SUBMISSION ON CLIMATE CHANGE AUTHORITY'S TARGETS AND PROGRESS REVIEW DRAFT REPORT, NOVEMBER 2013

Thank you for the opportunity to comment on the Climate Change Authority's Targets and Progress Review Draft Report. The current draft report is a valuable resource and contains some excellent and useful analysis. I strongly support an independent body such as the Climate Change Authority (CCA) having a role in policy-making. The CCA's impartial analysis and policy recommendations provide a vital balance to the intense politicisation of climate policy in Australia that is against our interests as a country and, indeed, as a species. The CCA should continue to provide advice to Government in a transparent manner.

I am pleased to see the CCA recognise that 'Continued growth in global emissions creates real risks for all countries, including Australia. It is in Australia's interests to contribute to global action to limit the increase in global average temperature compared with pre-industrial levels.' I hope that the Government accepts this advice. I also hope that the CCA and the Government pay more attention to the precautionary principle and risk management.

There is a level of risk associated with any level of climate change, including the 0.8 ^{o}C increase in global warming above pre-industrialised levels and the degree of ocean acidification that we are currently experiencing. To have the best chance of ensuring a habitable planet, we need to minimise that risk.

Part of minimising that risk is setting and meeting a global emissions budget to limit the impacts of those emissions – and preferably coming in under budget and under target.

The two options that the CCA is canvassing for greenhouse gas emissions reduction targets are premised on having a 67% chance of keeping global warming to 2 ^{o}C or less (draft conclusion C2). There are several serious problems with this:

First, given the impacts that are likely to result from a 2^{o}C warming, that we are currently heading for 4^{o}C warming, and that there seems to be no contingency buffer for actions or international cooperation to not work properly, a 67% chance of having a habitable climate is not a good enough bet. We need to be working for a 100% chance (or as close as we can get it, given the inertia we have already built into global warming and ocean acidification). The CCA's draft report acknowledges the uncertainty of efforts:

- 'The longer emissions diverge from a 2 degree pathway, the faster the available global emissions budget will be used up, requiring greater efforts to reduce emissions in future and eventually ruling out the possibility of limiting warming to 2 degrees or less.'
- 'C.1 Limiting global emissions to keep warming to no more than 2 degrees is still feasible, but only with immediate and strong international action, and especially by the major emitting economies.'

but does not appear to recognise that there needs to be contingency built into the targets canvassed.

Second, there is mounting evidence that even limiting warming to 2°C will be catastrophic. It is not known when critical tipping points will be reached and it is quite possible that irreversible and catastrophic climate change may be precipitated with 2°C warming – or less. Even with the 0.8°C warming we have to date:

- we are already experiencing dramatic environmental changes and associated social and economic costs. These include ocean acidification; shifting rainfall and temperature patterns; more intense storms, droughts, and heatwaves; and greater bushfire risks. These in turn are posing substantial risks to water and food supplies, health, property, infrastructure, and natural ecosystems – and those risks are being increasingly realised.
- Positive feedback loops previously unknown are becoming evident (even at 0.8°C) and increase the likelihood of runaway climate change.

We should therefore be considering limiting global warming to well below 2°C, say 1.0°C or 1.5°C. I note the Authority's comments that 'The limited analyses available suggest that for the first half of this century 1.5 degree pathways share many of the same characteristics as 2 degree pathways [but that scenarios] for 1.5 degrees are…likely to rely even more strongly on large-scale implementation of negative emissions technology in the second half of this century. The increased reliance on negative emissions and carbon capture and storage creates larger risks for 1.5 degree scenarios should such technologies prove to be infeasible.' However, it would be helpful to see what impact rapidly ceasing to use fossil fuels would have on global warming and ocean acidification.

Many developing countries that face devastation or annihilation advocate keeping global warming below 1.5 °C and return CO_2 in the atmosphere to 350 ppm. As the continent and developed nation that will be most affected by climate change, Australia should be doing the same.

Australia is in the unique position of being both a developed country and a primary production country – and of suffering severe impacts as a result of climate change. If we, in that unique position and already experiencing some of those impacts, do not show the world that we understand and are prepared to really tackle climate change, what hope is there for other developed countries and newly industrialised countries to do so?

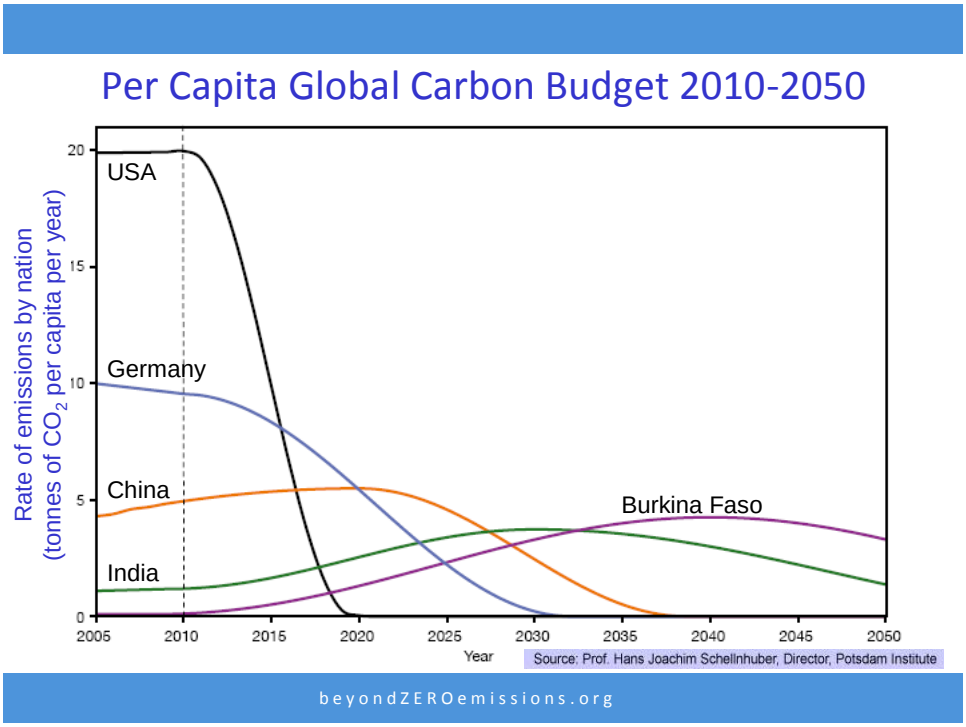
I agree with CCA assessment that current 5% unconditional target relative to 2000 is inadequate. It does not reflect the science-based analysis of what is necessary by developed countries, nor reflect what is best and possible for our economy or meet the good practice being set by other nations.

The environmental case for a stronger target is compelling. The risk of further loss of species, degradation of productive habitats and high levels of ecological disruption increases as global warming and ocean acidification increase.

The CCA is right that Australia needs to do our fair share of a successful effort to tackle climate change. But the CCA's view of what is our fair share is somewhat limited. Doing our fair share of a successful effort to tackle climate change means that our effort in reducing emissions needs to be commensurate with our creation of those emissions – in both absolute and per capita terms (the 'polluter pays' principle) – as well as what other countries are doing,

our ability to make reductions and allowing others to increase their standards of living to be commensurate with ours.

If every person had the same emission rights and every country had the same carbon budget per person from 2010, countries like Australia and the US would have to reduce emissions more quickly due to our high current per capita emissions. This graph from the prestigious Potsdam Institute (one of the world's most authoritative climate research institutes) for the German Advisory Council on Global Change (WBGU) shows such an equitable rate of global reductions:



Examples of theoretical trajectories, over time, of the per-capita emissions of selected countries under the WBGU budget approach, without emissions trading, based solely on CO_2 emissions from fossil sources and assuming a constant population (2010). Starting from current emissions (estimated for 2008), theoretical per-capita emissions trajectories over time were calculated that would allow compliance with the national budgets. However, for some countries (e.g. the USA), the trajectory presented would be unrealistic in practice. Each country is entitled to a total of 110 t CO_2 emissions per capita over the period from 2010 to 2050, based on population data for 2010. Actual per-capita emissions will deviate, sometimes substantially, from these trajectories due to the sale and purchase of emission allowances.
Source: WBGU. Published at
http://www.wbgu.de/fileadmin/templates/dateien/veroeffentlichungen/sondergutachten/sn2009/wbgu_sn2009_en.pdf

The CCA points out that ‘the evidence suggests international action on climate change is strengthening, particularly in some of the world's largest economies’. This simply strengthens the case that Australia needs to take strong action to reduce our emissions quickly.

The latest science demands that Australia and the world take stronger action to reduce emissions and do so as quickly as possible.

The majority of Australians want stronger action on climate change. This majority support has continually been reaffirmed in many polls and research, including ABC's Vote Compass that showed that 61% of Australians believe the government should do more to tackle climate change and the survey released on 22 November 2013 that

shows a higher percentage of ACT residents want strong action on climate change and 81% want the ACT government to take a strong leadership role.[1]

Given these considerations, we need to set strong short-, medium- and long-term targets for reducing emissions of greenhouse gases *urgently*. Those targets need to be for the major greenhouse gases, and at levels and timeframes that stabilise the atmosphere and oceans quickly. (This means around 300ppm atmospheric CO_2 and dramatic emission reductions over the next 10 years and beyond.)

I consider that, **ideally, Australia should have an unconditional target of zero greenhouse gas emissions by 2020.** This means:

- a 100% reduction of greenhouse gas emission by 2020 compared with 2013
- zero emissions by 2030
- zero emissions by 2050.

I recognise that this is a big ask. But we are dealing with the greatest problem that has ever faced humanity. It is *not* just another discreet economic or political problem. It is a systemic crisis that requires concerted action locally and globally. It is about this planet and its ability to support life as we know it. It is about us, our children and our fellow humans.

The later we leave our target of reducing greenhouse gas emissions to zero, the harder it will be to turn around our changing climate and oceans, the more drastic the actions will need to be and the greater the cost will be. Delaying taking strong action does not mean that we can delay the time by which we need to reach zero emissions in order to ensure a habitable planet : the planet does not work like that. That is why I have left the timeframe as 2020, even though it was set in 2009 (for a 2010 start) and even though the WBGU said (in 2009) that the trajectory presented would be unrealistic in practice for some countries (e.g. the USA).[2]

The IPCC report released in September 2013 made clear, yet again, that the world is warming rapidly, humans are the primary cause, and very substantial action is immediately required.

Ensuring that planet Earth remains habitable means that we need to transform current human-made systems from ones that are destroying our planet's resilience and ability to support us to ones that sustain life.

We can do it. And, hopefully, we can do it in the timeframe required to ensure a habitable planet.

- Several reports (such as those by Beyond Zero Emissions and University of New South Wales' Centre for Energy and Environmental Markets**)** have already shown how we can move to zero emissions (at least in some sectors) within ten years using existing technology, economically and with many additional benefits.
- On top of that, we should be capitalising on our natural assets that will make the task even easier. Australia is a nation of innovators, world leaders in relevant technologies such as renewable energy. We are also leaders in efficient agriculture. And we have vast natural and sustainable resources of

sunshine and native forests. We need to foster, care for and profit from these natural advantages, rather than to ignore them or destroy them

Australia already has to do to more to make our industries ready for a carbon-limited future, because Australia's economy is more emissions intensive than many of our trade partners and comparable countries. Every year of slow, ineffective action means we are missing opportunities for benefitting from innovation and transformation – and higher costs from the consequences of inaction or slow action are substantial. For example, the Garnaut review found that, at the global level, unmitigated climate change would probably cause global economic output to fall by around 8 per cent by the end of the twenty-first century. In contrast, as the CCA points out, the economic impacts in Australia of stronger targets are minimal, barely making an impact on GNI per person growth for all targets CCA modelled. (Given this, it would be reasonable to extrapolate that even stronger targets would have little economic impact but CCA should model this.)

So, moving to zero emissions very quickly is not only desirable, it is possible and could benefit Australia tremendously.

The decisions and actions that we take now are vital if life on Earth as we know it is to survive. Evidence is increasing that climate change is accelerating. This amplifies the imperative to act quickly and boldly : we are beyond the stage where we can take a 'gently, gently' or incremental approach. The CCA correctly recognises that Australia needs to act now and continue this effort over the long term.

Emissions are already starting to fall (from some sources) for a variety of reasons – and not fast enough to turn around our climate. Commonwealth Government action is only one – but and important – factor affecting emissions. Individuals, businesses, groups and other levels of government are also taking action. For example:

- the ACT has targets of:
    - zero net greenhouse gas emissions by 2060
    - peaking per capita emissions by 2013
    - 40% of 1990 levels by 2020
    - 80% of 1990 levels by 2050.
- South Australia has a target of to reduce its greenhouse gas emissions by at least 60% to an amount that is equal to or less than 40% of 1990 levels by 31 December 2050
- Tasmania has targets of:
    - 35% of 1990 levels by 2020
    - 60 % below 1990 levels by 2050

Of these, the ACT's targets are the most ambitious.

The ACT's approach of interim targets to help ensure progress towards its zero net emissions target is good, and should be recommended by the CCA in its final report.

However, the ACT's target of zero net greenhouse gas emissions by 2060 is still not strong enough to ensure a habitable planet. Emissions must be reduced to zero by much earlier than this.

The CCA should:

- **model the date by which emissions need to be reduced to zero to ensure a habitable climate and**
- **make that date explicit in its recommendations to the Commonwealth Government.**

The CCA's final report should also provide evidence, analysis and recommendations on Australia's massive additional contribution to climate change by mining and exporting fossil fuels. In light of the climate and ocean acidification emergencies we face, further expansion of these industries is totally irresponsible and must be halted.

Australia needs strong targets so that we can all work together to meet them, because everyone working together to a clear goal (like in a war) is what it will take if we are to have any hope of making our climate safely stable again. Strong targets will support the efforts of other levels of government and individuals, businesses and non-government organisations, particularly those working outside Commonwealth Government frameworks. Weak or non-existent goals will not be effective and will not support the efforts of other levels of government, individuals, businesses and non-government organisations.

Australia needs strong targets to drive the quick and decisive action needed to play a responsible role in looking after our planet's climate, in order to protect our world as we have known it throughout human civilisation – and to ensure our industries and the Australian community are not left behind in a carbon constrained future. It is the current climate that allows us to have our civilisation, including our economy and standard of living: if the climate changes, so does human civilisation – and that will make economic challenges like the 'Global Financial Crisis' look miniscule. If we do not change our overarching goals, our systems and the way we live, then economic and other security systems on which most political leaders focus will no longer be there. And that is without even looking at the human toll, through such things as dramatically increased deaths, adverse health impacts and population displacement.

The Commonwealth Government has the opportunity and responsibility to lead Australia and the world in dealing with climate change. It is *not* about protecting our coal industry and native vegetation destruction; quite the reverse. It is about shifting to sustainable energy and sustainable practices. And it is about providing some equity between generations, and between those who are contributing most to the problem and those who will suffer its impacts most severely.

What we face now is a Global Future Crisis, and it needs serious action. And that means strong, ambitious goals for reducing greenhouse gas emissions quickly.

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[1] ACT residents want action on climate change.
http://www.cmd.act.gov.au/open_government/inform/act_government_media_releases/corbell/2013/act-residents-want-action-on-climate-change

[2] German Advisory Council on Global Change (WBGU). (2009). *Solving the climate dilemma:The budget approach*. Special report.

http://www.wbgu.de/fileadmin/templates/dateien/veroeffentlichungen/sondergutachten/sn2009/wbgu_sn2009_en.pdf