



### Hot topics

Monday 15 December 2008 (Updated on Friday 19 December at 12.31pm AEDT)

## RAPID ROUNDUP: Carbon Pollution Reduction Scheme - White Paper - experts respond

The federal government's white paper on the Carbon Pollution Reduction Scheme which outlines an emissions trading scheme for Australia was released today.

The Government has committed to a medium-term national target to reduce Australia's greenhouse gas emissions by between 5 per cent and 15 per cent below 2000 levels by the end of 2020 (equivalent of 4-14% below 1990 levels). Its long-term target will be a 60 per cent reduction in greenhouse gas emissions from 2000 levels by 2050. Below, experts respond to the report.

Copies of the white paper are [available here](#). If you have been having problems downloading the white paper, let us know as we have copies here.

Feel free to use these quotes in your stories. Further comments are expected and will be posted here. If you would like to speak to an expert, please don't hesitate to contact us on (08) 8207 7415 or by [email](#).

**Dr Andrew Glikson** is a Visiting Fellow with the Department of Earth and Marine Sciences at ANU

"It is a good question whether the Australian government, having effectively abandoned any meaningful attempt at the arrest of accelerating climate change, would have changed its White Paper in view of rising melt rates of Arctic Sea ice, which acts as the Earth's thermostat, and which has already decreased from 8 to 4 million km<sup>2</sup> and is projected to vanish within the next 5 years or so (<http://news.bbc.co.uk/2/hi/science/nature/7786310.stm>).

Mean temperatures over the Arctic Sea, increased by about 3C and locally by 5C over the last 4 years, compared to the earlier long-term mean, heralds a new climate pattern in the northern hemisphere, including advanced melt of Greenland ice sheet over the next few decades, raising sea levels by several metres. According to Julienne Stroeve (US National Snow and Ice Data Center) report to the American Geophysical Union, the process affects the temperature gradient between the Arctic and the equator and precipitation patterns. Oceanic currents and atmospheric circulation extend the effects to the Southern Hemisphere, where the western Antarctica Wilkins ice shelf has undergone mid-winter breakdown. A diabolical combination of factors is retarding efforts at controlling escalation of CO<sub>2</sub> rise, currently at 2.2 ppm/year, from raising atmospheric energy levels above the 1.8 Watt/m<sup>2</sup> already triggered by emission of 305 billion tons of Carbon and by land clearing. Despite overwhelming scientific evidence, the counterintuitive nature of global warming and consequent denial relegate dangerous climate change, in the eyes of most, to the realm of science fiction.

It is counterintuitive, yet proven, that a rise of atmospheric CO<sub>2</sub> by about 100 ppm raises mean global temperature by at least 1 degree Celsius, plus another 1 to 2 degrees C due to carbon cycle and ice melt feedbacks, pushing the atmosphere to conditions of 3 million years ago (mid-Pliocene) when sea levels rose by 25 metres. It is equally counterintuitive, yet demonstrated, that a rise of atmospheric CO<sub>2</sub> by several hundred ppm has resulted in a mass extinction about 55 million years ago. In succeeding to achieve an almost perfect balance between political, social and economic forces, the government overlooks the most decisive factor, namely, the increasingly dangerous atmospheric processes can hardly be expected to play ball with the government's policies (wouldn't it be nice if they did?). By most accounts the government is no longer listening to climate science, as communicated by leading international scientists and science organizations. But if the first duty of governments is to protect the people, including the young and future generations, that they don't get it, or have sold out to vested interests, will not be an excuse when it is too late to attempt to control the worst consequences of their inaction."

**Dr Iain MacGill** is a Joint Director of the Centre for Energy and Environmental Markets at UNSW

"The Federal Government announcements today regarding Australia's proposed 2020 emissions reduction target and CPRS scheme design are intended to be key components of the Government's Three Pillars climate change strategy. Unfortunately what has been proposed doesn't appear sufficient to achieve any of these stated objectives.

The latest climate science suggests that global emission scenarios consistent with Australia's chosen 2020 targets may drive adverse climate impacts beyond the capabilities of societies to successfully adapt to.

The real winners today are clearly large emitters who appear to have successfully persuaded the government to propose weak 2020 targets and provide them with billions of dollars of subsidies beyond even those proposed in the Green paper. Free permits to emitters are now expected to represent 25% or more of all emissions (35% including agriculture) increasing to 45% in 2020 and are uncapped. Coal-fired generators will be freely given almost 6% of permits over the first five years of the scheme. All of these free permits represent a lost opportunity to move financial flows towards creating a lower carbon Australian economy and addressing adverse impacts on the most vulnerable members of our community."

**Dr Regina Betz** is a Joint Director of the Centre for Energy and Environmental Markets at UNSW

"The proposed 2020 targets of emission reductions of 5 to 15% are, according to the climate science, entirely inadequate for an equitable global response to avoid dangerous global warming. They are far less than the 10 to 25% emission reductions suggested in the Garnaut Review. Weak targets and a CPRS design with substantial borrowing, price caps, ongoing major subsidies to large emitters, unlimited use of what are increasingly questionable international CDM emission reduction credits and voluntary forestry opt-in mean potentially only very limited reductions in Australian emissions. Given the possible impacts of the global downturn and other policies including Australia's 20% renewable energy target for 2020 it is questionable whether any significant change of Australia's emissions intensive energy sector will be driven by the CPRS.

The proposed targets are entirely inconsistent with Australian support for an effective global solution to the climate change challenge. The targets represent less than half the emission reduction commitments of the EU for 2020 despite Australia having around two and a half times the per-capita emissions.

The free permit allocation to Energy Intensive Trade Exposed industry represents a subsidy for electricity intensive industries to stay and even establish in Australia even if there would be far lower global emissions should they move to developing countries with lower emission electricity generation from renewables and gas-fired plant."

**Dr Mark Diesendorf** is Deputy Director of the Institute of Environmental Studies, UNSW.

"The White Paper demonstrates the Australian Government's skill in obscuring its intentions and decisions. The greenhouse target of a 5-15% reduction in emissions by 2020 is actually a pathetically low 5% target. This is clear from the following sentence buried discreetly in Chapter 4: 'The lower boundary (i.e. the 15% reduction) would represent the extent to which Australia will accept tighter targets in the context of a comprehensive global agreement under which all major economies commit to substantially restrain emissions to achieve an ambitious stabilisation goal, and advanced economies take on reductions comparable to Australia's.'

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ONLINE BACKGROUND BRIEFING: Experts discuss how to survive the hazards we face over the Christmas and New Year holiday season.  
Thu 18 Dec 08

**THE YEAR THAT WAS - GLOBAL CLIMATE 2008 AND WHAT'S IN STORE**  
NATIONAL MEDIA BRIEFING: Experts discuss the latest annual statement from the World Meteorological Organisation (WMO) on the global climate in 2008.  
Wed 17 Dec 08

**OCEAN FERTILISATION: CARBON SOLUTION OR ECO DISASTER?**  
ONLINE BACKGROUND BRIEFING: Experts discuss the proposal of 'fertilising' the ocean in an effort to draw CO<sub>2</sub> out of the atmosphere.  
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**CARBON POLLUTION REDUCTION SCHEME - WHITE PAPER**  
RAPID ROUNDUP - Climate and related experts comment on the government's white paper released today.  
Mon 15 Dec 08

**WHO REPORT ON CHILD INJURIES**  
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**TIM FLANNERY LIVE FROM CLIMATE TALKS IN POLAND**  
ONLINE BRIEFING: Professor Tim Flannery discussed the COP14 climate talks he is currently attending in Poland.  
Tue 9 Dec 08 at 9.15am AEDT

**NEW STEM CELL GUIDELINES**  
RAPID ROUNDUP: New international guidelines on stem cell therapies have been released today. Experts respond.  
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**GREAT ARTESIAN BASIN - THE NEXT WATER CRISIS?**  
ONLINE BRIEFING: Experts discuss issues facing the GAB.  
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**MUMBAI TERRORIST ATTACKS - EXPERTS RESPOND**  
RAPID ROUNDUP: Terrorist experts respond to the latest terrorist attacks in Mumbai, India.  
Thu 27 Nov 08

**MURRAY DARLING BASIN SUSTAINABLE YIELDS REPORT**  
RAPID ROUNDUP: Results of the most comprehensive modelling of water availability in the Murray Darling basin have been released today. Experts respond.  
Mon 24 Nov 08

**WOOLLY MAMMOTH DNA DECODED**  
RAPID ROUNDUP: After thousands of years of extinction, the Woolly Mammoth has its DNA decoded in *Nature*. Experts respond.  
Thu 20 Nov 08

**SOIL CARBON**  
RAPID ROUNDUP: Carbon released from Australian soils may be lower than previously predicted. Expert comments.  
Mon 17 Nov 08

**ACID OCEANS**  
RAPID ROUNDUP: An Australian study finds that 450ppm carbon dioxide is a tipping point for marine organisms. Experts respond.  
Tue 11 Nov 08

**WATER ISSUES**  
NATIONAL MEDIA BRIEFING: Experts discuss the water issues facing Australia over the coming summer months.  
Fri 7 Nov 08

**CAFFEINE AND PREGNANCY**  
RAPID ROUNDUP: Experts comment on news that consuming caffeine during pregnancy is associated with an increased risk of fetal growth restriction.  
Tue 4 Nov 08

The introduction of per capita emission reductions in Column 3 of Table E-1 is a masterpiece of...

assumption that the world's nation's will follow a process of 'Contract and Converge' over the next several decades until each country has the same per capita emissions. The fallacy arises because the genuine proposal for Contract and Converge chooses a baseline population level at the beginning of the process and calculates per capita emissions on that basis. This is essential to avoid giving countries a perverse incentive to increase their populations and hence their greenhouse gas emission allocations. If Australia can do it, so can India, Brazil and China.

Australia, with the highest per capita emissions in the industrialised world, should be making the greatest effort to stabilise its population. Every additional Australian has a greater greenhouse impact than an additional person in almost any other country. We should ignore the lobbying of vested interests, such as the housing/property industry, and greatly reduce the huge quota for business and professional immigration. We could still increase the refugee component which is only 10% of total immigration."

*Dr Hugh Saddler is Managing Director of Energy Strategies Pty Ltd, a consultancy company he established in 1982, specialising in the fields of energy, environment and technology economics and policy. He is the author of a book on Australian energy policy and over 70 scientific papers and articles on energy technology and environmental policy.*

"The targets released today are based on a 45% increase in Australia's population between 1990 and 2020. This is clearly not a fair game. Our targets need to be calculated on a base level of population growth not what we aspire to. Otherwise countries like China are actually being penalised for limiting their population growth. Australia has policies that encourage our population growth because it's supposed to be good for our economy. But we should not benefit from this from an emissions point of view. This will not be an acceptable position internationally and could even serve as a block to international agreement.

Australia has one of the highest per capita emissions rates in the world. As a carbon intensive economy it should in fact be easier for us to reduce our emissions than countries with a lower carbon economy. A simple analogy is obesity - it's much easier for an obese person to lose 5 kilos than someone of normal or below normal weight.

The other issue is that the white paper does not include measures to reduce emissions from the major non-energy sectors such as agriculture and land clearing. While it is a good decision not to include these emission sources within the CPRS, it is essential that there be other strong programs specifically directed at these sectors. Without such programs, increases in emissions from these sources, e.g. greater beef cattle numbers or increased land clearing, could offset much of the small reductions from sources included within the Scheme.

The cap system has a fundamental flaw - individual voluntary measures such as green energy will be killed stone dead. People going the extra yard to give themselves the satisfaction of reducing their carbon footprint won't necessarily reduce Australia's overall emissions. All it will do is reduce the cost of permits because our overall emissions will be set by the cap."

*Barney Foran is a Visiting Fellow at the ANU Fenner School of Environment and Society.*

"Descriptors such 'fully comprehensive' and 'almost revolutionary' are due to the Government's White paper released today. Special mention must go to the efforts to integrate the governance arrangements in an independent stand alone authority, and a bank of technical innovations such as CNG/LNG for heavy transport.

But 'requiring more courage' or 'too little too late' are equally compelling judgements from physical-economy standpoint. Setting initial carbon prices of \$40 per tonne to nudge our economy to a 5-15% reduction by 2020 will not provoke the reformatting of lifestyles and infrastructure required for the 60-80% targets by 2050. The White Paper effectively shifts the bulk of carbon adjustment to our children's children, given its emphasis on "maintaining living standards" without consideration of carbon rebounds that will come from widespread compensation and lack of border carbon taxes. The recent Tyndall Centre study concluded the global economic system is accelerating our atmosphere to a 650 ppm concentration, not the 450 ppm espoused in the White Paper. Taking the low emissions road will require yearly reductions of 6-8% yearly from 2015 and require a permanent economic recession. When will our economic mandarins reunite economic orthodoxy with physical reality?

The hope is that 'the courage' will be found as the climate crisis bites harder, and the rest of the world joins in. With future courage and political backbone, the White Paper will have laid the foundations for the aggressive action required for atmospheric health."

*Dr. Barrie Pittock was formerly leader of the Climate Impact Group in CSIRO and is author of the book "Climate Change: Turning Up the Heat". He was a Lead Author of the Intergovernmental Panel on Climate Change (IPCC) fourth assessment report. (second quote - see first quote below)*

"Commenting directly on Prime Minister Rudd's presentation and the summary of the White Paper, I must say that the 5 to 15% target for emission reductions by 2020 is not enough to achieve the 450 ppm greenhouse gas target. Nevertheless, the action proposed is a first step in that it sets up machinery that could be ramped up to more stringent and useful targets in a few years time. The impetus for such a ramping up of targets is likely to come from a rapidly deteriorating climate in Australia and overseas. But the longer we delay the harder it will become.

Regarding the claim that the new Australian emissions reduction targets are comparable to those of the EU and other countries when put on a per capita basis, this ignores the fact that Australia's per capita emissions are at present far larger than that of the EU. We should be aiming to at least reduce our per capita emissions to match the EU in absolute terms, which means far more rapid reductions. The claim also puts into question the desirability of continuing a rapid increase in Australia's population. We must ask what is a truly sustainable population for Australia, and if it means more people with high per capita emissions, and thus larger total emissions, that argues for some reduction in population growth rates.

The Renewable Energy Target (RET) of 20% of Australia's electricity from renewable energy is good, but should be raised, because we have a huge potential for renewable energy in Australia. It could provide far more than 20%, and employment in many remote communities that are being hard hit by increasing drought and economic problems. A higher RET would help to meet a more stringent emissions reduction target.

The emphasis on carbon capture and storage (CCS) for the coal-fired power industry is misplaced in its present form. There is no way that 100% of carbon dioxide generated by coal-fired power stations can be captured, so every new coal-fired power station with CCS will cause more carbon pollution (although less than a non-CCS station). There must be conditions put on any new coal-fired power station, that it have CCS and that it replace an old non-CCS power station so as to reduce total emissions."

*Professor Neville Nicholls is Professorial Fellow in the School of Geography and Environmental Science at Monash University, Victoria and was a lead author for the Intergovernmental Panel on Climate Change. He has published more than 100 peer-reviewed scientific journal papers on the nature, causes and impacts of climate variability and change.*

"As one of what Kevin Rudd called the 'humourless' IPCC scientists 'in white coats', I was heartened to see the Government commit to a real target of emissions reduction. For 25 years my friends and family have asked me whether global warming was a problem. My answer has always been 'only if we let it become a problem'. Unfortunately, government inaction over that 25 years has allowed it to become a problem. If we don't start dealing with it now, then the problem will be much more difficult to deal with in another decade. I applaud the Government's real commitment to action, now, to restrict global warming."

*Dr Frank Jotzo is a climate change economist at the Australian National University in Canberra. He is a deputy director of the ANU Climate Change Institute, and was advisor to the Garnaut Climate Change Review.*

"A reduction of around 10% for Australia is consistent with a global deal of medium ambition, and it will start the transition to a lower-carbon economy. But ruling out a 25% reduction is a mistake, since Australia's overwhelming interest is strong global climate action. An international agreement with deep cuts has just become a little bit more unlikely, as a result of Australia not putting a compatible offer on the table.

Comparing emissions on a per-capita basis is justified, and any given cut is greater in per capita terms for Australia than for Europe. But we cannot forget the other half of the equation: Australia's per capita emissions levels are double that of Europe, and four times the world average. That means Australia's fair share is to cut faster than others, in per capita terms. If we pick and choose indicators to justify

Expect the lobbying for industry handouts to continue. And there is no justification for adjusting the fuel tax downward to compensate for emissions trading, now that petrol prices have fallen so much.

The whole package next year will enter negotiations in the Senate. The challenge then will be to retain as much as possible of the good economics in the White Paper, and avoid ambition to be cut back further. The Treasury modelling has shown that even deep cuts won't carry big economic costs for Australia, if the policies are sound.

**Professor Barry Brook is the Sir Hubert Wilkins Chair of Climate Change and Director of the Research Institute for Climate Change and Sustainability at the University of Adelaide.**

"I suppose most sensible people will be happy with the upper-end emissions reduction targets outlined today by the Australian Government in the Carbon Pollution Reduction Scheme (CPRS) white paper – a 14% reduction by 2020 compared to 1990 levels, which equates to a per capita drop of 41%. These are ambitious and deeply challenging goals, and equal to or better than the per capita targets proposed by other developed nations such as the EU, UK and US. Australia's 2050 target of 60% is unmoved from past policy, but it is the short-term targets that matter right now.

To achieve these sort of cuts, there will need to be nothing short of a revolution in the way we generate and conserve energy – sharply turning around, in a mere 12 years, decades of rampant growth in carbon emissions and energy supply from fossil fuel industries. Whether the CPRS plan is sufficiently revolutionary and robust to realise this goal, even in combination with the Mandatory Renewable Energy Target (MRET), is a matter that will be debated thoroughly over the next year.

But of course there is a rather large elephant in the room that every political decision maker is still pretending isn't there. It's an African bull elephant that's already breaking chairs in the sitting room and is about to burst into the dining area and start smashing all the crockery with increasing rage. That's the scientific reality of the physics, chemistry and biology of climate change and climate feedbacks, a process which cares nothing for these bold ambitions or how hard we might be trying. The laws of nature cannot be bargained away and they do not compromise. So we either muster a rouseabout team, lasso the elephant, and drag it from the house, or we attempt to placate it, in the vain expectation that we may be able to rescue a few pieces of our finest porcelain. Our only hope is to do the former, but it seems we're resigned to accept that only the latter is possible.

Put more directly, the 14% cut in our total emissions by 2020 announced today is such a pitifully inadequate attempt to stop dangerous climate change that we may as well wave the white flag now. That's because such a goal – even if fully achieved (and it will take some mighty effort) – will still commit to global temperature rises of 3 or more degrees Celsius, setting in motion a slew of climate feedbacks that take the planet to a state unfit for humanity for all future generations, and for most species. The science tells us we need at least 40% by 2020, 90% by 2030 and zero emissions as soon as possible thereafter: with the real aim of restoring CO2 levels to what they were in the early 1950s. The CPRS targets will not achieve 450 ppm CO2, as the government hopes, and even 450 ppm has a little chance of avoiding 2°C warming, will not restore the polar ice, and will not stop sea level rise.

It's going to take a truly revolutionary set of policies and strong political will to rapidly wean ourselves off carbon-based energy. Yet from both a fossil-fuel supply (peak oil, gas and coal) and a climate perspective, this is exactly what must be done. Even to achieve the cuts announced by the government today, we must implement radical improvements in our energy efficiency and develop a whole new infrastructure of energy supply. So one has to ask the obvious question – why not commit to going 'all the way' and actually solve the crisis before it has time to happen, rather than merely half-solve it, such that the best we can do is delay the inevitable crunch?"

**Dr Barrie Pittock was formerly leader of the Climate Impact Group in CSIRO and is author of the book "Climate Change: Turning Up the Heat". He was a Lead Author of the Intergovernmental Panel on Climate Change (IPCC) fourth assessment report.**

"The scientific evidence is that for a safer global and Australian climate, we must reduce global emissions by at least 20% by 2020, and 60-80% by 2050 or so. That means 2-3% reductions each year from now.

There are two reasons for an Australian target:

- i. To do our part in reducing global emissions, bearing mind that we emit more per head of population than almost any other country.
- ii. More importantly, to show we are serious so as to be able to pressure other countries (including the US - but they will do as well or better than us next year) to act also. Developing countries may well not act if we do not.

Any targets will need carrots and sticks to get them going. Targets without action are no use, and action without targets fails to impress developing countries.

It will be easier than many think. Renewable energy and energy efficiency are not expensive, and are a better investment than high carbon technology. Coal, oil and power companies will only have themselves to blame if they make poor investments in more coal and oil, rather than good investments in renewables – just like the car companies. They were warned by scientists in the 1990s but failed to act. Now they are paying the price. This time investors, and governments, need to get it right. Low-carbon technologies are the future. It is the new industrial revolution, and those who do not recognise it will be left behind. The world is changing and industry and consumers must change with it.

Australia has more renewable energy potential than almost any other country, especially solar energy, geothermal energy, wind and tidal power. It is time we cashed in on this opportunity. It could provide jobs, security and lots of energy."

**Professor David Kemp is Professor of Farming Systems at the Centre for Rural Sustainability, Charles Sturt University and University of Sydney, NSW. David is currently in Beijing, China.**

"I do think that the policy is a clear reflection of poor policies over the past 40 years or so that this issue has been developing. Australia keeps deferring the options of creating new and sustainable energy dependent industries. Where I am in China it is fascinating to see the vast numbers of local solar water heaters – when Australia had a clear lead in those developments decades ago. Low targets signal that the Government is not that interested in having Australia lead in developing solutions but that we are merely to follow behind – a policy that will mean as late adopters, that we remain at a disadvantage relative to those who take a more proactive stance. The countries that set more aggressive targets are more likely to come up with the better solutions and have the market advantages.

I have been looking at scenarios for how grazing industries might adjust to climate change. The big issue is that with reduced rainfall, high temperatures and increased variability in those climate parameters, it is likely that Australia will have fewer livestock. If that is done in ways that improve efficiency then methane will drop (a good), but without lowering costs (from new technologies that need to be developed, as current technologies rely on the current carbon economy) farm incomes will suffer, exports decline and Australia's competitive position in major commodities could also decline. What this means for world food security is uncertain."

**Dr Matthew Clarke is Director of International and Community Development at the School of International and Political Studies, Deakin University in Victoria. He is also the author of a book on "Post-Kyoto: Designing the Next International Climate Change Protocol", which will be published later this year.**

"By setting a range of targets, the Australian Government has implicitly recognised that effective measures to minimise climate change can only be global in nature. Unilateral action from Australia will not be sufficient. The Australian Government must therefore commit itself to ensuring that the next international climate change protocol to be decided at Copenhagen in 2009 delivers deep carbon emission reduction. If the global community fails at Copenhagen, we will have failed our own children.

The Australian Government is also right to focus on reducing our per capita emissions. Allocation of future emission rights on a per capita basis is the only equitable manner in which the global community can allocate rights to emit. So whilst on this basis the proposed targets are in line with targets announced by the EU and UK, they are still not sufficient. If CO2 emissions are to stabilise at 450 ppm per emission by 2050, Australia will have to reduce its per capita emission by around 90%. Australia must signal its willingness to both developed and developing country to achieve this reduction."

http://www.ausmc.org/CPRS\_White\_Paper.php

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