CLIMATE EMERGENCY NETWORK

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. - Governor of Victoria, Professor David de Kretser, 17 July 08

April 5 2009

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Submission to Senate Select Committee on Climate Policy

OVERVIEW

There is a growing consensus among climate scientists that we face a climate emergency. The Garnaut Review was based upon IPCC forecasts that are now completely out of date and misleading. Scientists are calling on the world's leaders to act before it is too late. A recent update from the International Scientific Congress on Climate Change in Copenhagen tells us that the world is already in the midst of dangerous climate change and there is only a very short time in which to act before catastrophic and irreversible climate change tipping points are passed. To have a safe climate future we must reduce the level of carbon dioxide in the atmosphere to around 300 parts per million (ppm) – i.e. below the current level of 387ppm.We need to reach zero emissions as fast as possible and then begin to draw down the excess carbon dioxide from the atmosphere. The longer the planet remains outside the safe climate zone the greater the risk of reaching the point of no return for life on Earth.

The CPRS as the central policy to reduce Australia 's carbon pollution does not take account of this latest science. The CPRS aims for a slow and small reduction in emissions, and very limited transition to non-polluting energy sources, apparently in the hope that the possible eventual development of clean coal might allow us to continue without a major restructuring of the economy. However, scientists are telling us that we are out of time!

The CPRS must be rejected, or completely re-written to take account of the need to de-carbonise the Australian economy at emergency speed. We must aim for a zero emissions Australian economy within ten years – or as fast as is humanly possible. We must do all we can to provide leadership and support to other nations in making this transition.

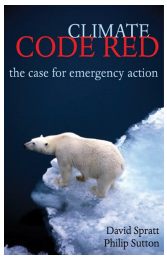
The changes that are needed will require a level of commitment of GDP similar to that seen during the Second World War - possibly around one third of GDP. Courageous and visionary leadership is required to communicate to the Australian public the extent of the problem and the need for shared commitment to solving it. The draft CPRS, with its low targets, slow start up and massive transfer of wealth to the fossil fuel industry is a manifestation of the power of entrenched interests, and has no part to play in responding to the climate emergency.

RECENT CLIMATE SCIENCE

The proposed introduction of the CPRS relies in part on the work of the *Garnaut Climate Change Review* , which recommended the introduction of an emissions trading scheme as the principal tool for reducing Australia's greenhouse gas (**GHG**) emissions. Professor Garnaut noted that:

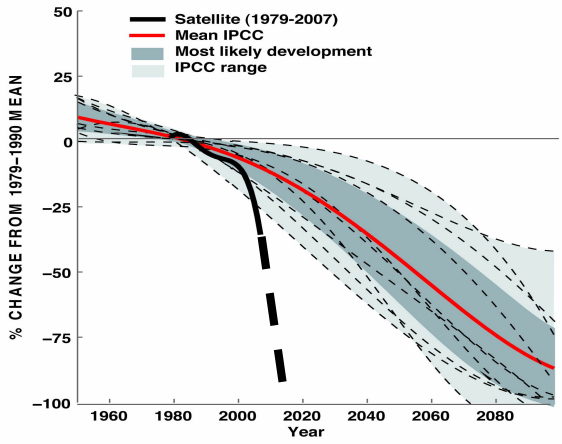
Australia's per capita emissions are the highest in the OECD and among the highest in the world. Emissions from the energy sector would be the main component of an expected quadrupling of emissions by 2100 without mitigation.

The high emissions intensity of energy use in Australia is mainly the result of our reliance on coal for electricity.[1]



The Review had been established with terms of reference which included targets of 450-550 parts per million of greenhouse gases (GHGs) in the atmosphere, drawn from the work of the IPCC. In his summary of the climate science (chapter 3) Garnaut made clear that he was using the IPCC estimate of climate 'sensitivity': an estimated temperature rise of three degrees Celsius for a doubling of GHGs to 560 parts per million

During the time that the Review was conducted, there was a rapid change in the consensus view amongst scientists about the severity of the impacts of emissions on the climate including the sensitivity of the climate system to increases in the concentration of GHGs in the atmosphere. The authors of a submission to the Garnaut Review, David Spratt and Philip Sutton, became so alarmed by their review of the recent climate science that they were moved to write a book outlining the case that we face a climate emergency.[2]



Arctic sea ice loss compared to IPCC models

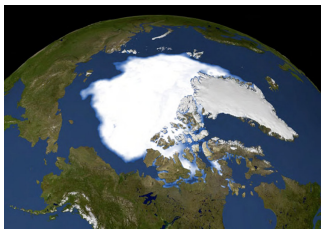
Arctic ice extent loss to September 2007 compared to IPCC modelled changes using the SRES A2 CO2 scenario (IPCC high CO2 scenario). September loss data from satellite observations. Data smoothed with a 4th order polynomial to smooth out the year-to-year variability. Chart courtesy Dr Asgeir Sorteberg, Bjeknes Centre for Climate Research and University Center at Svalbard, Norway. Date: 23 September 2007 www.carbonequity.info/images/seaice07.jpg

Note: Dashed line added to indicate recent predictions

This concern was based in part on the rapidly deteriorating state of the Arctic summer sea ice, which was observed to be melting 100 years ahead of the IPCC worst case scenarios. This was a clear indication that the computer models used by the IPCC had dramatically underestimated, not only the growth in emissions, but also the sensitivity of the earth's climate to changes in GHG levels. Recent estimates suggest that the Arctic summer sea ice may be gone as soon as 2013 rather than lasting well into next century according to the mean IPCC model.

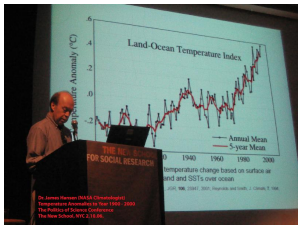
[1] http://www.garnautreview.org.au/chp7.htm The Garnaut Climate Change Review commissioned by all of the governments of Australia's Federation

[2] David Spratt and Phillip Sutton, *Climate Code Red* (Scribe Publications, 2008)



The IPCC models had not considered 'slow' feedbacks, including the feedback loop created by the replacement of large highly reflective ice surfaces with dark heat absorbing open ocean.

While the Garnaut Review was underway, a paper was written by respected climate scientist, NASA Goddard Institute for Space Studies' Director, Dr James Hansen, demonstrating that when 'slow' feedbacks (such as the changes in reflectivity of Earth's surface as the polar ice melts) are considered it becomes clear that a doubling of the level of GHGs in the atmosphere compared with pre-historic times (to 560 ppm) would lead to **a temperature rise of six degrees Celsius** - double the three degrees estimate used by the IPCC and by Professor Garnaut (see page 38 of the final report). The IPCC figure used by Garnaut, had been based only on consideration of 'fast' feedbacks. Thus the economic modeling that was based on the IPCC estimates of climate sensitivity has massively under-estimated the risks and the impacts of climate change.



In 2008, while the Garnaut Review was still under way, James Hansen, abandoning the reticence typical of scientists, made an impassioned plea for urgent action to reduce atmospheric levels of carbon dioxide to around 300-350 ppm – to a level below the current 387ppm. He wrote directly to newly elected Prime Minister Rudd and a number of other world leaders outlining the need to reduce GHG emission to zero as fast as possible and then draw down the excess GHG from the atmosphere in order to re-establish the summer Arctic ice and thus restore the Earth to a safe climate zone. He described the task as: *Herculean, yet feasible when compared with the efforts that went into World War II.* [3]

He warned that:

> *Earth's history suggests that positive feedbacks, especially surface albedo changes, can spur rapid global warmings, including sea level rise as fast as several meters per century. Thus if humans push the climate system sufficiently far into disequilibrium, positive climate feedbacks may set in motion dramatic climate change and climate impacts that cannot be controlled. …*
>
> ***[D]ecision-makers do not appreciate the gravity of the situation. We must begin to move now toward the era beyond fossil fuels. Continued growth of greenhouse gas emissions, for just another decade, practically eliminates the possibility of near-term return of atmospheric composition beneath the tipping level for catastrophic effects****… **The stakes, for all life on the planet, surpass those of any previous crisis**. The greatest danger is continued ignorance and denial, which could make tragic consequences unavoidable*[4].

Recently 2,500 delegates from nearly 80 countries met at the International Scientific Congress on Climate Change, in order to collate the recent science, for communication to decision makers, at the Climate Change Conference, in December 2009. The preliminary messages from the findings were delivered by the Congress' Scientific Writing Team and included the following:

- *… **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**.*

- *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 2 degrees C will be very difficult for contemporary societies to cope with**, and will increase the level of climate disruption through the rest of the century.*

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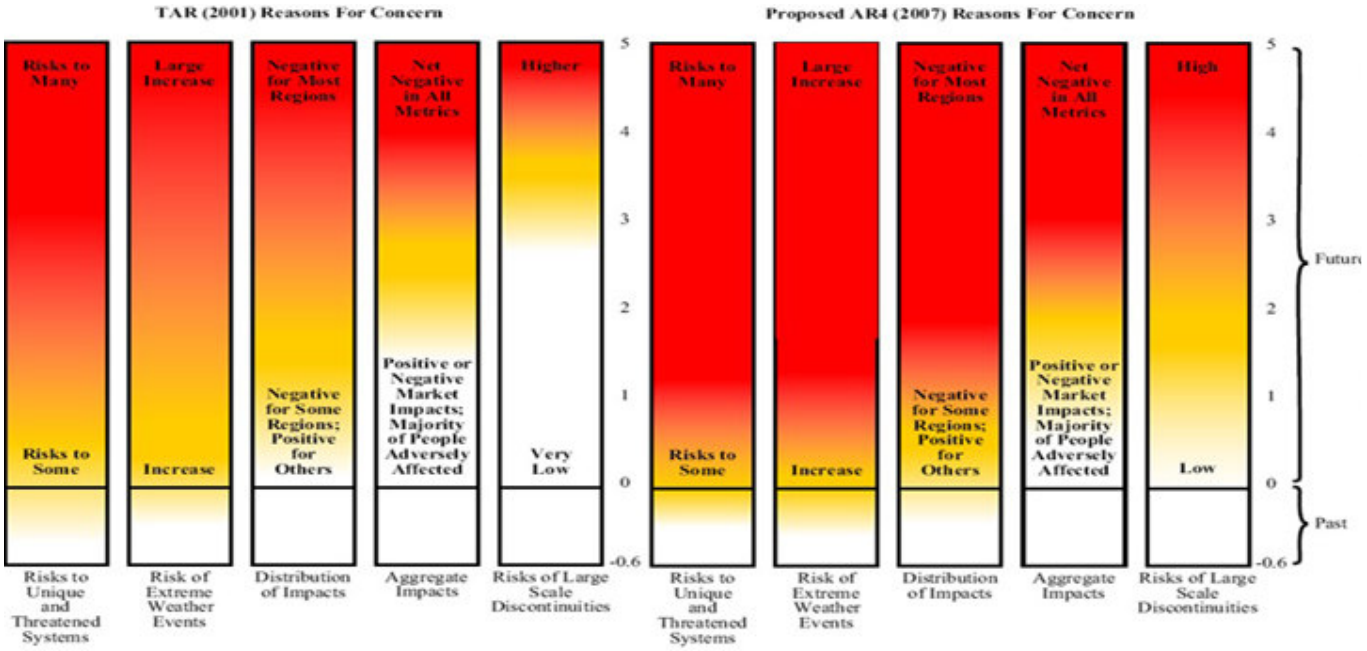
[3] *Target atmospheric CO2: Where should humanity aim?* http://arxiv.org/ftp/arxiv/papers/0804/0804.1126.pdf (accessed 9/09/08)

[4] Ibid

- ***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 [[5]].*

Professor John Schellnhuber from Germany's Potsdam Institute offered the Congress the same science update he had delivered to German chancellor Angela Merkel several weeks earlier. Schellnhuber also included some new data on the estimated maximum population capacity of the Earth under various global warming scenarios which he had not given the chancellor as they were likely "too strong for her nerves". Video of Congress presentations can be found at http://ms.arkena.com/show/?k=123685485629884d723af656d84c5da753946af506e70d1135

In the four years since the data for the 2007 IPCC fourth assessment report had been collated, estimates of the risks presented by even 2°C warming had become more disturbing, he said. He presented the so-called 'burning embers' diagram prepared by the IPCC in 2001, which had been updated by the authors to show significant revisions to their estimates of the risks associated with various increases in temperature. Smaller increases in global average temperature were now estimated to lead to significant or substantial consequences. Of particular concern is the revised risk for 'large-scale discontinuities' (e.g., rapid sea-level rise, ocean acidification, and strong amplifiers of warming) – that is the risk of run-away, irreversible climate change. **The predicted effects of six degrees of global warming, thought to be associated with atmospheric concentrations of 560ppm are off the chart! It makes no sense to continue talking about a target of 550ppm that will lock in climate catastrophe.**



Source: *Assessing dangerous climate change through an update of the Intergovernmental Panel on Climate Change (IPCC) ''reasons for concern''* **Joel B. Smith, Stephen H. Schneider, Michael Oppenheimer,et al** (February 2009)

[5] **Source:** http://climatecongress.ku.dk/newsroom/congress_key_messages/

Schellnhuber described even the much more ambitious two degree warming target as "a fairly foul compromise", with very significant costs and major risks.

He said that massive worldwide emissions reductions must be made in order to have even a "Russian roulette" (five in six) chance of limiting warming to two degrees above pre-industrial levels. Limiting warming to two degrees would require emissions to be cut 80% below 1990 levels by 2050 and "negative emissions" (storage in vegetation and other carbon sinks exceeding carbon emissions) after 2070. **And this would still not restore a safe climate – merely achieve the fairly foul compromise of two degrees**.

In order to have a chance of achieving the required reductions in atmospheric GHGs, it would be necessary to slash the land area devoted to agriculture and to massively boost the amount of land protected to absorb carbon or prevent biodiversity loss. Nations would also have to consider "earmarking the world's most fertile lands as global agricultural commons".

In a message he described as "too strong for the nerves of politicians" he described the "miserable alternative" of warming above five degrees (or above) associated with a 550ppm target and presented new data showing that run away climate change associated with such an increase would **make it untenable for the planet to sustain an anticipated population of nine billion. Given that five degrees warming would trigger such tipping points as the decimation of glaciers feeding major Asian rivers, the disruption of monsoonal cycles, the collapse of the Amazonian rainforest and the melting of the Greenland icesheet, such a world would likely have a carrying capacity of below one billion people.**

This message must reach politicians whether they like it or not. And they must act!

The final report of the Congress will be circulated in June, but there is no need to wait until June to replace the draft CPRS legislation with a plan for the transformation of Australia to post-carbon era.

CPRS FAILS TO ADDRESS CLIMATE EMERGENCY

The CPRS aims for a slow and small reduction in emissions, and very limited transition to non-polluting energy sources, apparently in the hope that the possible eventual development of clean coal might allow Australia to continue without a major restructuring of the economy.

However, scientists are desperately trying to communicate to world leaders that we are out of time!

The CPRS must be rejected, or completely re-written to take account of the need to de-carbonise the Australian economy at emergency speed and the need to stabilise atmospheric concentrations of carbon dioxide at 300ppm.

Garnaut concluded that to aim for stabilisation at 450ppm was overly ambitious as it would require developed nations including Britain, the US and Australia, to slash carbon dioxide emissions by 5% each year over the next decade – a 50% reduction in 10years. (Britain's Climate Change Act 2008, the most ambitious legislation of its kind in the world, calls for reductions of about 3% each year to 2050.) In order to return the planet to the safe climate zone – around 300 ppm we will need to move to zero emissions as fast as is humanly possible – in around ten years.

The Rudd Government entered its term in November 2007 with an overwhelming mandate from the Australian people to take swift, effective action on climate change. However, it appears that the government is ignoring the major risks of catastrophic and irreversible climate change in favour of placating a highly influential, self-serving cable of multinational corporations which is adept at distorting democratic processes in its sole pursuit of profits. As the world's economy shifts towards low carbon alternatives, Australia's increasing emissions liability as a direct result of hosting these dirty industries will become an even greater burden on our climate, economy and international standing – and our consciences.

An essential part of targets that actually address the climate emergency will be the rapid phasing out of the use of coal. We cannot afford to wait for further research and development of Carbon Capture and Storage –a technology that is unlikely to make a meaningful contribution to a zero emissions economy. Coal is the new asbestos. Whether or not other countries continue to mine it, we must stop. As the world moves to a low carbon economy, the market for Australia's coal will dry up and further investment in it is thus foolish in the extreme.

Far from leading the world or 'getting too far out in front', Australia, after ten years in the thrall of climate change deniers and fossil fuel lobbyists, is now being left so far behind that we will have to pull out all stops to catch up. .

James Hansen wrote in his letter to the prime Minister:

> *The only practical way to keep climate change within tolerable limits is to* ***cut off coal emissions*** *and to have a price on carbon emissions that discourages unconventional fossil fuel (UFF) use [shale oil etc.]… A carbon cap is useful, but insufficient.* ***The danger of carbon caps and percent reduction goals is that they allow self-deception, a pretence that the climate problem is being solved. Unless they are accompanied by phase-out of coal emissions, they have practically no impact on climate change.*** [6]

In its current form the CPRS will undermine Australia's ability to effectively and swiftly reduce its own emissions growth and make a meaningful contribution to an effective global response. The CPRS has many flaws:

- The unconditional greenhouse target of 5% emission reductions by 2020 is far lower than the 25% to 40% target range flagged at the United Nations Bali Convention on climate change in 2008.
- It encourages the growth of highly polluting Energy Intensive Trade Exposed (EITE) industries' (such as aluminium smelters) by allocating them 25% of permits free of charge, increasing to 45% by 2020. This is in direct conflict with the recommendations in the final Garnaut report.
- Free permits are given to coal power over the first 5 years. This provides windfall profits to polluters and encourages dirty coal power to continue in the short term.
- Permits are property rights instead of temporary licences. This means that polluters who get them will be paid compensation in the future if more stringent emission reductions are introduced.
- There is no limit on overseas offsets, so Australia's emissions could increase and emission permits bought from overseas to "offset" them.
- The cap on the CO2 price of around $40/tonne for the first 5 years excludes renewable energy in the absence of other incentives.
- The high "cap" is also a "floor" so emission reductions by households will be simply on sold by power stations to other polluters, resulting in no actual emission reductions.

The combined effect of these flaws is that Australia's actual carbon emissions will rise by 2020 rather than fall. The CPRS legislation will fail to have the slightest effect in mitigating climate change.

However, the most fundamental flaw of the CPRS is its complete lack of appropriate targets and measures to address the climate emergency revealed by the latest climate science.

The changes that are needed will require a level of commitment of Gross Domestic Product (GPD) similar to that seen during the Second World War - possibly around one third of GDP. Courageous and visionary leadership is required to communicate to the Australian public the extent of the problem and the need for shared commitment to solving it.

The draft CPRS, with its low targets, slow start up and massive transfer of wealth to the fossil fuel industry is a manifestation of the power of entrenched interests, and has no part to play in responding to the climate emergency. To begin to make the transition to a zero emissions economy we must undertake the following measures immediately:

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[6] *James Hansen* *http://www.columbia.edu/~jeh1/mailings/20080804_TripReport.pdf* *accessed 05.08.2008*

1) Factor into our economy the environmental cost – the true GHG emission toll - of every type of business transaction.
2) Phase out all subsidies for fossil fuel based energy and correct the market failures which have fuelled a wasteful, exploitative and unsustainable economy Currently in Australia total energy and transport subsidies are between $9.3 billion and $10.1 billion per annum. Of these, $9.0 billion to $9.8 billion support fossil fuel production and consumption, while only $317 million to $334 million support renewable energy or energy efficiency. In other words, the support for renewable energy and energy efficiency is a woeful 3.1 to 3.6 per cent of the total level of identified subsidies.
3) Legislate for a national Feed-in Tariff (FIT) mandated at 60¢ per kWh, offered for 15 years, paid on the entire output of a system via gross production metering, paid on all renewable energy systems up to 10kW (and at 48c/kWh for systems from 10-kW-100kW) and paid to anyone who installs renewable energy – households, businesses and community buildings.
4) Introduce a simple, fair and transparent carbon pricing mechanism, free of loopholes and distortions, to ensure that ALL GHG emitters pay a high price for their impact on our environment. Heavy emitting industries have enjoyed a free ride for a very long time. Since GHG pollution has been on the agenda for decades, any industry which has failed to prepare for this cost of doing business should not be in business and certainly should not be supported with tax payer money.
5) Use proceeds from the CPRS to support a just transition away from polluting practices and to support energy efficiency and renewable energy projects and infrastructure for its distribution. Rather than compensating energy intense industries for continuing to pollute, support should be in a form which will directly assist companies to achieve greater energy efficiency and switch to renewable, zero emission energy options.
6) Replace our current wasteful energy system with one that provides incentives to conserve energy and reward energy efficiency.
7) Redirect investment away from road transportation and towards public transport and rail freight.
8) Halt all native forest logging because our forests are our most valuable carbon sinks, water catchments and wildlife habitats.
9) Recognise the massive impact of methane and carbon from the livestock industry on our GHG emission toll and commence a rapid scaling down of the breeding and trading of ruminant animals in Australia; the quickest, most efficient means of reducing Australia's GHG emissions now.

The CPRS must go back to the drawing board to be reviewed in the light of the post-IPCC climate science which indicates we have only a very short time in which to act in order to avert catastrophic outcomes.

As Professor Garnaut said:

If we fail, … the failure of our generation will haunt humanity until the end of time.

This Climate Emergency Network submission has been prepared by concerned private citizens. We have undertaken the daunting task of researching climate change and compiling our findings and concerns in detail in this and other submissions because, in our view, this is the most critical issue of our time and this process is our only avenue for reaching our Government and being heard. In other words, we have no vested interests, nobody pays or compensates us and there is nothing covert about our access to our democratically elected representatives.

Thank you for your attention to this submission. We would welcome the opportunity to discuss any part of this submission with you.

Yours faithfully

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The **Climate Emergency Network** is a coalition of 59 climate action groups working together to raise awareness of the climate emergency and the need for rapid transition to post-carbon society.