Climate Change Authority:
Caps and Targets Issues Paper April 2013

Submission from community climate action groups of Australia

1. We need courageous leadership

The Climate Change Authority is in a unique position relatively independent of politics.

We call on you to say what others cannot say.

Hans Joachim Schellnhuber, the director of the Potsdam Institute for Climate Impact Research in Germany, and advisor to German Chancellor, Angela Merkel, told the Four Degrees conference in Melbourne in 2011[1] that he had not told her about some of the impacts associated with a four degrees Celsius warmer world because "some things are too difficult to tell".

He left it unclear whether he meant too difficult *personally* or too difficult *politically*. Both are relevant. Even amongst policy makers and world leaders the personal impact of confronting the enormity of the challenges we face may be overwhelming (*Let's speak about climate change*, 2013[2]). At a political level, those who tell unpalatable truths risk being denied access to those with the power to make decisions.

Similarly, in Australia, the implications for the future of the coal and gas industry, of the limited carbon budget available if we are to stay under even 2^{O}C of warming, are seldom spelt out.

If the severity of the problem is not explained to those in power, and the public more generally, there is no chance of planning for effective action and of gathering public support. The Climate Change Authority is better placed than most to take on this role.

2. We must use the latest science

One of the main outcomes of the UNFCCC meeting in Cancun in December 2010 was "that global warming should be limited to below 2^{O}C above pre-industrial average global temperatures, with periodic review to consider strengthening this long-term goal, including limiting temperature rise to 1.5^{0}C" [3]. The two degrees 'guardrail' was intended to protect us from tipping points leading to runaway climate change. However with less than one degree of warming, extreme weather events provide evidence that climate change is already impacting severely. Australia's 'Angry Summer' described by the Climate Commission in *The Critical Decade: Extreme Weather* attests to this.

The climate science is moving fast and each time there is a revision, the risks are found to be more serious than previously thought. For example, since the 2008 Garnaut review[4], the melting of the Arctic ice has accelerated, and the Greenland and West Antarctic ice have been shown to be already in decline. The permafrost in the Arctic Circle has begun to vent methane and is predicted to become a source of emissions rather than a sink by 2020[5], which is particular concern given that methane is far more potent than carbon dioxide as a greenhouse gas.

---

[1] http://www.fourdegrees2011.com.au/

[2] *Let's speak about climate change*, to be published late June 2013 by *Psychology for a Safe Climate*, after which download at http://www.PsychologyforaSafeClimate.org

[3] Garnaut, 2011, p. 36 www.**garnaut**review.org.au/update-**2011**/.../climate-science-update.pdf

[4] www.garnautreview.org.au/2008-review.html

[5] Geologic methane seeps along boundaries of Arctic permafrost thaw and melting glaciers, Katey M. Walter Anthony et al *Nature Geoscience*, May 20, 2012

The impact of climate change will escalate rapidly as more emissions accumulate. We are currently on track for a global average temperature rise of 4^{O}C from pre-industrial levels and this is well outside the relatively stable temperatures of the past 10,000 years in which human civilization developed.[6]

3. The world is already too hot and our remaining carbon budget is zero

It is more and more evident that we need to return to below 350 ppm of carbon dioxide and to limit warming to well under 1.5^{O}C[7]. As the safe limit on atmospheric carbon dioxide is below the current level of 400ppm, it is clear that we need to rapidly reduce our net emissions to zero and find safe ways to draw down the excess greenhouse gases from the atmosphere. Thus our carbon budget for a safe climate future is actually zero. The transition to a net zero emissions world (not 'low emissions') must occur as fast as humanly possible.

It has been argued that a ten year transition is possible, but only if large changes begin immediately and emergency action is taken that is outside business as usual, and politics as usual. Beyond Zero Emissions and the University of Melbourne have released a plan for a ten year transition to 100% renewable energy in the stationary energy sector [8]. Researchers at the University of NSW have demonstrated that the additional cost of 100% renewable energy network could be paid for by redirecting current subsidies for the fossil fuel industry[9]. Ten year transition plans for buildings and land use will be released later this year by Beyond Zero Emissions. Preserving forests, reforestation and soil carbon measures will be important parts of the solution, but must be in addition to the measures to tackle energy emissions.

4. Carbon budgets are the central issue

We appeal to the Climate Change Authority to mount a strong science-based case for staying well under 1.5^{O}C of warming, for a zero carbon budget and a rapid decline to net zero emissions. Getting this right is a vital prerequisite for discussion of the mechanisms, targets and trajectories that are appropriate.

In using the budget approach to emissions reduction "the peaking year for emissions is especially important for the rate of reduction thereafter", writes the Climate Commission. And this must match what the science tells us is the reality.

Further important conclusions are apparent from the adoption of a zero emissions carbon budget. It becomes clear that low emissions technologies such as Carbon Capture and Storage of emissions from fossil fuel power stations, are not appropriate, even in the unlikely event that they were to become commercially viable. Also it is only technologies that are already commercially available that are likely to be able to make a contribution within the very limited time available.

5. The precautionary principle demands a much better than 80% chance of safety

The Commonwealth's *National Strategy for Ecologically Sustainable Development* has been accepted since 1992. This endorses the application of the *precautionary principle* nationally and internationally in legal adjudication on liability for environmental damage[10] (Cole 2005):

---

6 *Climate Change Authority Caps and Targets Review, Issues Paper* April 2013, pp 8-9).

7 1.5ºC warming maintained over the long term would put many metres of water over Tuvalu and all coastlines around the world, therefore RSTI (Research and Strategy for Transition Initiation) advocates that the temperature target is the eventual restoration of pre-industrial temperatures.

8 *Zero Carbon Australia Plan*, Beyond Zero Emissions, 2010. bze.org.au/**zero-carbon-australia**-2020

9 http://reneweconomy.com.au/2013/another-myth-busted-on-the-road-to-100-renewable-electricity-

10 Cole, David "The precautionary principle – its origins and role in environmental law", 2005D International Development Law Organization, Issue 6, 2006

Where there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

The *CCA Caps and Targets Review - Issues Paper* illustrates "how the probability of limiting global warming to 2 degrees declines as the budget increases" [11]. Clearly decisions need to be made on what probability of risk we accept before any meaningful emissions reduction targets or budget estimates can be established.

Considering the serious doubts surrounding the adequacy of the 2 ^{O}C warming limit, a 20% probability of failure to achieve even this limited target is of great concern. The precautionary principle requires that the risk of an aircraft crash be less than 0.1%. Why would we accept a 20% chance of catastrophic climate change?

These facts are unpleasant and create fear and resistance. But downplaying the risks is not the answer. Leadership is required to help us face the truth, so that we can address the scale of the problem.

6. The carbon budget for even a two degrees limit is very constrained

The *CCA Caps and Targets Review, Issues Paper* adopts as one of the Review's starting points, Australia's national interest in limiting temperature increases to 2 ^{O}C"[12]. According to the CCA the global carbon budget associated with an 80% chance of meeting this target is 485 billion tonnes (Gt) of carbon dioxide emitted from 2010. The paper states that globally we have only 14 years in which emissions can occur at 2010 levels before this budget is totally consumed. If this fact is faced and responsibility is shared equally on a per capita basis, Australia's per capita emissions of greenhouse gases presently at 28 tonnes would need to reduce dramatically.

The term 'critical decade' has been used to refer to the rapidly closing window of opportunity to reduce world emissions to zero and return the atmospheric greenhouse gases to a safe level. It is misleading to use this term to refer to the idea of beginning action in the next ten years, rather than to refer to the need to complete the transition in this decade. As the Climate Commission stated in 2011 "carbon emissions must peak within the next few years and then strongly decline."[13]

7. Fossil fuels must stay in the ground

Even for an 80% chance of staying under 2 degrees Celsius of warming, 80% of the world's coal and gas and oil need to stay in the ground[14]. It is vital that policy makers understand this. Continuing investment in fossil fuels merely inflates the carbon bubble and exacerbates the coming carbon bust. Each piece of fossil fuel infrastructure we build at this point in history will soon become a stranded asset and represents a wasted opportunity to make an investment in the future. These investments waste valuable time and worsen the problem.

We have no time for a 'gas transition' and there are serious doubts about the emissions reductions claimed for gas as a power source. Fossil gas is sometimes seen as a lower emissions transition fuel. However, fossil gas is methane, which has a 20-year Global Warming Potential (GWP20) of about 105 times that of CO2. The next 20 years – and particularly the next 7 of this critical decade, are crucial if we are to avoid catastrophic climate change. So there are very good reasons to consider GWP20 rather than the more common GWP100 in assessing the impact of methane.

---

[11] *Climate Change Authority Caps and Targets Review, Issues Paper* April, p 18, Table 1

[12] *Climate Change Authority Caps and Targets Review, Issues Paper* April 2013, p5.

[13] Climate Commission, *The Critical Decade*, 2011, www.climatecommission.gov.au/report/the-critical-decade/

[14] http://www.carbontracker.org/wp-content/uploads/downloads/2012/08/Unburnable-Carbon-Full1.pdf

Considering GWP over a 20 year period, it only takes about 2.6% leakage of fossil gas as fugitive emissions to effectively double the net climate effect of gas. That is, over 20 years the 2.6% of gas escaping as methane would have the same warming effect as the (remaining) 97.4% being burned and entering the atmosphere as carbon dioxide. Thus, if fugitive emissions are considered over a 20 year period, fossil gas is roughly equal in impact to black coal.[15]

James Hansen, former Director of NASA GISS, draws attention to the need to focus on shorter atmospheric life greenhouse gases (such as methane and nitrous oxide) at the same time as we face the difficulties of eventually stabilising carbon dioxide.

8. All countries need to get to zero emissions

If we are serious about having a zero carbon budget, and acknowledge we are already in the grips of dangerous climate change, then the question of whether to buy overseas off-sets is moot. As the Climate Commission states, "the nature of the carbon cycle means that the uptake of CO2 from the atmosphere by an ecosystem cannot substitute in the long term for the reduction of an equivalent amount of CO2 emissions from the combustion of fossil fuels."

Every country will need to face up to the implications of the science and make a rapid transition to zero emissions. Developing countries will need our help with this transition and our examples of successful transition.

9. Australia must act

Australia has a moral obligation to take the strongest possible action, regardless of the actions of other countries.

The longer we delay the inevitable the more costly the task. According to the Stern Review on the Economics of Climate Change, for the British Government in 2006, without action, the overall costs of climate change will be equivalent to losing at least 5% of global gross domestic product (GDP) each year, now and forever.

Australia is exposed to greater risks of damage from climate change than any other developed country[16]. We have one of the highest per capita rates of emissions in the world and an enormous historical carbon debt. We have some of the best solar, wind, tidal and wave resources in the world. These resources once harnessed are free, forever. We also have the wealth and technology to lead the way.

If we do not lead the way, who will? If it is difficult for us then for which country is it easier? Europe has led the way, but is now (like the US) in the grip of an ongoing recession.

We cannot expect India and China to take the lead when:

- their per capita income is far below ours and there are many people living on less than $2 per day
- their historical contribution to the climate crisis is far less
- their per capita emissions are far less
- a considerable contribution to their growing emissions comes from manufacturing for the western world.

10. Action by Australia can change the course of human history

Many countries have conditional targets, promising to take stronger action if others do.

---

[15] Keech, Richard. *Gas - Is it a natural fit for buildings?* Beyond Zero Emissions, April 2013

[16] Garnaut 2011, p 137, www.**garnaut**review.org.au/update-**2011**/.../climate-science-update.pdf

If Australia were to take a strong stand ahead of the pack, then we could exert influence on the developed countries similar to ourselves and start a chain reaction of escalating ambition.

We are in a position to act with responsibility and integrity for future generations. To wait on the sidelines for other nations to act is morally bankrupt. We can help move the global conversation into the domain of moral responsibility and ethical leadership, and away from a short-sighted, materialistic and self-destructive selfishness.

Australia does punch above its weight in these matters, with many countries watching what we do. As Garnaut [17] says, "… it would have a positive effect if Australia were to announce that we had established mechanisms that would allow us to catch up over time with the average effort of developed countries and to stay there once we had caught up." The widely held view that Australia is ideally placed to replace fossil fuels with renewable energy means that our relative failure to do so can have a negative influence on other countries' endeavours to tackle climate change.

Australia is already way behind with meeting our current goal of 5% reduction on 2000 levels and this not an ambitious target. Garnaut, in his recent address to the Grattan Institute[18] argued for a 17% reduction to honour Australia's current international commitments. Even then, such targets in isolation must not be the end of our effort. They must be signposts on the pathway to a final goal of zero emissions and a safe climate.

We cannot stress enough our support for a focus on the budget approach to emissions reduction rather than the target and timetable approach. As the Climate Commission says, "It focuses attention on the end-game – essentially decarbonising the economy."[19]

Conclusions

From your position partially outside the political process, you are in a position to change the direction of human history. You have a unique pressure to bring to bear. This could be your single opportunity to make a stand which sets out the real position.

What is required is a report that spells out in clear and evocative language the unspeakable future we face unless the strongest possible action is taken, as fast as humanly possible. We implore you to have the courage to say what Schnellnhuber found too difficult to tell.

> *Failure to act now will haunt us till the end of time.* (Garnaut, 2008)

Darebin Climate Action Now and the following 26 community climate groups:

Ararat Greenhouse Action Group

Baby Boomers for Climate Change Action

Bayside Climate Change Action Group

C4 (Communities Combatting Climate Crisis)

Chelsea Heights EarthCarers

CLIMARTE

Climate Change Our Future

Climate Action Canberra

---

17 Garnaut 2011, p 170, www.**garnaut**review.org.au/update-**2011**/.../climate-science-update.pdf

18 http://grattan.edu.au/events/event/melbourne-what-should-be-australia-s-emissions-reduction-target/

19 Climate Commission, *The Critical Decade*, 2011, www.climatecommission.gov.au/report/the-critical-decade/

Climate Guardians

Climate Action Monaro

Dandenong Ranges Renewable Energy Association

Healesville Environment Watch

Katoomba Area Climate Action Now info@katoombacan.org

Kingston Conservation and Environment Coalition

Lighter Footprints

Locals into Victoria's Environment (LIVE)

Parramatta Climate Action Network

Psychology for a Safe Climate

Research and Strategy for Transition Initiation

Ryde Gladesville Climate Change Action Group

St John's Wood Sustainability Group

Sustainable Population Australia

Warrandyte Climate Action Now

Western Region Environment Centre

Wodonga Albury Towards Climate Health (WATCH)

Yarra Climate Action Now

[redacted]