

## **Submission by Dr Gideon Polya to the Senate Standing Committee on Economics Inquiry into exposure draft of the legislation to implement the Carbon Pollution Reduction Scheme (CPRS).**

I note that there is another Inquiry into the Carbon Pollution Reduction Scheme (CPRS) by the Senate Select Committee on Climate Policy. Following the suggestions in the submission details, my submission to the Senate Standing Committee on Economics Inquiry will “concentrate on the draft legislation and the Carbon Pollution Reduction Scheme”. In doing so I will follow the Headings used in the Summary of the legislation in the Draft Carbon Pollution Reduction Scheme Bill 2009 Fact Sheets (10 March 2009):

<http://www.climatechange.gov.au/emissionstrading/legislation/factsheet.html> .

### **1. Introduction**

#### **a. CPRS means Australia’s Domestic plus Exported GHG pollution will nearly double 2000 value by 2050.**

The CPRS was set up in response to the now generally accepted threat to Australia and the World from man-made global warming due to man-made greenhouse gas (GHG) pollution. However, at the outset it must be stated that the CPRS comprehensively fails and in fact is a misnomer – it can be estimated from linear projections of US Energy Information Administration data that under the stated, official, quantitative goals of the CPRS Australia’s Domestic plus Exported GHG pollution will actually increase by about 40% on the 2000 value by 2020 and increase by about 80% on the 2000 value by 2050.

To assist understanding of the issue, below are some key estimates relating to “annual per capita GHG pollution” and deriving from authoritative primary data provided by the US Energy Information Administration (see: <http://www.eia.doe.gov/> ) and the UN Population Division (see: <http://esa.un.org/unpp/> ) and taking into account the official Australian 2020 targets of “5% reduction on 2000 Domestic GHG pollution by 2020” and “60% reduction on 2000 Domestic GHG pollution by 2050” (see “Australia’s “5% off 2000 GHG pollution by 2020” endangers Australia, Humanity and the Biosphere “ : <http://sites.google.com/site/yarravalleyclimateactiongroup/australia-s-5-off-2000-ghg-pollution-by-2020-endangers-australia-humanity-and-biosphere> ).

Australia’s “annual LNG exports” (Mt CO<sub>2</sub> produced): 21.8 (2000), 28.4 (2008), 38.2 (2020), 62.8 (2050).

Australia’s “annual coal exports) (Mt CO<sub>2</sub> produced): 327.6 (2000), 474.3 (2008), 609.7 (2020), 1255.4 (2050).

Australia’s “annual Domestic GHG pollution) (Mt CO<sub>2</sub>-e produced): 535.3 (2000), 627.2 (2008), 508.5 (2020), 267.7 (2050).

Australia’s “annual Domestic & Exported GHG pollution” (Mt CO<sub>2</sub>-e produced): 884.7 (2000), 1129.9 (2008), 1245.4 (2020), 1585.9 (2050).

Australia’s population (Millions): 19.1 (2000), 21.0 (2008), 23.4 (2020), 28.0 (2050).

Australia’s “annual per capita Domestic & Exported GHG pollution” (tonnes CO<sub>2</sub>-e per person per year): 46.3 (2000), 53.8 (2008), 53.2 (2020), 56.6 (2050).

Australia's "annual Domestic & Exported GHG pollution as % of 2000 value": 100% (2000), 128% (2008), 141% (2020), 179% (2050).

It is estimated that in 2008 Australia increased its annual Domestic and Exported Greenhouse Gas (GHG) pollution by 2% over the 2007 value - this being indicative of a mounting threat to Australia's (and the World's) Great Barrier Reef, the Kakadu wetlands, the Murray Darling River System and indeed to the Biosphere (see "Australia INCREASED Greenhouse Gas Pollution in 2008 by 2% over 2007 value":

<http://sites.google.com/site/yarravalleyclimateactiongroup/australia-increased-greenhouse-pollution-in-2008> .

**b. Major climate disruption is already occurring as detailed by Professor Holdren (President Obama's Chief Scientific adviser) and other top scientists.**

The key climate disruptions that are already occurring include (1) inundation and salinization of islands and mega-delta coastal areas due to sea level rise due to Arctic and Antarctic ice melting and ocean thermal expansion; (2) exacerbation of coastal flooding by storm surges from more frequent and 2-fold more energetic hurricanes; (3) increased river flooding (compounded by sea level rise in mega-delta coastal areas); (4) landslides (e.g. in Assam and due to flooding and compounded by deforestation); (5) changes in monsoon and other weather patterns variously resulting in drought and flooding (most seriously already in China) ; (6) melting of Himalaya glaciers threatening water supply to major South Asian rivers (China is installing dams to collect melt water); (7) increased temperature threatening increased heat stress to humans, animals and plants (0.8°C above the pre-industrial with another 0.6°C in the system due to thermal inertia); (8) decreased agricultural production due to increased temperature, changes in weather patterns, river flooding, drought, coastal salinization, coastal inundation from sea level rises and storm surges; (9) health threats from flooding, disease spread, pollution from fossil fuel burning and forest fires and from potable water shortages; (10) mass starvation due to production deficits, legislatively mandated, US and EU biofuel perversion and a globalized food market; (11) huge threat to remaining wild nature (notably to coral reefs above 450 ppm CO<sub>2</sub> due to increased ocean acidification and ocean warming; the species extinction rate is already 100-1,000 times that of the fossil record); (12) increased conflict threats over climate refugees (climate change refugees) and decreased water supply (notably in the Middle East already) (see: John Holdren (2008), "The Science of Climatic Disruption" (power point lecture):

<http://www.usclimateaction.org/userfiles/JohnHoldren.pdf> ; Gideon Polya (2009), "Global warming, climate emergency" U3A course notes:

<http://sites.google.com/site/yarravalleyclimateactiongroup/global-warming--global-emergency-course> ; Wikipedia "Global warming in India":

[http://en.wikipedia.org/wiki/Effects\\_of\\_global\\_warming\\_on\\_India](http://en.wikipedia.org/wiki/Effects_of_global_warming_on_India) ; World Development Movement, "Sea change: flooding in Bangladesh":

<http://www.wdm.org.uk/resources/briefings/climate/bangladeshflooding13112006.pdf> ; Gideon Polya, Climate Disruption, Climate Emergency, Climate Genocide & Penultimate Bengali Holocaust through Sea Level Rise:

<http://sites.google.com/site/yarravalleyclimateactiongroup/climate-disruption-climate-emergency-climate-genocide-penultimate-bengali-holocaust-through-sea-level-rise> ).

Dr Vickie Pope (head of Climate Change Advice, Hadley Centre of the UK Met Office): "Even with large and early cuts in emissions, the indications are that temperatures are likely to rise to around 2 °C above pre-industrial levels by the end of the century. If action is delayed or not quick enough, there is a large risk of much bigger increases in temperature, with some severe impacts. In a worst-case scenario, where no action is taken to check the rise in Greenhouse gas emissions,

temperatures would most likely rise by more than 5 °C by the end of the century... Today, plants, soils and oceans absorb about half of the carbon dioxide emitted by man's activities, limiting rises in atmospheric carbon dioxide, slowing global warming. But as temperatures increase the rate of absorption is very likely to decrease, a process called the 'carbon cycle effect'. At higher temperatures plant matter in the soil breaks down more quickly releasing carbon more quickly and amplifying any warming. In addition methane and carbon dioxide released from the thawing of permafrost will add to the warming. Hence the risks of dangerous climate change will not increase slowly as Greenhouse gases increase. Instead, the risks will multiply if we do not reduce emissions fast enough" (see Vickie Pope, "Met Office warn of "catastrophic" rise in temperature", Times On-line, 19 December, 2008: <http://www.timesonline.co.uk/tol/news/environment/article5371682.ece> ).

Dr Chris Jones, of the Met Office's Hadley Centre for Climate Prediction and Research, told the March 2009 International Copenhagen Climate Change Conference that "inertia" in the ecosystem means that the Amazon may become "committed" to substantial change by rising temperatures long before any such change is apparent elsewhere (The Independent, 12 March 2009: <http://www.independent.co.uk/environment/climate-change/fate-of-the-rainforest-is-irreversible-1643083.html>): "Currently, global temperatures are about 0.75C above the pre-industrial level. However, scientists believe that large amounts of carbon dioxide emitted in recent years have caused further warming of about 0.6C – meaning that the world is likely to warm at least 1.3C, even if all carbon emissions were stopped immediately... At 1.3C, the commitment to change is not great, but by 2C it rapidly leaps up to 20 and then 40 per cent loss of forest. At 3C – where the computer simulation shows no dieback might yet be visible – the commitment is a 70 per cent loss of the forest... Ecosystems do exhibit significant commitment to further change even after you've stabilised the climate. The Amazon forest will be committed to large-scale loss long before any is observable in the real world, so some kind of monitoring system to detect the first signs of Amazon dieback might actually be too late. We need to understand the processes responsible before that... On any kind of pragmatic time scale, I think we should see loss of the Amazon forest as irreversible".

Recent estimates are of sea level rise of 1-2 metres by 2100. It has been recently estimated that all Arctic summer sea ice will be gone within 6 years i.e. by 2015 (see Gelu Sulugiuc, Reuters, "Sea levels rising faster than expected: scientists", 10 March 2009: <http://www.reuters.com/article/environmentNews/idUSTRE5295EO20090310?feedType=RSS&feedName=environmentNews> ; James Hansen (2007), Huge sea level rises are coming – unless we act now", New Scientist, 2614, 26 July 2007: <http://www.newscientist.com/article/mg19526141.600-huge-sea-level-rises-are-coming--unless-we-act-now.html?page=1> and "Climate catastrophe": [http://pubs.giss.nasa.gov/docs/2007/2007\\_Hansen\\_2.pdf](http://pubs.giss.nasa.gov/docs/2007/2007_Hansen_2.pdf) ).

**c. Top UK climate scientists estimate 6-8% annual GHG reduction needed to avoid 450 ppm CO<sub>2</sub>-e – CPRS increases GHG pollution at ca 2% pa.**

Of acute relevance to the proposed Australian CPRS is the recent report in the prestigious Philosophical Transactions of the Royal Society by top UK climate scientists indicating that urgent action is needed to stop a catastrophic 450 ppm CO<sub>2</sub> (2°C temperature rise over the preindustrial) that will lead to the destruction of world's coral reefs, increased damage to of ocean fisheries, forests, ecosystems and agriculture, and worsening global avoidable mortality from deprivation and deprivation-exacerbated disease. Unfortunately it appears that present socio-political-economic arrangements in the world are unable to meet the challenge. Thus top UK climate scientists Professor Kevin Anderson and Dr Alice Bows (Tyndall Centre for Climate

Change Research, University of Manchester) have recently estimated that an annual 6-8% decrease in greenhouse gas (GHG) pollution is required to stabilize atmospheric CO<sub>2</sub>-e (carbon dioxide equivalent) at a still catastrophic 450 ppm (parts per million). Unfortunately, the best President Obama (US) and PM Gordon Brown (UK) can offer is 2% annual GHG pollution decrease – however the current policies of world-leading per capita GHG polluter Australia mean an annual 2% increase in Australia’s Domestic and Exported GHG pollution (subject to recession effects).(see Kevin Anderson & Alice Bows, “Reframing the climate change challenge in light of post-2000 emission trends”, Proc. Trans. Roy. Soc, A, 2008: [http://www.tyndall.ac.uk/publications/journal\\_papers/fulltext.pdf](http://www.tyndall.ac.uk/publications/journal_papers/fulltext.pdf) ; Gideon Polya, “Good and bad climate news”, Green Blog, 2009: <http://www.green-blog.org/2009/01/13/good-and-bad-climate-news/> ; George Monbiot, “One shot left”, Monbiot.com (also published in the UK Guardian, 2008): <http://www.monbiot.com/archives/2008/11/25/one-shot-left/> ).

Indeed Anderson and Bows say their data argue for a radical change in national and global arrangements: “According to the analysis conducted in this paper, stabilizing at 450 ppmv [carbon dioxide equivalent = CO<sub>2</sub>-e, atmospheric concentration measured in parts per million by volume] requires, at least, global energy related emissions to peak by 2015, rapidly decline at 6-8% per year between 2020 and 2040, and for full decarbonization sometime soon after 2050 ... Unless economic growth can be reconciled with unprecedented rates of decarbonization (in excess of 6% per year), it is difficult to envisage anything other than a planned economic recession being compatible with stabilization at or below 650 ppmv CO<sub>2</sub>-e ... Ultimately, the latest scientific understanding of climate change allied with current emissions trends and a commitment to “limiting average global temperature increases to below 4°C above pre-industrial levels”, demands a radical reframing of both the climate change agenda, and the economic characterization of contemporary society”.

Unfortunately the CPRS offers “5% off 2000 value by 2020” as compared to the “unprecedented rates of decarbonization (in excess of 6% per year)” required to avert catastrophe, as estimated by Professor Anderson and Dr Bows..

#### **d. CPRS targets increasing atmospheric CO<sub>2</sub> to 450 ppm – top scientists demand urgent reduction to less than 350 ppm or circa 300 ppm CO<sub>2</sub> .**

The CPRS White Paper, and the Garnaut Review on which it was heavily based, are both deeply flawed analyses by non-scientists (for detailed and documented critiques see: “Australian Carbon Pollution Reduction Scheme will INCREASE Carbon Pollution”:

<http://sites.google.com/site/yarravalleyclimateactiongroup/australian-carbon-pollution-reduction-scheme-will-increase-carbon-pollution> ; “Critical Scientific Review of Badly Flawed Australian Garnaut Climate Change Review”:

<http://sites.google.com/site/yarravalleyclimateactiongroup/critical-scientific-review-of-badly-flawed-australian-garnaut-climate-change-review> ). Both the Garnaut Review and the White Paper were predicated on an atmospheric CO<sub>2</sub> concentration range of 450 ppm-550 ppm – yet the

Great Barrier Reef will die above 450 ppm CO<sub>2</sub> and above 500 ppm the ocean phytoplankton, algal-derived cloud seeding dimethylsulphide and the Greenland ice sheet go above 500 ppm) (see “Man-made, CO<sub>2</sub>-driven, global warming science information”:

<http://sites.google.com/site/yarravalleyclimateactiongroup/man-made-co2-driven-global-warming-science-information> ) .

In contrast to the increase in CO<sub>2</sub> paradoxically proposed by the CPRS, top climate scientists advocate a reduction from the presently dangerous, climate-disrupting level of 387 ppm CO<sub>2</sub> to less than 350 ppm or circa 300 ppm as indicated from the quotations below.

**Dr James Hansen** (top US climate scientist; Director, NASA Goddard Institute for Space Studies; member of the prestigious US National Academy of Sciences; 2007 Award for Scientific Freedom and Responsibility of the prestigious American Association for the Advancement of Science; see: <http://www.columbia.edu/~jeh1/> ; [http://en.wikipedia.org/wiki/James\\_Hansen](http://en.wikipedia.org/wiki/James_Hansen) ; for 1880-present NASA GISS Global Temperature graphed data see: <http://data.giss.nasa.gov/gistemp/> and <http://data.giss.nasa.gov/gistemp/graphs/> ) (with 8 UK, French and US climate change scientist co-authors , 2008): “Paleoclimate data show that climate sensitivity is ~3 deg-C for doubled CO<sub>2</sub> [carbon dioxide; atmospheric CO<sub>2</sub> 280 ppm pre-industrial], including only fast feedback processes. Equilibrium sensitivity, including slower surface albedo feedbacks, is ~6 deg-C for doubled CO<sub>2</sub> for the range of climate states between glacial conditions and ice-free Antarctica. Decreasing CO<sub>2</sub> was the main cause of a cooling trend that began 50 million years ago, large scale glaciation occurring when CO<sub>2</sub> fell to 450 +/- 100 ppm [parts per million], a level that will be exceeded within decades, barring prompt policy changes. **If humanity wishes to preserve a planet similar to that on which civilization developed and to which life on Earth is adapted, paleoclimate evidence and ongoing climate change suggest that CO<sub>2</sub> will need to be reduced from its current 385 ppm to at most 350 ppm.** The largest uncertainty in the target arises from possible changes of non-CO<sub>2</sub> forcings. An initial 350 ppm CO<sub>2</sub> target may be achievable by phasing out coal use except where CO<sub>2</sub> is captured and adopting agricultural and forestry practices that sequester carbon. If the present overshoot of this target CO<sub>2</sub> is not brief, there is a possibility of seeding irreversible catastrophic effects” (see: <http://arxiv.org/abs/0804.1126> ).

**Dr James Hansen et al.** (2008): “Stabilization of Arctic sea ice cover requires, to first approximation, restoration of planetary energy balance. Climate models driven by known forcings yield a present planetary energy imbalance of +0.5-1 W/m<sup>2</sup>. Observed heat increase in the upper 700 m of the ocean confirms the planetary energy imbalance, but observations of the entire ocean are needed for quantification. CO<sub>2</sub> amount must be reduced to 325-355 ppm to increase outgoing flux 0.5-1 W/m<sup>2</sup>, if other forcings are unchanged. A further imbalance reduction, and thus CO<sub>2</sub> ~300-325 ppm, may be needed to restore sea ice to its area of 25 years ago” (see: [http://www.columbia.edu/~jeh1/2008/TargetCO2\\_20080407.pdf](http://www.columbia.edu/~jeh1/2008/TargetCO2_20080407.pdf) ).

**Professor Hans Joachim Schellnhuber**, director of the Potsdam Institute for Climate Impact Research., Germany (see: <http://www.pik-potsdam.de/institute/director> ) (2008): ““It is a compromise between ambition and feasibility. A rise of 2°C could avoid some of the big environmental disasters, but it is still only a compromise...It is a very sweeping argument, but nobody can say for sure that 330ppm is safe. **Perhaps it will not matter whether we have 270ppm or 320ppm, but operating well outside the [historic] realm of carbon dioxide concentrations is risky as long as we have not fully understood the relevant feedback mechanisms**” (see: <http://www.guardian.co.uk/environment/2008/sep/15/climatechange.carbonemissions> ) [280 ppm is the pre-industrial atmospheric CO<sub>2</sub> concentration].

**Dr Andrew Glikson** (an Earth and paleo-climate research scientist at Australian National University, Canberra, Australia) in “The Methane Time Bomb and the Triple Melt-down” (see: : <http://www.countercurrents.org/glikson101008.htm> ): “For some time now, climate scientists warned that melting of subpolar permafrost and warming of the Arctic Sea (up to 4 degrees C during 2005–2008 relative to the 1951–1980) are likely to result in the dissociation of methane hydrates and the release of this powerful greenhouse gas into the atmosphere (methane: 62 times the infrared warming effect of CO<sub>2</sub> over 20 years and 21 times over 100 years) ... The amount of carbon stored in Arctic sediments and permafrost is estimated as 500–2500 Gigaton Carbon (GtC), as compared with the world’s total fossil fuel reserves estimated as 5000 GtC. Compare



with the 700 GtC of the atmosphere, which regulate CO<sub>2</sub> levels in the range of 180–300 parts per million and land temperatures in a range of about – 50 to + 50 degrees C, which allowed the evolution of warm blooded mammals. **The continuing use of the atmosphere as an open sewer for industrial pollution has already added some 305 GtC to the atmosphere together with land clearing and animal-emitted methane. This raised CO<sub>2</sub> levels to 387 ppm CO<sub>2</sub> to date, leading toward conditions which existed on Earth about 3 million years (Ma) ago (mid-Pliocene), when CO<sub>2</sub> levels rose to about 400 ppm, temperatures to about 2–3 degrees C and sea levels by about 25 +/- 12 metres.** There is little evidence for an extinction at 3 Ma. However, by crossing above a CO<sub>2</sub> level of 400 ppm the atmosphere is moving into uncharted territory. At this stage, enhanced methane leaks threaten climate events, such as the massive methane release and fauna extinction of 55 million years ago, which was marked by rise of CO<sub>2</sub> to near 1000 ppm.”

## **2. Liable entities and covered emissions.**

a. Those who can apply for permits are big polluters (25,000 tonnes CO<sub>2</sub>-e per year) i.e. non-polluters are unable to buy the permits and then tear them up.

b. Nitrogen trifluoride (NF<sub>3</sub>) is used as an etchant of silicon wafers in the manufacture of plasma TVs. NF<sub>3</sub> is a greenhouse gas (GHG), with a global warming potential 17,200 times greater than that of CO<sub>2</sub> when compared over a 100 year period. Its global warming potential would place it second only to SF<sub>6</sub> in the group of Kyoto-recognized greenhouse gases, although NF<sub>3</sub> is not currently included in that grouping. It has an estimated atmospheric lifetime of 550-740 years. In 2008, the estimated total atmospheric content of the gas was 5,400 metric tons, increasing at about 11 percent per year (see: [http://en.wikipedia.org/wiki/Nitrogen\\_trifluoride](http://en.wikipedia.org/wiki/Nitrogen_trifluoride) ).

c. The CPRS ignores two thirds of the major Australia-produced GHG pollution (ignored sources including agriculture, decomposition of dying forests, liquid natural gas exports and Australia’ world leading coal exports).

d. The CPRS counts imported fuel but ignores fossil fuel exports (we sell it to be burned, not to be stored) and also ignores the implicit CO<sub>2</sub> content of imported goods (for a detailed discussion of how the UK outsources its GHG emissions see George Monbiot, “Don’t be fooled by the [UK] climate change bill. Carbon trading torpedoes it”: <http://www.guardian.co.uk/commentisfree/2008/jul/24/climatechange.carbonemissions> ).

## **3. The Scheme Cap.**

a. In aiming for a 60% reduction in GHG emissions from 2000 by 2050 and a 5% reduction by 2020 the CPRS flies in the face of expert advice from top UK climate scientists (see section 1.c above; see Professor Kevin Anderson & Dr Alice Bows, “Reframing the climate change challenge in light of post-2000 emission trends”, Proc. Trans. Roy. Soc, A, 2008: [http://www.tyndall.ac.uk/publications/journal\\_papers/fulltext.pdf](http://www.tyndall.ac.uk/publications/journal_papers/fulltext.pdf) ).

b. The draft legislation admits that it does not cover all sources of emissions (it excludes about two thirds of the sources) (see Dr Gideon Polya, “Australian Carbon Pollution Reduction Scheme will INCREASE Carbon Pollution”: <http://sites.google.com/site/yarravalleyclimateactiongroup/australian-carbon-pollution-reduction-scheme-will-increase-carbon-pollution> ).

c. The CPRS intent for global action to “stabilize greenhouse gases [in CO<sub>2</sub>-e] at around 450 parts per million” is contradicted by the opinions of top climate scientists from the US and Germany that the atmospheric CO<sub>2</sub> should be about 300 ppm (see comments by Professors James Hansen and Hans Joachim Schellnhuber quoted in section 1.d above and indicating that the requisite CO<sub>2</sub> concentration target is below 350 ppm and indeed about 300 ppm ).

d. The CPRS actually undercuts “voluntary action” – any “voluntary abatement” (solar panels, turning off lights etc) simply generates more “space” under the Scheme Cap in which polluters can pollute more. Perhaps the most insidious aspect of the CPRS (apart from its Orwellian name in which a pollution increasing scheme becomes an incorrectly asserted “pollution decreasing scheme”) is this short-circuiting of attempts by responsible citizens – in the clear absence of intent or action on GHG reduction by pro-Coal government - to do their bit to save the Planet and the Great Barrier Reef.

#### **4. Core Obligations.**

a. The Reporting requirements ignore two thirds of the problem that includes Australia’s huge coal and LNG exports, huge “GHG-implicit imports”, agriculture and land use components.

#### **5. Obligation Transfer Number.**

a. Great care is taken to avoid “unfairness” to downstream or upstream polluters but the Reporting requirements ignore two thirds of the problem that includes Australia’s huge coal and LNG exports, huge “GHG-implicit imports”, agriculture and land use components.

#### **6. Eligible Emissions Units.**

a. A substantial number of “units” will be issued free to major polluters, thus rendering the CPRS farcical.

b. “Eligible reforestation projects that remove carbon from the atmosphere” ignores the huge net GHG pollution from subsequent deforestation (with attendant methane generation from Japanese toilet paper, methane being 21 times worse than CO<sub>2</sub> as a GHG on a 100 year time scale) and mandatory reforestation with tiny seedlings)(see section 12 below).

c. “Kyoto” and “other types of international units” enable polluters to buy, for example, credits for non-destruction of PNG, Cambodian, Malaysian or Indonesian rainforests at, say \$1-2 /tonne CO<sub>2</sub> as opposed to purchase of “Australian units” at up to \$40 /tonne CO<sub>2</sub>. (or possibly per tonne C; this highly flawed proposal by non-scientists doesn’t say which) (for 100 Mt avoided CO<sub>2</sub> market for Indonesia alone see: <http://www.carbon-financeonline.com/index.cfm?section=global&action=view&id=11052> ).

#### **7. Permit Auction.**

a. The Permit Auction is rigged and would be an illegal auction in all states of Australia if it involved auctioning of houses i.e. it is fine to have a reserve low price but to manipulate the auction bids above the Reserve Price is criminal in real estate auctioneering.

b. “Why will the Government auction permits?” contains 3 patently false statements, namely “Auctioning will: (1) “ channel permits to their highest value use in the economy”(false: there is a \$40 cap; see (a)); (2) “provide a transparent price signal to the market” (false: the market is

clearly manipulated); and (3) “raise revenue that can be used to assist households and businesses to adapt to a low carbon future”(utterly false: the revenue is mostly handed back to polluters and consumers in what is known in my scientific discipline, Biochemistry, as a “futile cycle”, a zero sum game with essentially no useful outcome).

c. I presume that decent non-polluters who want to buy permits in order to ethically destroy them are excluded from these Orwellian, rigged Auctions.

d. “What about the price cap?” Unfortunately the units of this market manipulation are not specified - \$40 /tonne CO<sub>2</sub>. (or possibly per tonne C; this highly flawed proposal by non-scientists doesn't say which; the difference is a factor of molecular weight of CO<sub>2</sub> (44)/atomic weight of carbon (12) = 44/12 = 3.7).

e. “Why does the Scheme have a price tag?” is given the answer “The price cap reduces upside price risk for liable entities”, which, translated from Orwellian Newspeak into plain English, means “Government will manipulate the market in the interests of big polluters”. “Scheme” can indeed be seen here as a *double entendre*.

## 8. Managing Price Risk.

a. “A price cap will set the maximum cost of compliance”, minimizing the cost of compliance in cash or units – crude market manipulation.

b. “The level of the price cap will be set at \$40 in 2010-11”- no UNITS given (i.e. \$ per t C or \$ per t CO<sub>2</sub>?). (After about 40 years of university teaching I still stress to my current second year university agricultural science students that they MUST use correct units e.g. “I paid 1,000 (cents? dollars?) for the heifer”)..

c. “No exports of Australian permits”. “To limit upside price risk, the export of Australian permits to international markets will not be allowed” – this blatant market manipulation and constraint on trade probably violates WTO and free trade agreements and invites international penalties. Indeed the whole Scheme is a massive protectionist racket that is extremely undesirable at a time of already constrained international trade. Top climate change economist and former Chief Economist of the World Bank, Sir Nicholas Stern, has stated ““The problem of climate change involves a fundamental failure of markets: those who damage others by emitting greenhouse gases generally do not pay” (see “Stern: market change a market failure”: <http://www.guardian.co.uk/environment/2007/nov/29/climatechange.carbonemissions?gusrc=rss&feed=environment> ). Yet the CPRS relies on an absurdly highly flawed “market approach” and then proceeds to manipulate and undermine the market in ways unacceptable in intra-national and international practice.

## 9. Linking the Scheme to International Markets.

a. “An unlimited number of eligible Kyoto units may be used by liable entities for compliance under the Australian Scheme” – as outlined in section 6.c, this means that big Australian polluters can buy (and possibly bribe) their way to cheaper GHG pollution via offshore credits from impoverished tropical countries. The AWB scandal involved the deaths of up to 21,000 under-5 year old Iraqi children through diversion of \$300 million from the UN oil-for-food program (a small but significant number in the context of 1.8 million under-5 year old Iraqi infant deaths in Iraq under US Alliance imposed Sanctions and/or Occupation, 1990-2009; see: Gideon Polya “Body Count. Global avoidable mortality since 1950” (see:



<http://globalbodycount.blogspot.com/> and <http://mwcnews.net/Gideon-Polya> ; Gideon Polya, “Jane Austen and the Black Hole of British history. Colonial rapacity, holocaust denial and the crisis in biological sustainability” (G.M. Polya, Melbourne, 1998 & 2008): <http://janeaustenand.blogspot.com/2008/09/jane-austen-and-black-hole-of-british.html> ; “9-11 excuse for US global genocide. The real 9-11 atrocity: millions dead (9-11 million) in Bush wars”: <http://mwcnews.net/content/view/25184/42/> ). This CPRS scandal-in-the-making allows for cheaper killing of Australians by fossil fuel-burning pollutants at home – it is estimated from extrapolation from Ontario, Canada, data that about 5,000 Australians die from pollutants from coal burning-based power generation each year ( see “How many people die from Carbon Burning and Climate Change each year?” : <http://sites.google.com/site/yarravalleyclimateactiongroup/how-many-people-die-from-carbon-burning-and-climate-change-each-year> ). Thus, valuing each Australian life at \$7 million (see Clive Hamilton, Australia Institute, “Diesel and the Environment” (lecture): [http://www.clivehamilton.net.au/cms/media/documents/articles/Diesel\\_and\\_the\\_Environment.pdf](http://www.clivehamilton.net.au/cms/media/documents/articles/Diesel_and_the_Environment.pdf) ). This “hidden cost” (ignored by economist Professor Garnaut) is 5,000 persons/year x \$7 million/person = \$35 billion per year or about 3 times the annual receipts from the CPRS.

b. Cheap Kyoto and other permits can be imported but Australian permits cannot be exported (so much for the free market and tariff reductions!). Similarly, GHG-associated exports will be notionally penalized (the penalties being variously overcome by compensatory largesse) but GHG-associated imports (see 2.d) won't attract scrutiny, this making an even greater nonsense of this flawed cap and trade CPRS system.

#### **10. Emissions-intensive Trade-exposed (EITE) assistance program.**

a. “The Emissions-intensive Trade-exposed (EITE) assistance program ... to provide an administrative allocation of Australian emissions units to EITE activities” - this amounts to a huge subsidy arrangement involving a knowing subsidizing of the “true cost” (environmental and human impact) of GHG-linked industries. This can be clearly seen to violate the intent of a market-based scheme to reduce GHG pollution and to also violate WTO and other anti-protectionist philosophy and agreements.

b. Returning Auction receipts to polluters simply undermines the whole point of the CPRS which is ostensibly to discourage GHG pollution by a “trickle down” mechanism (there is similar short-circuiting elsewhere in the CPRS e.g. see sections 9.b and 11.a). .

c. The White Paper (see Carbon Pollution Reduction Scheme: Australia's Low Pollution Future, Foreword: <http://www.climatechange.gov.au/whitepaper/foreword.html> and Carbon Pollution Reduction Scheme: Australia's Low Pollution Future, White Paper, Executive Summary 15 December 2008: <http://www.climatechange.gov.au/whitepaper/summary/index.html> ) sets out the incomings and outgoings of the proposed CPRS in Table E.3 “Impact on fiscal balance of the Carbon Pollution Reduction Scheme and related measures” (p26). After payment of huge subsidies to polluters and consumers, the amount left over from Auction receipts for the “Climate Change Action Fund” is \$0.7 billion from \$11.5 billion in receipts (2010-2011) and \$0.7 billion from \$12.0 billion in receipts (2011-2012). Of this \$0.7 billion – paltry in comparison with the existing \$10 billion in annual fossil fuel subsidies (see: [http://climateemergency.blogspot.com/2008\\_01\\_01\\_archive.html](http://climateemergency.blogspot.com/2008_01_01_archive.html) ) – NONE is spent on non-carbon energy i.e. “renewable energy” or “geothermal energy” (and indeed these terms are not even mentioned in the “Climate Change Action Fund streams of activity” on pp24-25 of the White Paper – a remarkable testament to the efficacy of fossil fuel and other corporate lobbying to the exclusion of expert scientific, engineering and economic advice).

## 11. Coal-fired electricity generation.

a. “The Australian Climate Change Regulatory Authority will allocate up to 130.7 million Australian emissions units amongst eligible coal-fired electricity generators” – but why not for the gas-fired power sector (gas burning-based power being much cleaner than coal burning-based power) or the renewables and geothermal power industry (which have GHG positive start-up items and should have the level-playing-field option of getting free units which they can sell if they are bad or tear up if they are good). Thus the CPRS actively discriminates against renewable and geothermal energy industries in this instance – thereby revealing the de facto pro-Coal Burning intent of the grossly misnamed Carbon Pollution Reduction Scheme.

b. It is not specified what the 130.7 million Australian emissions units are actually worth in Australian dollars.

c. The huge subsidies given to coal burning-based power generation make the taxpayer liable for the legally recoverable cost of the consequences (e.g. loss of land, crops, property and lives, initially in Island Nations such as Kiribati and mega-delta countries such as Bangladesh, India, China, Vietnam, Cambodia, Thailand, Burma, Pakistan, Nigeria, Egypt, Brazil and even the US – and thence even in Australia) (see “Climate Disruption, Climate Emergency, Climate Genocide & Penultimate Bengali Holocaust through Sea Level Rise”:

<http://sites.google.com/site/yarravalleyclimateactiongroup/climate-disruption-climate-emergency-climate-genocide-penultimate-bengali-holocaust-through-sea-level-rise> ).

## 12. Reforestation.

a. “Forests sequester carbon dioxide as they grow” – ignores the reality that plants also necessarily respire and as temperature rise to 3°C above pre-industrial (possibly only several decades away) there will be net CO<sub>2</sub> loss from plants. Thus at 500 ppm CO<sub>2</sub> (by about 2045, assuming 3 ppm CO<sub>2</sub>/y, or earlier due to positive feedbacks) the temperature may be about 3°C above that in 1900). According to Professor James Lovelock (“The Revenge of Gaia”) above 500 ppm CO<sub>2</sub> there is major loss of phytoplankton and phytoplankton-dependent life in the oceans; major loss of phytoplankton-derived dimethylsulphide (important for cloud formation); and major ice-melting due to exceeding the tipping point for loss of the Greenland ice sheet. There will be massive forest fires; **stressed plants will be losing carbon rather than absorbing it**; widening, phytoplankton-free, low oxygen “death zones” in the oceans; catastrophic starvation in Africa and South Asia (see Section D, “Global Warming, Climate Emergency Course” by Dr Gideon Polya: <http://sites.google.com/site/yarravalleyclimateactiongroup/global-warming--global-emergency-course> ).

b. This part of the Scheme largesse is restricted to “land that, as of 31 December 1989, was clear of forest” (thereby rewarding past environmental vandalism) – but this is contradicted by “they can add or remove trees, harvest more frequently or change species that are planted”. This part of the Scheme rewards past individual or corporate vandalism in a fashion akin to “water rights” to individuals against the national interest and “land rights” to the descendants of genocidal Anglo settlers in violation of both International and Natural Justice.

c. “Obligation to re-establish the forest if it has been cleared” opens up the possibility of highly profitable, sleight of hand replacement of mature trees with tiny seedlings.

d. Native SE Australian *Eucalyptus* forests have recently been shown in an ANU study to have 3 times the hitherto estimated GHG reduction potential – however this part of the Scheme is clearly directed at less efficient plantations (see ANU E Press (2008), press release re Mackey et al. (2008) “Green Carbon. The role of natural forests in carbon storage Part 1. A green carbon account of Australia’s south-eastern Eucalypt forests, and policy implications”:

[http://epress.anu.edu.au/green\\_carbon\\_citation.html](http://epress.anu.edu.au/green_carbon_citation.html) and Brendan G. Mackey, Heather Keith, Sandra L. Berry and David B. Lindenmayer (2008), “Green Carbon. The role of natural forests in carbon storage. Part 1. A green carbon account of Australia’s south-eastern Eucalypt forests, and policy implications” (ANU E-Press, Canberra) (see: [http://epress.anu.edu.au/green\\_carbon\\_citation.html](http://epress.anu.edu.au/green_carbon_citation.html) ).

e. Further to point (d), there is no clarity about the extent downstream forest product GHG accounting e.g. does it include methane from decomposition of Japanese toilet paper (noting that methane has 21 times the global warming potential of CO<sub>2</sub> over a 100 year time period)?

f. This part of the Scheme deals with one aspect of land use in a highly flawed way while the CPRS ignores agriculture and other land use GHG sources (e.g. methanogenic livestock contributes about 18% of global man-made GHG pollution annually).

g. This part of the CPRS – and, in a longer term sense, the whole CPRS - ignores the economic value of wild nature. Crucial to such discussions are the extraordinary findings by top biologists and environmental economists and published in the top scientific journal *Science* that the total economic return (TEV) from major biomes (ecological systems) studied can be typically about 50% greater when there is sustainable use and that the economic return from preserving what is left of wild nature is over 100 times the cost of so doing. The total economic value (TEV) of wild nature (e.g. pollination, forestry, fisheries, tourism) was estimated in 1997 as about \$18-\$60 trillion (average \$38 trillion) as compared to a total World GDP (2007) of about \$55 trillion (see Andrew Balmford et al, “Economic reasons for conserving wild nature”, *Science*, 9 August 2002: Vol. 297. no. 5583, pp. 950 – 953, DOI: 10.1126/science.1073947: <http://www.sciencemag.org/cgi/content/abstract/297/5583/950> and [http://www.uvm.edu/giee/publications/Balmford\\_et\\_al.pdf](http://www.uvm.edu/giee/publications/Balmford_et_al.pdf) ).

### **13. Taxation treatment.**

a. “The cost of a unit is tax deductible” makes GHG pollution and consequent destruction of the Great Barrier Reef and other Australian icons tax deductible in Australia – but only for really big polluters (“entities with facilities that emit greenhouse gases of 25,000 tonnes of carbon dioxide equivalence or more per year and ... entities that that supply certain fuels and synthetic greenhouse gases”). This is a scandalous proposal given the dimension of the steadily worsening climate disruption; the climate emergency; the estimated deaths of 5,000 Australians each year (costed at \$35 billion pa) due to coal burning pollutants (see: <http://sites.google.com/site/yarravalleyclimateactiongroup/how-many-people-die-from-carbon-burning-and-climate-change-each-year> ) ; and looming climate genocide that is predicted to kill about 10 billion fellow human beings this century (see “Climate Disruption, Climate Emergency, Climate Genocide & Penultimate Bengali Holocaust through Sea Level Rise”: <http://sites.google.com/site/yarravalleyclimateactiongroup/climate-disruption-climate-emergency-climate-genocide-penultimate-bengali-holocaust-through-sea-level-rise> ).

b. One has to turn to the “War on Terror” for comparable quantitative absurdities involving massive taxpayer disbursements and tax deductibility for crimes against humanity. Thus Australia has spent about \$30 billion on anti-terrorism and the Bush (now Obama) “War on Terror” – in

response to the 9-11 atrocity that killed 3,000 people (i.e. about A\$10 million outlay for each 9-11 victim), that former Vice President Al Gore describes as a huge intelligence failure by the Bush Administration (see his book "The Assault on Reason"), and which some leading scholars and public figures suggest may have involved active or passive US involvement (see "US responsible for 9-11? [Zurich ETH] Swiss scientist doubts Bush Official Version": <http://mwcnews.net/content/view/22944/26/>). However the Bush-ite-, neo-Bush-ite- and Zionist-promoted Bush wars (1990-2009) have been associated so far with 9-11 million violent and non-violent excess deaths (see Iraqi massacre ignored by media. Lying over Iraqi Genocide: <http://mwcnews.net/content/view/28982/42/> and 9-11 excuse for US global genocide. The real 9-11 atrocity: millions dead (9-11 million) in Bush wars (1990-2009): <http://mwcnews.net/content/view/25184/42/>). The \$3 trillion accrual cost of the Iraq War alone has "bankrupted America" according to Economics Nobel Laureate Professor Joseph Stiglitz (see "Award winning economist says America has bankrupted itself with the Iraq War": <http://www.abc.net.au/lateline/content/2007/s2236161.htm>). In similar vein, Israeli war criminals, including those actually involved in bombing, rocketing and shelling of Arab Australian citizens in the Middle East, are free to come and go in Australia (I have met such people at functions in Australia) and funds for illegal Israeli disposition of Palestinian lands (in violation of UN Security Council Resolution 252) are tax deductible.

#### **14. Urgent direct action NOW - what top climate scientists have recently advocated at the March 2009 Copenhagen Climate Change Conference.**

The University of Copenhagen recently hosted an international scientific congress on climate change under the heading "Climate Change: Global Risks, Challenges and Decisions", 10-12 March 2009 in Copenhagen, Denmark. The congress was organised in cooperation with nine other universities in the International Alliance of Research Universities (IARU) (see: <http://climatecongress.ku.dk/about/> and <http://climatecongress.ku.dk/programme/>; for the Abstracts of papers see <http://www.iop.org/EJ/volume/1755-1315/6>).

The six key messages from this pivotal, March 2009, scientific climate change conference are as follows (see: [http://climatecongress.ku.dk/newsroom/congress\\_key\\_messages/](http://climatecongress.ku.dk/newsroom/congress_key_messages/)).

##### **Key Message 1: Climatic Trends**

Recent observations confirm that, given high rates of observed emissions, the worst-case IPCC scenario trajectories (or even worse) are being realised. For many key parameters, the climate system is already moving beyond the patterns of natural variability within which our society and economy have developed and thrived. These parameters include global mean surface temperature, sea-level rise, ocean and ice sheet dynamics, ocean acidification, and extreme climatic events. There is a significant risk that many of the trends will accelerate, leading to an increasing risk of abrupt or irreversible climatic shifts.

##### **Key Message 2: Social disruption**

The research community is providing much more information to support discussions on "dangerous climate change". Recent observations show that societies are highly vulnerable to even modest levels of climate change, with poor nations and communities particularly at risk. Temperature rises above 2C will be very difficult for contemporary societies to cope with, and will increase the level of climate disruption through the rest of the century.

### **Key Message 3: Long-Term Strategy**

Rapid, sustained, and effective mitigation based on coordinated global and regional action is required to avoid "dangerous climate change" regardless of how it is defined. Weaker targets for 2020 increase the risk of crossing tipping points and make the task of meeting 2050 targets more difficult. Delay in initiating effective mitigation actions increases significantly the long-term social and economic costs of both adaptation and mitigation.

### **Key Message 4 - Equity Dimensions**

Climate change is having, and will have, strongly differential effects on people within and between countries and regions, on this generation and future generations, and on human societies and the natural world. An effective, well-funded adaptation safety net is required for those people least capable of coping with climate change impacts, and a common but differentiated mitigation strategy is needed to protect the poor and most vulnerable.

### **Key Message 5: Inaction is Inexcusable**

There is no excuse for inaction. We already have many tools and approaches – economic, technological, behavioural, management – to deal effectively with the climate change challenge. But they must be vigorously and widely implemented to achieve the societal transformation required to decarbonise economies. A wide range of benefits will flow from a concerted effort to alter our energy economy now, including sustainable energy job growth, reductions in the health and economic costs of climate change, and the restoration of ecosystems and revitalisation of ecosystem services.

### **Key Message 6: Meeting the Challenge**

To achieve the societal transformation required to meet the climate change challenge, we must overcome a number of significant constraints and seize critical opportunities. These include reducing inertia in social and economic systems; building on a growing public desire for governments to act on climate change; removing implicit and explicit subsidies; reducing the influence of vested interests that increase emissions and reduce resilience; enabling the shifts from ineffective governance and weak institutions to innovative leadership in government, the private sector and civil society; and engaging society in the transition to norms and practices that foster sustainability.

**It is quite clear that the CPRS utterly ignores mainstream, top scientific advice by refusing to directly tackle climate change.** Evidently informed by big business and fossil fuel lobbyists, the CPRS uses a savagely sabotaged market mechanism to address a problem that has been described as a “market failure” outcome by one of the world’s top economists, Sir Nicholas Stern. The CPRS ignores 2/3 of GHG sources (notably agriculture, land use and fossil fuel exports). The CPRS sells GHG pollution permits in a highly flawed “fixed” Auction process and then hands most of the money back to big polluters and consumers. No money is devoted to the primary task of replacing fossil fuel burning with renewable and geothermal power (the best versions of which, subject to temporary recession effects, are roughly cost competitive with fossil fuel-based power and 4 times cheaper than the “true cost” of coal burning –based power (see “CROSS-OVER POINT: Best Renewable and Geothermal Power NOW for SAME COST as Fossil fuel-based Power”: <http://sites.google.com/site/yarravalleyclimateactiongroup/cross-over-point-reached> ). Further, the CPRS makes GHG pollution tax deductible; permits corporate bypass of the system through purchase of deforestation credits overseas; opts for a 5% reduction



of the 2000 level by 2020 versus the 6-8% annual GHG pollution reduction actually needed to avert catastrophe; and effectively sabotages “voluntary abatement” because any GHG savings by decent individuals or companies simply creates “space” under the GHG “cap” to be filled by big GHG polluters.

## **15. What should be done – Climate Emergency Facts and Required Actions.**

**As outlined above, the CPRS has comprehensively failed.** Crucial to effective action on the Climate Emergency is clearly informing the public, politicians and climate activists about (a) Climate Emergency facts and (b) required Climate Emergency actions. Unfortunately expert scientists have evidently been sidelined by lobbyists for GHG polluters.

The following suggested summary of key Climate Emergency Facts and Actions is a distillation of key concerns raised within the Australian Climate Emergency Network (CEN; see: <http://www.climateemergencynetwork.org/>) since its inception in Melbourne, Australia in 2008. Authoritative documentation of the following assertions can be found in many detailed documents placed on the Web for public information by the Melbourne-based Yarra Valley Climate Action Group (see: <http://sites.google.com/site/yarravalleyclimateactiongroup/Home>).

### **A. Climate Emergency Facts**

**a. Expert opinion on Climate Emergency.** We must take very seriously the views of top climate scientists and top scientists in relation to the Climate Emergency – just as we would the views of top medical specialists in relation to a serious medical problem – and many are stating that the World is facing a Climate Emergency and Sustainability Emergency (for numerous quotations from top scientists see: <http://sites.google.com/site/yarravalleyclimateactiongroup/climate-emergency-what-top-world-scientific-experts-say> and <http://sites.google.com/site/yarravalleyclimateactiongroup/climate-emergency-what-outstanding-australian-scientists-say>). Thus Dr James Hansen (Head, NASA’s Goddard Institute for Space Studies) : “we face a climate emergency” (see: <http://www.climatecodered.net/>) ; Nobel Laureate Professor Peter Doherty “we are in real danger” (see: <http://uninews.unimelb.edu.au/news/4775/>) ; Professor David de Kretser AC (Governor of the State of Victoria, Australia) : “There is no doubt in my mind that this is the greatest problem confronting mankind at this time and that it has reached the level of a state of emergency” (see: <http://www.scribepublications.com.au/book/climatecodered>).

**b. Expert opinion on climate position.** According to Dr Hansen and 8 UK, French and US climate change scientist co-authors (2008): “Paleoclimate data show that climate sensitivity is ~3 deg-C for doubled CO<sub>2</sub> [carbon dioxide; atmospheric CO<sub>2</sub> 280 ppm pre-industrial], including only fast feedback processes. Equilibrium sensitivity, including slower surface albedo feedbacks, is ~6 deg-C for doubled CO<sub>2</sub> for the range of climate states between glacial conditions and ice-free Antarctica. Decreasing CO<sub>2</sub> was the main cause of a cooling trend that began 50 million years ago, large scale glaciation occurring when CO<sub>2</sub> fell to 450 +/- 100 ppm [parts per million], a level that will be exceeded within decades, barring prompt policy changes. If humanity wishes to preserve a planet similar to that on which civilization developed and to which life on Earth is adapted, paleoclimate evidence and ongoing climate change suggest that CO<sub>2</sub> will need to be reduced from its current 385 ppm to at most 350 ppm” (see: <http://arxiv.org/abs/0804.1126>).

**c. Expert opinion on where climate is going.** Dr Andrew Glikson (an Earth and paleo-climate research scientist at Australian National University, Canberra, Australia): “For some time now, climate scientists warned that melting of subpolar permafrost and warming of the Arctic Sea (up

to 4 degrees C during 2005–2008 relative to the 1951–1980) are likely to result in the dissociation of methane hydrates and the release of this powerful greenhouse gas into the atmosphere (methane: 62 times the infrared warming effect of CO<sub>2</sub> over 20 years and 21 times over 100 years) ... The amount of carbon stored in Arctic sediments and permafrost is estimated as 500–2500 Gigaton Carbon (GtC), as compared with the world's total fossil fuel reserves estimated as 5000 GtC. Compare with the 700 GtC of the atmosphere, which regulate CO<sub>2</sub> levels in the range of 180–300 parts per million and land temperatures in a range of about – 50 to + 50 degrees C, which allowed the evolution of warm blooded mammals. The continuing use of the atmosphere as an open sewer for industrial pollution has already added some 305 GtC to the atmosphere together with land clearing and animal-emitted methane. This raised CO<sub>2</sub> levels to 387 ppm CO<sub>2</sub> to date, leading toward conditions which existed on Earth about 3 million years (Ma) ago (mid-Pliocene), when CO<sub>2</sub> levels rose to about 400 ppm, temperatures to about 2–3 degrees C and sea levels by about 25 +/- 12 metres. There is little evidence for an extinction at 3 Ma. However, by crossing above a CO<sub>2</sub> level of 400 ppm the atmosphere is moving into uncharted territory. At this stage, enhanced methane leaks threaten climate events, such as the massive methane release and fauna extinction of 55 million years ago, which was marked by rise of CO<sub>2</sub> to near 1000 ppm” (see: <http://www.countercurrents.org/glikson101008.htm> ).

**d. Expert opinion about current and future biological consequences.** With atmospheric CO<sub>2</sub> at 387 ppm (versus 280 ppm pre-industrial and presently increasing at 2.5 ppm per year) and global average temperature 0.8 degree C above pre-industrial, the World is already seeing mass species extinction at rates 100-1,000 times that in the fossil record (see: <http://www.nature.com/nature/journal/v427/n6970/full/nature02121.html> and [http://news.nationalgeographic.com/news/2004/01/0107\\_040107\\_extinction.html](http://news.nationalgeographic.com/news/2004/01/0107_040107_extinction.html)); major ecosystems are being destroyed due to drought, deforestation, Arctic ice melting, tundra melting, glacier melting, and ocean warming and acidification (see IPCC: <http://www.ipcc.ch/> ); world coral reefs have already been severely damaged and will die above 450 ppm CO<sub>2</sub> from ocean warming and acidification (see: <http://www.sciencemag.org/cgi/content/abstract/318/5857/1737> and <http://www.abc.net.au/rn/scienceshow/stories/2007/2115399.htm>); ocean phytoplankton and the Greenland ice sheet go above 500 ppm CO<sub>2</sub>; (see Dr James Lovelock's book “The Revenge of Gaia”); already 16 million people die avoidably each year due to increasingly climate-impacted deprivation (see my books “Body Count. Global avoidable mortality since 1950”: <http://globalbodycount.blogspot.com/> and “Jane Austen and the Black Hole of British History. Colonial rapacity, holocaust denial and the crisis in biological sustainability”: <http://janeaustenand.blogspot.com/> ); and according to top UK climate scientist Dr James Lovelock FRS over 6 billion people will perish this century due to unaddressed anthropogenic global warming (AGW) (see: [http://www.rollingstone.com/politics/story/16956300/the\\_prophet\\_of\\_climate\\_change\\_james\\_lovelock](http://www.rollingstone.com/politics/story/16956300/the_prophet_of_climate_change_james_lovelock) ).

**e. Expert opinion that atmospheric CO<sub>2</sub> concentration should be ~300 ppm (versus CPRS minimum ~ 450 ppm).**

**Dr James Hansen et al.** (2008): “Stabilization of Arctic sea ice cover requires, to first approximation, restoration of planetary energy balance. Climate models driven by known forcings yield a present planetary energy imbalance of +0.5-1 W/m<sup>2</sup>. Observed heat increase in the upper 700 m of the ocean confirms the planetary energy imbalance, but observations of the entire ocean are needed for quantification. **CO<sub>2</sub> amount must be reduced to 325-355 ppm to increase outgoing flux 0.5-1 W/m<sup>2</sup>, if other forcings are unchanged. A further imbalance reduction, and thus CO<sub>2</sub> ~300-325 ppm, may be needed to restore sea ice to its area of 25 years ago**” (see: [http://www.columbia.edu/~jeh1/2008/TargetCO2\\_20080407.pdf](http://www.columbia.edu/~jeh1/2008/TargetCO2_20080407.pdf) ).

**Professor Hans Joachim Schellnhuber**, director of the Potsdam Institute for Climate Impact Research., Germany (see: <http://www.pik-potsdam.de/institute/director> ) (2008): “It is a compromise between ambition and feasibility. A rise of 2°C could avoid some of the big environmental disasters, but it is still only a compromise...It is a very sweeping argument, but nobody can say for sure that 330ppm is safe. **Perhaps it will not matter whether we have 270ppm or 320ppm, but operating well outside the [historic] realm of carbon dioxide concentrations is risky as long as we have not fully understood the relevant feedback mechanisms**" (see: <http://www.guardian.co.uk/environment/2008/sep/15/climatechange.carbonemissions> ) [280 ppm is the pre-industrial atmospheric CO<sub>2</sub> concentration].

## **B. Climate Emergency Actions**

a. Our core values must be that we have no right to bargain away the lives of others – there must be a safe climate future for all people, all species, and all generations, NOW e.g. the survival of Australia’s Great Barrier Reef is simply NOT negotiable (corals will die above 450 ppm CO<sub>2</sub> due to ocean acidification and warming).

b. Our core goals must be concurrent halt to man-made greenhouse gas emissions, removal of excess carbon dioxide from the atmosphere to less than 350 ppm, and active cooling of the Earth (by re-forestation, biochar addition to depleted soils) (see “Forest biomass-derived Biochar can profitably reduce global warming and bushfire risk”:  
<http://sites.google.com/site/yarravalleyclimateactiongroup/forest-biomass-derived-biochar-can-profitably-reduce-global-warming-and-bushfire-risk> ).

c. Core scientific risk management methodology must be generally adopted – this successively involving (a) accurate data (with zero tolerance for lying), (b) scientific analysis (this involving the critical testing of potentially falsifiable hypotheses), and (c) systemic change and informing (to rationally minimize risk with requisite urgency).

d. Cessation of fossil fuel burning must occur as rapidly as feasible with concurrent rapid uptake of non-carbon renewable (solar, wind, wave) and geothermal energy systems, the best of which are now roughly equivalent in cost to the “market cost” of coal burning (and about 4 times the “true cost” of coal burning-based power taking environmental and human impacts into account) (see: “Cross-over point: best Renewable and Geothermal Power now for same cost as fossil fuel-based power”: <http://sites.google.com/site/yarravalleyclimateactiongroup/cross-over-point-reached> ).

e. To accelerate cessation of fossil fuel burning, society must insist that the “true cost” of fossil fuel burning (4-5 times that of the “market cost”; huge environmental cost and human avoidable morbidity and avoidable mortality) be identified, sourced and fully met by the perpetrators (the World may apply Sanctions against the worst climate criminal nations).

f. There must be immediate cessation of huge direct and indirect subsidies for fossil fuel burning (currently \$10 billion per annum in Australia, population 21 million; 10 years of \$10 billion expenditure on wind farms at \$2/W would yield a 50 Billion W installed wind power capacity as compared to an over 90% fossil fuel-based 50 billion W current total installed electricity capacity, this estimate ignoring capacity factors ).

g. Livestock contribute 18% of annual man-made greenhouse gas pollution globally. Methanogenic livestock must be rapidly phased out (e.g. by high conversion efficiency fish aquaculture, soy milk, plant-derived protein and fat, use of Australia’s unique non-methanogenic

kangaroos) (see lecture to final year university economics and agricultural science students: <http://climateemergency.blogspot.com/2008/04/biofuel-famine-biofuel-genocide-and.html> and <http://globalavoidablemortality.blogspot.com/2008/05/biofuel-famine-biofuel-genocide-meat.html> .

h. Deforestation contributes about 20% of annual man-made greenhouse gas pollution globally but can be halved for a mere \$20 billion per annum disincentive paid to the Third World (cheap solar cooking can also make a massive contribution; SE Australian old growth forests are major Australian carbon sinks: ANU E Press (2008), press release re Mackey et al. (2008) “Green Carbon. The role of natural forests in carbon storage

Part 1. A green carbon account of Australia’s south-eastern Eucalypt forests, and policy implications”: [http://epress.anu.edu.au/green\\_carbon\\_citation.html](http://epress.anu.edu.au/green_carbon_citation.html) and Brendan G. Mackey, Heather Keith, Sandra L. Berry and David B. Lindenmayer (2008), “Green Carbon. The role of natural forests in carbon storage. Part 1. A green carbon account of Australia’s south-eastern Eucalypt forests, and policy implications” (ANU E-Press, Canberra) (see: [http://epress.anu.edu.au/green\\_carbon\\_citation.html](http://epress.anu.edu.au/green_carbon_citation.html) ).

i. Non-carbon public transport must rapidly replace carbon-based private transport, freeway-based systems and the genocidal, legislatively mandated Western “food for fuel” biofuel perversion leading to a pricing-based biofuel genocide component of the looming 21st century 10 billion-victim climate genocide .

j. Urgent population control is required coupled with major resource use efficiency and global equity (e.g. Australia’s Domestic and Exported annual per capita carbon pollution is about 10 times the global average:

<http://sites.google.com/site/yarravalleyclimateactiongroup/%E2%80%9Ccoal-is-king%E2%80%9D-australia-co2-pollution-fact-sheet> ) – all achievable with truth, reason, literacy, education and cultural change.

This submission has been made in the public interest.

Dr Gideon Polya

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**Credentials.** Dr Gideon Polya published some 130 works in a 4 decade scientific career, most recently a huge pharmacological reference text "Biochemical Targets of Plant Bioactive Compounds" (CRC Press/Taylor & Francis, New York & London, 2003). He has recently published “Body Count. Global avoidable mortality since 1950” (G.M. Polya, Melbourne, 2007: <http://mwcnews.net/Gideon-Polya> and <http://globalbodycount.blogspot.com/> ); see also his contribution “Australian complicity in Iraq mass mortality” in “Lies, Deep Fries & Statistics” (edited by Robyn Williams, ABC Books, Sydney, 2007): <http://www.abc.net.au/rn/science/ockham/stories/s1445960.htm> ). He has just published a revised and updated 2008 version of his 1998 book “Jane Austen and the Black Hole of British History” (see: <http://janeaustenand.blogspot.com/> ) as biofuel-, globalization- and climate-driven global food price increases threaten a greater famine catastrophe than the man-made famine in British-ruled India that killed 6-7 million Indians in the “forgotten” World War 2 Bengal Famine (see recent BBC broadcast involving Dr Polya, Economics Nobel Laureate Professor Amartya Sen and others: [http://www.open2.net/thingsweforgot/bengalfamine\\_programme.html](http://www.open2.net/thingsweforgot/bengalfamine_programme.html) ). When words fail one can say it in pictures - for images of Gideon Polya’s huge paintings for Peace and for Mother and Child see “Truth , Beauty & Saving the World – Science, Art & Nuclear, Greenhouse & Poverty Threats”: <http://blog.360.yahoo.com/blog-NvVV9NY2cqLwKJxdb8JAymVZRA--?cq=1&p=1> ( I am very happy for these images to be used by anyone in the interests of Humanity and am happy to donate the originals to suitable public institutions) .