reduction Scheme Act 2009 Exposure Draft appeared, a statement was released by the International Scientific Congress Climate Change: Global Risks, Challenges & Decisions (International Scientific Congress on Climate Change, 2009). The Congress was held in Copenhagen, venue for the

forthcoming UN Climate Change Conference, and was attended by more than 2,500 delegates from nearly 80 countries.

The Congress's Key Findings are a plea to the Governments and citizens of the world to take swift and decisive action to avoid dangerous climate change. I attach a link to the Key Findings statement at Appendix A for your reference.

In the light of these Findings and my comments above, I respectfully urge the Australian Government to review the CPRS, to match rhetoric with action, to deliver the "substantial reductions in emissions" which the latest scientific evidence demands, to take the lead not because it is politically expedient, but precisely because "Climate change is the great moral challenge of our generation."

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## **Appendix A**

INTERNATIONAL SCIENTIFIC CONGRESS ON CLIMATE CHANGE (2009) Key messages from the congress. *Global Risks, Challenges & Decisions*. Copenhagen.

[http://climatecongress.ku.dk/newsroom/congress\\_key\\_messages/](http://climatecongress.ku.dk/newsroom/congress_key_messages/)