



# Climate Change and Australia

Carbon Counters

2009

It is easy to become confused about climate change amidst all the politics, media and science surrounding it. This document outlines why climate change is important to Australians, what the Australian government is doing about it, the likely result of such action and how you can influence future policy decisions. The Garnaut Review, Stern Review, the Australian government's White Paper on climate change and other sources are heavily quoted in an attempt to portray the facts in an unbiased fashion.

**Carbon Counters**  
[www.carbon-counters.com](http://www.carbon-counters.com)  
[info@carbon-counters.com](mailto:info@carbon-counters.com)

## WHAT CLIMATE CHANGE MEANS FOR AUSTRALIANS

“As a hot and dry country, we have more to lose than any other developed nation if the world fails to reduce the carbon pollution that causes climate change” (Australian Government 2008, Piii).

“The costs of inaction on climate change are already beginning to be felt, and there is no case to delay any longer. Despite the economic challenges of today, the Australia Government will continue to take strong and decisive action on climate change because it is in Australia’s economic interest” (Australian Government 2008, P33).

As Australia will be more affected by climate change than any other developed nation it would appear to be in Australia’s best interest to set strong targets in order to lead the rest of the world to stronger action.

## THE AUSTRALIAN GOVERNMENT’S POLICY ON CLIMATE CHANGE

*Ross Garnaut advises*

“Strong mitigation, with Australia playing its proportionate part, is in Australia’s interests. In preparation for Copenhagen, Australia should support the objective of reaching international agreement around an objective of holding concentrations to 450 ppm co<sub>2</sub>-e—inevitably with overshooting. It should express its willingness to reduce its own entitlements to emissions from 2000 levels by 25 per cent by 2020 and by 90 per cent by 2050 in the context of an international agreement” (Garnaut 2008, Pxxx).

*The Federal Government responds*

“By 2020, we have committed to reduce Australia’s carbon pollution by up to 15 per cent below 2000 levels in the context of a global agreement where major economies agree to substantially restrain carbon pollution and advanced economies take on reductions comparable to Australia” (Australian Government 2008, Piv).

As can be seen in Table 1 below, far from leading the international community, Australia is lagging behind with softer targets than all but the US’s short term targets. A per capita comparison cannot be fairly made because Australia is expecting larger growth relative to other countries, inflating per capita reduction values.

The Australian government’s targets appear to be contradictory. The Garnaut report recommends a 2020 reduction target of 25% to reach 450 ppm but the government is aiming for a maximum of 15%. Australia’s 2050 reduction target of 60% is below both the 90% Garnaut recommends for 450 ppm and the 80% Garnaut recommends for 550 ppm. What is the Australian government really aiming for?

Table 1: Comparing carbon pollution reduction targets of different countries (Australian Government 2008, P7)

Country	2020 targets	2020 per capita reduction	2050 targets
<b>Australia</b>	5–15 per cent below 2000 levels  (4–14 per cent below 1990 levels)	27–34 per cent below 2000 levels  (34–41 per cent below 1990 levels)	60 per cent below 2000 levels  (60 per cent below 1990 levels)
<b>European Union</b>	20–30 per cent below 1990 levels	24–34 per cent below 1990 levels	60–80 per cent below 1990 levels
<b>United Kingdom</b>	26–32 per cent below 1990 levels	33–39 per cent below 1990 levels	80 per cent below 1990 levels
<b>Proposal</b>			
<b>United States (proposal of President-elect Obama)</b>	Return to 1990 levels	25 per cent below 1990 levels	80 per cent below 1990 levels

## WHAT A 450PPM TARGET MEANS

“A stabilisation target of 450 ppm CO<sub>2</sub>-e gives about a 50 per cent chance of limiting the global mean temperature increase to 2°C above pre-industrial levels (Meinshausen 2006), a goal endorsed by the European Union (Council of the European Union 2007) among others” (Garnout Review 2008, P88-89). (See Appendix A for the full range of possibilities and consequences).

Toss a coin. Heads we have a temperature rise above 2°; Tails we have a temperature rise below 2°. Let’s look at what happens if the coin comes up a favourable tails.

“At less than a 1-degree rise, the Arctic sea-ice is headed for rapid disintegration; in all likelihood, triggering the irreversible loss of the Greenland ice sheet, catastrophic sea-level increases, and global warming from the albedo flip. Many species and ecosystems face extinction from the speed of shifting isotherms. Our carbon sinks are losing capacity, the seas are acidifying, and the tropical rainforests are fragile and vulnerable” (Spratt & Sutton 2008, P71).

We are currently experiencing a 0.8°C warming.

Note that the above scenario is the *favourable* outcome of Australia’s climate change policy. The consequences of the coin coming up heads and the world experiencing a global warming of more than 2 degrees would be much more severe. It is worthwhile noting that a warming of 2°C is far from the upper end of the range of possibilities (see Appendix B for more information).

**WHAT TO DO ABOUT IT**

The Australian government has set an emissions reduction target of 5% by 2020, which isn't far from business-as-usual. If the rest of the world sets similar targets the Australian government will increase this short term target to 15% and it's 2050 target to 60%. However, this will not achieve its target of 450 ppm. If this target is reached and we are fortunate enough to experience a warming less than 2 degrees we are still facing global environmental turmoil and the resulting economic uncertainty.

The Australian government cannot improve these prospects by itself. It needs its citizens to provide the political will to make strong targets and lead the world to take the problem seriously. The most effective way of contributing to the solution is to see your local MP.

The Australian Conservation Foundation has a great website to get you on the right foot:

[http://www.acfonline.org.au/default.asp?section\\_id=270](http://www.acfonline.org.au/default.asp?section_id=270)

GetUp! have also prepared an MP meeting guide: <http://www.getup.org.au/files/misc/mpmeetingguide.pdf>

Remember that for a politician a personal phone call is worth a hundred emails and a personal face to face visit is worth a hundred calls. So you can have the power of 10 000 emails without spamming!

So if you don't think the current situation is good enough, don't be disheartened; you are not powerless; you CAN create change. All it takes is the effort to personally meet with your local MP, or at least call. Encourage your friends, families and co-workers to do the same – don't let climate change become a taboo topic. We owe it to our children, we owe it to the environment, and we owe it to the most disadvantaged communities in the world who didn't create this situation but will be affected the worst.

Best of luck!

**The Carbon Counters Team**

[www.carbon-counters.com](http://www.carbon-counters.com)

## REFERENCE LIST

Australian Government. December 2008. Carbon Pollution Reduction Scheme: Australia's Low Pollution Future. White Paper Summary Report. Access online at [www.climatechange.gov.au](http://www.climatechange.gov.au)

Garnaut, R. September 2008. Garnaut Climate Change Review. Access online at [www.garnautreview.org.au/index.htm](http://www.garnautreview.org.au/index.htm)

Spratt, D., and Sutton, P. 2008. *Climate Code Red: The Case for Emergency Action*. Scribe Publications: Victoria.

Stern. 2008. Stern Review: The Economics of Climate Change. Access online at [www.hm-treasury.gov.uk/sternreview\\_index.htm](http://www.hm-treasury.gov.uk/sternreview_index.htm)

## APPENDICES

## APPENDIX A

Likelihood of exceeding a temperature increase at equilibrium (Stern 2008, P195)

Stabilisation Level (CO <sub>2</sub> e)	Maximum	Hadley Centre Ensemble	IPCC TAR 2001 Ensemble	Minimum
<b>Probability of exceeding 2 °C (relative to pre-industrial levels)</b>				
400	57%	33%	13%	8%
450	78%	78%	38%	26%
500	96%	96%	61%	48%
550	99%	99%	77%	63%
650	100%	100%	92%	82%
750	100%	100%	97%	90%
<b>Probability of exceeding 3 °C (relative to pre-industrial levels)</b>				
400	34%	3%	1%	1%
450	50%	18%	6%	4%
500	61%	44%	18%	11%
550	69%	69%	32%	21%
650	94%	94%	57%	44%
750	99%	99%	74%	60%
<b>Probability of exceeding 4 °C (relative to pre-industrial levels)</b>				
400	17%	1%	0%	0%
450	34%	3%	1%	0%
500	45%	11%	4%	2%
550	53%	24%	9%	6%
650	66%	58%	25%	16%
750	82%	82%	41%	29%
<b>Probability of exceeding 5 °C (relative to pre-industrial levels)</b>				
400	3%	0%	0%	0%
450	21%	1%	0%	0%
500	32%	3%	1%	0%
550	41%	7%	2%	1%
650	53%	24%	9%	5%
750	62%	47%	19%	11%

## APPENDIX B

Expected range of possible temperature increases for different stabilization levels (Stern 2008, P12)

**Table 1.1 Temperature projections at stabilisation**

Meinshausen (2006) used climate sensitivity estimates from eleven recent studies to estimate the range of equilibrium temperature changes expected at stabilisation. The table below gives the equilibrium temperature projections using the 5 – 95% climate sensitivity ranges based on the IPCC TAR (Wigley and Raper (2001)), Hadley Centre (Murphy *et al.* 2004) and the range over all eleven studies. Note that the temperature changes expected prior to equilibrium, for example in 2100, would be lower.

Stabilisation level (ppm CO <sub>2</sub> equivalent)	Temperature increase at equilibrium relative to pre-industrial (°C)		
	IPCC TAR 2001 (Wigley and Raper)	Hadley Centre Ensemble	Eleven Studies
400	0.8 – 2.4	1.3 – 2.8	0.6 – 4.9
450	1.0 – 3.1	1.7 – 3.7	0.8 – 6.4
500	1.3 – 3.8	2.0 – 4.5	1.0 – 7.9
550	1.5 – 4.4	2.4 – 5.3	1.2 – 9.1
650	1.8 – 5.5	2.9 – 6.6	1.5 – 11.4
750	2.2 – 6.4	3.4 – 7.7	1.7 – 13.3
1000	2.8 – 8.3	4.4 – 9.9	2.2 – 17.1