

Philip S. Clark BSc BEcon Grad Dip Erg

13 April 2009

The Secretary
Senate Select Committee on Climate Policy
PO Box 6100
Parliament House
CANBERRA ACT 2600

CLIMATE CHANGE

The Select Committee on Climate Policy has been asked to inquire into policies relating to climate change, with particular reference to:

- a) the choice of emissions trading as the central policy to reduce Australia's carbon pollution, taking into account the need to:
 - (i) reduce carbon pollution at the lowest economic cost,
 - (ii) put in place long-term incentives for investment in clean energy and low-emission technology, and
 - (iii) contribute to a global solution to climate change;
- b) the relative contributions to overall emission reduction targets from complementary measures such as renewable energy feed-in laws, energy efficiency and the protection or development of terrestrial carbon stores such as native forests and soils;
- c) whether the Government's Carbon Pollution Reduction Scheme (CPRS) is environmentally effective, in particular with regard to the adequacy or otherwise of the Government's 2020 and 2050 greenhouse gas emission reduction targets in avoiding dangerous climate change;
- d) an appropriate mechanism for determining what a fair and equitable contribution to the global emission reduction effort would be;
- e) whether the design of the proposed scheme will send appropriate investment signals for green collar jobs, research and development, and the manufacturing and service industries, taking into account permit allocation, leakage, compensation mechanisms and additionality issues; and
- f) any related matter.

For the record, this submission is not concerned with evidence of climate change, because climate has changed in the past and will continue to change in the future. Two specific questions are addressed in this submission:

- Can contemporary technology reliably predict future climate for periods of up to a hundred years?
- Can legislation change climate?

THE NEED

The rationale underlying the Senate Select Committee on Climate Policy's present inquiry is Government acceptance of the Intergovernmental Panel on Climate Change (IPCC) 2007 *Fourth Assessment Report* conclusion that particular human-sourced emissions to atmosphere - most notably carbon dioxide - are increasing and that those increased emissions pose an unacceptable threat of dangerous global climate change with a range of adverse consequences for Australia. The IPCC conclusions follow the UN *Framework Convention on Climate Change* definition that "Climate change' means a change of climate which is *attributed directly or indirectly* to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods." (*my emphasis*) While the UN definition does not specify that human activity must necessarily be the most significant factor influencing climate variability, subsequent IPCC reports appear to assume this as a dogma.

The IPCC mandate is to report ‘scientific, technical and socio-economic information relevant for the understanding of *human induced* climate change, *potential impacts* of climate change and options for *mitigation* and *adaptation*.’ (my emphases) As the IPCC mandate explicitly predetermines the presumption that human activities - most notably emissions of carbon dioxide - have a significant cause-effect relationship with climate - most notably global temperature, the IPCC reports put particular focus on justifying that presumed relationship. The second focus of the IPCC reports is on adverse impacts potentially resulting from significant levels of global warming, with a third focus on means for mitigating the predicted adverse impacts of global warming.

CAN TECHNOLOGY RELIABLY PREDICT FUTURE CLIMATE?

JUSTIFICATION OF THE IPCC MANDATE

Quality control in science

Noting that ‘empirical tests of numerous different hypotheses have built up a massive body of Earth science knowledge’ and ‘testing them objectively ... is the key to science,’ the IPCC nominates some ‘attributes of science (for) assessing competing assertions about climate change’ including ‘can (it) be proven false?’ ‘has it been rigorously tested?’ and ‘did it appear in the peer-reviewed literature?’ ‘If the answer to any of these questions is no, then less credence should be given to the assertion until it is tested and independently verified.’ But academic ‘peer review’ quality assurance failed to identify that mid-1970s reports of a possible impending ‘Ice Age’ by reputable researchers published in peer-reviewed scientific journals would be proved false by history. The brief following warming period (1976 to 1998) that formed the basis for the IPCC climate change reports started from that cooler base period.

Cause-effect attribution

An indirect ‘attribution’ methodology was employed to justify the mandated ‘greenhouse gas-warming’ cause-effect relationship because IPCC could not provide any direct evidence of the asserted relationship. The indirect ‘attribution’ or ‘reverse onus of proof’ approach reported that their computer climate modelling was unable to explain their estimate of global temperature change during the period between 1976 to 1998 as due to any of the natural causes they considered, whereas it could if specific mathematical assumptions about greenhouse gases were included in their models. The computer climate models incorporating the greenhouse gas assumptions were then presumed to confirm the mandated cause-effect relationship and employed to predict a range of future climate scenarios, including apocalyptic forecasts. As the 1976-1998 base period was a relatively brief rapid warming period, the IPCC climate models are all ‘global warming’ models. This was perceived to be consistent with the reported progressive increase in carbon dioxide - predominantly from fossil fuel combustion - emissions into the atmosphere. But with global temperatures no longer warming since 1998 and even falling in 2008 despite further increases in global carbon dioxide emission rates, there are serious doubts about the credibility of the IPCC computer climate modelling of potential future climate scenarios. The lack of consistency between the IPCC climate predictions and demonstrated reality is of major significance when national governments are attempting to formulate effective policies to mitigate and adapt to the range of future climate scenarios predicted by the IPCC computer models from assumed future ‘greenhouse gas’ emissions.

DANGEROUS CLIMATE CHANGE

The second focus of the IPCC, Garnaut and following reports is almost exclusively on adverse impacts potentially resulting from significant levels of global warming. The IPCC reported its ‘robust finding’ that ‘unmitigated climate change would, in the long term, be *likely* to exceed the capacity of natural, managed and human systems to adapt’ while Garnaut asserted that ‘dangerous climate change’ poses substantial threats to Australia’s economy, particular national treasures and our way of life and that the ‘consequences ... would haunt humanity until the end of time.’

IPCC reported ‘increases in global average air and ocean temperatures, widespread melting of snow and ice, and rising global average sea level’ together with ‘temperature extremes and wind patterns’ to support their advocacy that ‘human influences’ were posing adverse effects. While IPCC reported

that ‘anthropogenic forcing, resulting in thermal expansion from ocean warming and glacier mass loss, has *very likely* contributed to sea level rise during the latter half of the 20th century,’ there are no independent reports of unusual sea level rise before, during or since that period. It is understood that the very slow rise in average global sea level recognised since historic times continued throughout the period. Advocates’ claims of rescuing the world from rising sea levels sound more like the Canute of legend than demonstrable science.

Is it all doom and gloom ?

The IPCC, Garnaut and following reports predominant focus on potential adverse impacts almost totally ignored prospective beneficial impact outcomes associated with a warmer global climate, limiting consideration of beneficial impacts to comparisons of alternative mitigation scenarios. The demonstrated wide range of human adaptability is also ignored.

Selective referencing of potential impacts favourable to the IPCC advocacy while omitting potential positive impact outcomes is a serious diligence deficiency, particularly when IPCC and Garnaut refer to global climate ‘energy balance’ effects without reporting scientific, social or economic ‘consequence balance’ impacts. It is noteworthy that the IPCC-focus ‘warming’ period of 1976 to 1998 was associated with the highest rate of economic growth across most of the world, contrary to the Garnaut report assumption of declining world GDP associated with global warming. Australia recorded major economic growth during the 1990-2000 decade, said to be the hottest period on record.

Caveat emptor

Headline-grabbing, apocalyptic claims continue to be employed to market the ‘save the world from climate change catastrophe’ campaigns initiated by Al Gore to publicise his book and film. Recent similar ‘scare’ campaigns about infant inoculation have posed adverse consequences for an increasing number of families in Australia, while scare campaigns against water fluoridation have had adverse dental health consequences. As Lord Lawson has noted *‘The new religion of global warming is a great story, and a phenomenal best seller. It contains a grain of truth and a mountain of nonsense. And that nonsense could be very damaging indeed. We appear to have entered a new age of unreason, which threatens to be as economically harmful as it is profoundly disquieting. It is from this, above all, that we really do need to save the planet.’* The ‘*caveat emptor*’ maxim poses the need for ‘second opinions’ before implementing the major social and economic surgery proposed for Australia, particularly when it is supported by ‘apocalyptic’ scare campaigns rather than evidence-based science.

IS CARBON DIOXIDE INCREASING ?

Greenhouse gases

Reported ‘greenhouse gases’ of significance in the atmosphere are water vapour, carbon dioxide, methane, nitrous oxide, ozone, some halocarbon compounds and sulphur hexafluoride. The climate impact of the human-sourced greenhouse gases in the atmosphere, such as methane, nitrous oxide and halocarbons, is essentially similar in kind to carbon dioxide but of less potential temperature change significance due to their small concentrations. Their potentially greater temperature effects are incorporated into the mathematical climate change models - and the proposed CPRS - as ‘carbon dioxide equivalents.’ The principal ‘greenhouse gas’ in the earth’s atmosphere is water vapour at up to 1.7% by volume, with carbon dioxide coming a very small second at 0.038%. The analysis of the climate impact of atmospheric carbon dioxide includes the impact of these other ‘anthropogenic’ gases.

Where does carbon dioxide fit ?

With the IPCC reporting a ‘daunting picture of increasing greenhouse gas abundances in the atmosphere,’ there is a perceived need to put carbon dioxide (CO₂) emissions into proportion. Accepting the estimates reported in IPCC’s Figure 7.3 (*see* attachment IPCC_heatCO₂bal.doc), total global CO₂ in the present atmosphere is 762 billion tons (GtC). The major CO₂ emission source category estimates were ‘between land and atmosphere’ 120 billion tons per year (GtC/yr) and ‘between ocean and atmosphere’ 90 GtC/yr. ‘Human-caused’ emissions - principally fossil fuel

burning - were estimated at 7 GtC/yr, 60 percent of which remained in the atmosphere adding 1.9 parts per million (ppm) each year to the present 378 ppm (0.038%) CO₂.

Other minor sources include volcanic discharges, vegetation burning due to wildfires, land clearing, and vegetation and crop management as well as gas dissolution interchange with the oceans which cover 70 percent of the earth's surface. Vegetation and sea water dissolution are the major 'sinks' for atmospheric carbon dioxide, with vegetation estimated to absorb about half of the human activities-sourced carbon dioxide. It is relevant to note that carbon dioxide gas dissolution in the oceans is temperature dependent - increased sea temperatures release carbon dioxide while lower temperatures dissolve and absorb more carbon dioxide.

The recent (2001 to 2008) period of stable and cooling global temperatures was reported by the IPCC to have 'the highest average (CO₂) growth rate recorded for any decade since direct atmospheric CO₂ measurements began in the 1950s.'

DOES THE SCIENCE SUPPORT THE NEED ?

Global warming and global cooling periods are confirmed by the geological and historical records. Many theories have been developed in attempts to explain why they occurred, but that is all they are and can be - theories.

Contemporary life activities, business and agriculture tend to be significantly affected by weather conditions, with the result that weather forecasting has become an important modern scientific activity. Seven day advance weather forecasts are nowadays the norm in Australia, with a number of forecasting businesses making longer range predictions up to months ahead, but with diminishing outcome probability.

Climate modelling

Climate scientists have attempted to identify the factors underlying particular climatic episodes and their potential significance by using powerful computing resources. The resultant mathematical models involve assumptions about the variable factors and their relative significance. The accuracy of the models is tested against reported climate outcomes and models which fail the reality check are modified to improve their correlation with known realities. Climate models considered to have accurately represented past climatic conditions have been employed to model future climate. It is however important to recognise that acceptable modelling correlation with past events does not guarantee correlation with future climate outcomes. The '*deus ex machina*' limitation must always be kept in mind to avoid the 'if that's what the computer is telling us, then it must be true' syndrome of overlooking the human assumptions built into the software.

What does IPCC say ?

In this context, it is appropriate to examine the modelling and assumptions underlying the conclusions of the Intergovernmental Panel on Climate Change (IPCC) 2007 *Fourth Assessment Report*, which form the basis for the proposed Australian Carbon Pollution Reduction Scheme. The key IPCC cause-effect conclusion is very clear - that "most of the observed increase in global average temperatures since the mid-20th century is *very likely* due to the observed increase in anthropogenic greenhouse gas concentrations" with 'very likely' defined as 'greater than 90 percent probability having occurred.' The bases for the IPCC conclusion are (briefly) that:

- there was an apparent correlation during that limited period between their estimate of increased global atmospheric carbon dioxide concentration and their estimate of increased global temperature,
- their mathematical climate simulation modelling could only develop an acceptable similar correlation during that period by including estimated factors for global anthropogenic greenhouse gas concentrations,
- the climate modellers were unable to explain the correlation by any of the physically-plausible alternatives they considered, and

- the conclusions that ‘most of the observed increase’ and ‘greater than 90 percent probability’ were unvalidated estimates developed from climate modellers’ personal opinions rather than evidence-based science.

Acceptance of major international political and economic policy recommendations based on ‘consensus’ opinions of a strictly limited subset of scientists and bureaucrats with significant career and funding interests in their contributions proving successful, is not perceived to be prudent. The IPCC conclusions, ‘projections’ and ‘scenarios’ assumed ‘that models with higher skill scores are likely to give more reliable projections of future climate,’ in contrast to their acknowledgment ‘that uncertainties are often under-estimated by experts.’

Nevertheless, IPCC reported ‘considerable confidence that (their computer models) provide credible quantitative estimates of future climate change’ with higher confidence for temperature estimates, as ‘climate models are being subjected to more comprehensive tests, including ... evaluations of forecasts on time scales from days to a year,’ which ‘increases confidence in the fidelity with which models represent processes that affect climate projections.’ However, no rationale was provided to support the presumption that short-term evaluation provides confidence for future climate predictions beyond one year and up to 100 years or such cataclysmic predictions as sea level rises of 7 metres due to melting of the Greenland Ice Sheet over future millennia.

Future climate predictions

The IPCC climate models used to predict - euphemistically relabelled as ‘projections’ - future climate and climate consequence ‘scenarios’ decades ahead were developed from climate models derived from the limited ‘warming’ period between 1976 and 1998 which was presumed to form a suitable base for comparison - presumably because it was consistent with the IPCC mandate. During that relatively brief period, average global temperatures were estimated to be rising at a rate which had not been experienced during the periods immediately before or after that period. The 30 year period beforehand experienced the already-noted cooling trend while since 1998 global temperature estimates have not risen and even fell during 2008, despite increasing carbon dioxide emissions - and the continuing drought and apparent warming here in Australia.

How reliable are the predictions ?

It is significant to report that the IPCC climate modelling ‘projections’ have failed to predict global average temperatures for any year since 1998 with the stable and cooling global climate. Garnaut claimed that this was merely an ‘assertion’ by ‘dissenters,’ quoting an ANU report that ‘there is no significant evidence for a break in trend in the late 1990s.’ As the trend change was not obvious until 2001, their response does not address the question. It is also relevant to note that the land-based temperature monitoring stations preferred by IPCC to estimate global average temperatures yield different average temperature estimates to satellite sensors with more comprehensive global coverage.

What went wrong ?

The failure of the climate modelling ‘projections’ to correlate with actual global temperature estimates since the models were constructed is probably mainly due to the inherent weakness of all mathematical models that rely on calculating small differences between large numbers. The climate models involve assumed absorptions and ‘feedbacks’ of direct and ‘reflected’ solar radiation between the earth’s surface, clouds, ‘greenhouse gases’ in the atmosphere and other variables with the final ‘average global temperature’ estimate calculated as ‘the bit left over after all the other estimated numbers have been added and subtracted’ to put the model in simple words.

How the climate model works

Accepting for the moment the information reported in IPCC’s FAQ 1.1 Figure 1 (*see* attachment IPCC_heatCO2bal.doc) - solar radiation to the earth is estimated at **342** watts per square metre (hereafter called ‘units’ for simplicity) with 107 units reflected back to space and 67 units absorbed by the atmosphere, leaving a net **168** units reaching the earth’s surface. The 342 units is the estimated average for the whole surface of a daily rotating globe that is 70% ocean while the 107 is a

combination of estimates, each of which incorporates assumptions about such things as average cloud cover and surface reflectivity. The climate models then assume that **390** units are re-radiated from the earth's surface together with a further **102** units from evapo-transpiration and thermal effects, leaving **324** incoming units unexplained. The 324 units are assumed to have been absorbed by 'greenhouse gases' in the atmosphere from the outgoing 390 and subsequently re-radiated back to the earth's surface. If one or more of these calculation estimates is different from the assumed number or if the theory underlying the calculation process is imperfect, the computed surface temperature will not accord with reality. For example, an alternative theory, arguably more consistent with reality than the IPCC methodology, proposes that the radiative loss of heat from the earth's surface may be limited by cloud cover 'hiding' the 'cold' space beyond - rather than necessarily involving the massive differential energy transfers involved by the IPCC climate prediction 'radiative forcing' models with their large associated error probabilities.

Certain uncertainties

The IPCC climate prediction 'radiative forcing' methodology necessarily involves two assumptions which are simply and easily tested. The first is that the 390 units re-radiated back from the earth to the atmosphere will result in substantial heating of the atmosphere. The second assumption follows from the first - that absorption of the re-radiated heat must increase atmospheric temperatures to the extremely high levels required to support the inverse radiation from the heated atmosphere back to the earth. These 'mainstream science' assumptions have been repeatedly tested over the years and found to be false. If they *were* true, aircraft wouldn't need de-icing - they would need cooling! Further, if the atmosphere were to become heated as hypothesised by the IPCC 'science,' the temperature differential posed by cold space would ensure that the great majority of the heat would radiate outward, rather than back to the relatively warm earth surface.

While the IPCC reports that 'an important source of uncertainty arises from the incomplete knowledge of some external factors, such as human-sourced aerosols,' the implicit presumption is that the IPCC models cannot err. Unfortunately, the failure of the IPCC climate modelling to predict current global climate together with the fundamental scientific errors in their modelling assumptions confirm that the currently-available IPCCs models and consequent predictions are not scientifically valid and of little if any use for predicting present or any future climate scenarios. Despite the IPCC Chairman's assertion that 'science has given us precise answers and robust conclusions' it would be unwise to base any legislative proposal on such a fragile foundation.

WHAT ELSE SHOULD WE KNOW ?

Alternative cause-effect relationships

While the IPCC mandate presumes that human activities must have been the cause, there is a range of plausible alternative explanations for the rapid warming reported during the 1976-1998 period include progressive affluence-related expansion of fossil fuel heating and energy use, particularly in First World countries where the majority of the global temperature measurements used by the IPCC modellers are located. Another is the well-demonstrated 'urban heat island' effect, where reported temperatures are biased upward by urban area thermal effects, due to bitumen paving, building heating and air conditioning and reduced air mixing biasing reported temperatures. The IPCC report that this effect is addressed by 'adjustment' or assumed to be 'either minor or nonexistent' with the waiver that 'urban heat island effects are real but local, and have a negligible influence' is inadequate. A third well-researched alternative is the impact of solar radiation variations due to sunspots and other solar perturbations. As our sun is the earth's majority heat source with a minor heat flow contribution from the earth's molten core and radioactive isotope decay of minerals in the earth's mantle, solar radiation variations have a significant impact on global climate. The word 'climate' even comes from the Greek '*klima*,' referring to the inclination of the sun.

The IPCC conclusion that 'temperature increases since about 1970 cannot be explained *solely* by natural causes such as solar activity' (*my emphasis*) begs the question about IPCC's scientific rigour. A further alternative is the probably El Niño-related 'Great Pacific Climate Shift' of 1976-7 when Australian temperature jumped by 0.5°C associated with significant changes in Pacific Ocean sea

temperatures. Similar abrupt changes elsewhere reported as ‘Dansgaard-Oeschger’ events and the ‘Pacific Decadal Oscillation’ were disregarded by the IPCC as unexplained ‘natural’ events. A fifth alternative which is the subject of scientific studies - and there are more - is the impact of cosmic radiation on earth’s cloudiness with downstream modification of global temperatures, which IPCC report as ‘largely unknown’ as ‘the level of scientific understanding is ... very low for cosmic ray influences.’

Solar radiation changes

There is also a number of potential alternative factors that might significantly affect global climate. The most obvious alternative is solar radiation variation. Based on estimates, IPCC reported low solar activity during the ‘Little Ice Age’ from about 1350 to about 1850 which culminated in such adverse events as the Irish Potato Famine. The coldest period during the ‘Little Ice Age’ was the ‘Maunder Minimum’ period between 1675 and 1715 when there were few if any sunspots affecting solar radiation. Estimates of the impact vary from 0.04% to 0.3% below present day levels, with IPCC reporting 0.08% with the comment that ‘solar irradiance changes and volcanoes are both very small compared to the differences in radiative forcing estimated to have resulted from human activities.’ Their mandatory focus on potential ‘human-induced climate change’ has resulted in IPCC declaring that substantially all climate change since the ‘Little Ice Age’ must be due to the Industrial Revolution and its fossil fuel-powered growth.

Many observations since the invention of the telescope in 1607 have associated climate changes with sunspot occurrences, an association that is still relevant with no sunspots and global cooling in 2008. As previous earth-based solar radiation measurements were modified by unpredictable absorption while passing through the earth’s atmosphere, satellite monitors have been deployed to improve solar measurement quality. Solar radiation information from the new SOHO (1996), ACRIMSAT (1999) and SORCE (2003) satellites will improve our understanding of the role of the sun for global climate but require more years of monitoring to provide the necessary data in this emerging technology area. Noting that ‘there remain large uncertainties,’ IPCC confirmed that ‘more research to investigate the effects of solar behaviour on climate is needed before the magnitude of solar effects on climate can be stated with certainty.’

El Niño events

Although the IPCC reports solar radiation as the sole heat source for the earth’s atmosphere and surface, that is a significant over-simplification of reality - especially for the El Niño and La Niña episodes which pose major climate impacts for Australia. The IPCC reports these events as ‘naturally occurring’ and therefore presumably outside its mandated ambit. Although only a small percentage compared to total solar radiation, the large ‘hot spot’ area in the earth’s crust located in the eastern Pacific Ocean is perceived as a significant driver of Australian climate. IPCC reported that although ‘the El Niño-Southern Oscillation (ENSO) phenomenon ... originates in the Pacific but affects climate globally, and has raised concern since at least the 19th century ... it is not clear how ENSO changes with, and perhaps interacts with, a changing climate’ adding that ‘the ENSO plays a fundamental role in global climate ... and increased credibility in both regional and global climate projections will be gained once realistic ENSOs and their changes are simulated.’ In other words, there is much not yet known about the factors significantly influencing future climate.

The global impact of the 1997–98 El Niño event has been estimated to include 24,000 deaths, 533,000 people suffering illness, 6 million persons displaced, 111 million persons adversely affected and a direct loss of US\$34 billion, significant enough to warrant scientific scrutiny of potential causal factors and means for mitigation of adverse consequences rather than just labelling the events as ‘naturally-occurring’ with the presumption that there is nothing we can do about them. ‘El Niño-Southern Oscillation’ events are thought to be associated with naturally-occurring changes, such as heat flow variations from the earth’s molten core through areas of reduced earth mantle thickness, such as the Galapagos spreading center and the Chile Rise as well as the marginal basins of the western Pacific, which overlie active subduction zones.

What do people believe ?

Garnaut's opinion that 'on the balance of probabilities . . . the majority opinion of the Australian and international scientific communities that human activities resulted in substantial global warming from the mid-20th century, and that continued growth in greenhouse gas concentrations caused by human-induced emissions would generate high risks of dangerous climate change' follows acceptance of the IPCC conclusions that 'science has given us precise answers and robust conclusions.' Purporting to quote 'the majority opinion of the Australian ... scientific communities' is mere conjecture as Australian scientific community members have not been asked for their opinions on the topic. 'Mainstream science' assertions that 'there is no doubt about the position of most reputed specialists in climate science, in Australia and abroad' and 'the position of the leaders of the relevant science academies in all of the major countries' are trite stereotypes of the 'all thinking people agree that ...' genre favoured by marketing and religious lobbyists. It is fortunate that the validity of the popular 'conventional wisdoms' of the day continue to be questioned by 'dissenters,' few if any of whom are funded by climate change-related funding.

There have also been claims that 'Public opinion polls show that the overwhelming majority of Australians believe that global temperatures are rising and these increases are wholly or partly the result of human activity.' If 'public opinion' on the issue *was* actually polled as claimed and the poll was validly constructed, the quoted conclusion is evidence only that continuous government, media and lobby group marketing have had some impact, nothing more - particularly when the supposed polling queried ill-defined 'increases ... or *partly* the result of human activity.' Does 10 percent of the supposed temperature rise qualify as 'partly'? Or 1 percent, or 0.1 percent? Polls about 'global warming' during a prolonged period of drought affecting major areas of Australia associated with continuing media marketing can only be described as improper and unscientific 'leading the witness' exercises and cannot legitimately be employed to justify major political and economic policy changes.

Is human health at risk ?

Despite the negative impact predictions in recent climate change-related reports, the health and well-being of most if not quite all humans would improve with increased temperatures. Far more humans die due to cold conditions than due to hot conditions. The higher mortality and morbidity rates in hotter climates are caused by poverty, inadequate living standards, deficient food and water supplies, poor sanitation and lack of access to medical care - *not* by higher temperatures. Negative claims that cholera and mosquito-borne diseases would adversely affect greater numbers of people ignore the lessons of history - malaria and yellow fever were rife in Europe and North America until the last century before modern insecticides, anti-malarial drugs, improved sanitation and public health controls were adopted. Similar public health controls in Australia have eliminated deaths due to bubonic plague ('Black Death' epidemic in Sydney in 1900), polio and smallpox, among other diseases. The estimated \$50 billion spent world-wide on climate change-associated activities in recent years could have achieved significant global benefits if it had been diverted to water, public health and economic development projects in developing nations.

What about agriculture ?

Global agriculture would also benefit significantly with increased average temperatures *and* with increased atmospheric carbon dioxide levels, with plant growth across North America, Europe, Russia and China enhanced by longer growing seasons and improved agricultural productivity at higher carbon dioxide concentrations in the atmosphere.

IS CARBON (DIOXIDE) POLLUTION ?

Carbon dioxide, like oxygen and water vapour in the atmosphere, is one of the gases essential for human life on earth. We need oxygen to breathe, we need water vapour in the atmosphere to produce clouds that combine to shield us from freezing and provide rain to water our crops - and we need carbon dioxide to enable all our vegetation - and all the downstream foods - to grow. Carbon dioxide is definitely *not* pollution.

Like water vapour, carbon dioxide is a 'greenhouse' gas with a well-known impact on global average temperature. At the present 380 ppm CO₂, its global average temperature effect is roughly 3°C but

half of that 3°C results from the first 20 ppm CO₂. As carbon dioxide's 'greenhouse' absorption declines logarithmically, an increase to the proposed maximum level of 550 ppm would add only 0.2°C to global average temperature, well within human adaptability limits.

ENVIRONMENTAL EFFECTIVENESS

The proposed CPRS Act establishes a 'scheme to reduce pollution caused by emissions of carbon dioxide and other greenhouse gases.'

While this submission has focused on carbon dioxide, the conclusions cover all 'greenhouse' gases. While there are a number of reasons such as resource conservation to limit emissions of 'greenhouse' gases including carbon dioxide, the prospect of adverse climate change impacts is not among those reasons.

As Australian 'greenhouse gas' contribution is a minuscule and diminishing proportion of total global emissions, the environmental effectiveness of Australian reductions - even complete elimination - is basically zero, particularly when there is no valid scientific evidence to support the IPCC's 'human induced climate change' hypothesis.

In short, the proposed CPRS policy lacks scientific justification, is perceived to have resulted from deficient information and is unlikely to have any positive environmental effectiveness.

CAN LEGISLATION CHANGE CLIMATE?

Rationale for the Carbon Pollution Reduction Scheme

The nomination of climate change as the greatest social, economic and environmental challenge of our time and carbon's central role in climate change is based on four simple cause-effect assumptions:

- human activities will cause increased carbon dioxide levels in the earth's atmosphere,
 - increasing atmospheric carbon dioxide levels will cause significantly increased global temperatures
 - increased global temperatures will cause significant negative impacts,
 - increased global temperatures will not cause significant positive impacts,
- and* that all four assumptions have been confirmed by diligent scientific and economic evaluations.

Evaluation of the foregoing assumptions in this submission leads to the conclusion that the first dot point - increasing carbon dioxide - can be justified by evidence. While there may be negative impacts associated with increased temperatures, there are no valid reasons for predicting such increases. And the supposed diligent scientific and economic confirmation of the assumptions lacks credibility right back to the purported scientific basis of its 'global warming' hypothesis. The global climate record during the most recent ten years has highlighted the inappropriateness of accepting the mandated IPCC 'global warming' hypothesis.

The proposed climate change-related legislation lacks scientific justification and is perceived to have resulted from deficient information. Implementation of the presently proposed policies is unlikely to result in any positive climate, social, economical or environmental impacts.

EMISSION REDUCTION TARGETS

Economic restructuring

Reliance on fossil fuel combustion to power most of the global economic activities results in significant greenhouse gas (water vapour and carbon dioxide) emissions which are expected to rise with economic development worldwide. Deforestation and agriculture have also been identified as greenhouse gas emission sources. The key objective of the CPRS is to force progressive reductions in Australian emissions of greenhouse gases down toward Government-mandated year 2020 and year 2050 targets. The legislated mechanism for achieving the mandated targets is a progressively reducing emission cap-and-trade scheme. The Government anticipates that the CPRS will substantially restructure Australian economic infrastructure, economic activity, energy generation

and utilisation, and personal lifestyles at the mandated rates at minimal cost and without significant adverse impacts on overall national economic growth, emigration of manufactures and skill resources or provoking adverse responses from our international competitors. Whether all these changes can be encompassed in the envisaged time periods is questionable.

EMISSION REDUCTION OPTIONS

The tradeable permits option

This submission perceives that enacting and implementing the presently-proposed CPRS Act and related legislation would be unwise because of the major uncertainties associated with the basic science underlying the stated need, predicted impacts and proposed mitigation measures combined with the present global economic situation and probable adverse downstream impacts on Australia's population, export revenue and balance of trade. Taxes imposed on domestic production will foreseeably impact on their competitiveness.

If the Parliament determines that it will proceed with the present proposals, then the principle of tradeable permits is probably the least harmful in *theory*. It would remain to be seen whether the *practice* and the downstream social, human and economic revolution would be worth the effort involved.

Industrial energy efficiency

The Treasury report assumption of significant industrial energy efficiency improvement needs closer scrutiny. The key base electrical power load in several States is metal electrolysis - aluminium, copper and zinc - continuous industrial processes which operate at maximal energy efficiency levels. The commercial and domestic ventilation and air conditioning power load lies at the other end of the energy efficiency and power factor spectrum and is maximised during weekday daylight periods. While there will be scope for industrial energy efficiency improvement, the probability of achieving the Treasury estimate is not great. On the other hand and without regard to purported climate change-associated imperatives, there is a significant need to improve commercial and domestic energy efficiency and demand patterns, which is being addressed by the progressive adoption of 'smart power metering' in some jurisdictions.

Forestry and carbon sequestration

Garnaut predicted that 'forestry would grow ... by at least 166% (with) revenue .. increase by an extraordinary 875%' associated with a cut in Australian emissions by 25%. However, the report did not identify how these forests were to grow, to whom the forest products might be sold or how to dispose of the carbon in the non-marketable tree components, while also assuming no competitive actions by other forest product source countries. In this context, planned bushfire risk reduction burning would release something like 14 million tonnes CO₂ each year in Victoria alone.

Establishment of sequestration forests as a response to emission pricing was reported to provide 'relatively low-cost mitigation.' While that proposition might *sound* logical, it fails to recognise that suitable land for sequestration forests is limited, that forests 'turn over' their carbon over time with age, bushfires and bushfire reduction measures. In short, forestry is a one-time, relatively short-term carbon sequestration measure.

Alternative uncertainties

'Australia's Low Pollution Future: The Economics of Climate Change Mitigation' recommends that 'in the face of uncertainty, strong coordinated global action has an insurance benefit: it keeps open the option of pursuing lower stabilisation levels in the future. Weaker global action may prove more costly in the longer term.' The report fails to recognise the other side of the coin - that alternatives, such as the 'do nothing until the key uncertainties are resolved' option would keep open the option of identifying and pursuing more appropriate alternative actions in the future when the present 'market failure' - due to inadequate and misleading information - is resolved.

LOWEST ECONOMIC COST

'Cost-effectiveness' or 'Cost-benefit' ?

The Select Committee's reference nominates an 'at the lowest economic cost' requirement. That requirement is consistent with the IPCC approach of excluding consideration of potential beneficial impacts associated with climate change and its consequent nomination of 'cost effectiveness' as a main criterion for evaluating mitigation policies and instruments. Notwithstanding the IPCC stance, the significant beneficial impacts potentially associated with climate change upward *or* downward deserve prudent consideration and evaluation before implementation of policies based on inadequate and uncertain information. It is appropriate for the Select Committee to recognise and evaluate its proposals in 'cost-benefit' terms rather than the 'cost effectiveness' implied by its reference from the Senate.

Lowest human cost ?

The human and social costs of the proposed major economic 'climate change' restructuring do not appear to have received appropriate attention in the technical and economic 'climate change' reports to date. The direct and indirect human costs of the restructures associated with past and present recession periods are too easily glossed over in reports under the general heading of 'adaptation' without recognition of the range of adverse human impacts or individual ability to cope with changes outside their control. 'Adaptation' poses even greater human and social challenges when it necessitates relocation from skilled jobs in remote, rural or regional areas to urban areas with different skill demand markets, housing prices and lifestyles.

Administration costs

The proposed CPRS will necessarily involve a large but presumably unbudgeted bureaucracy to handle the administration of its commitments to 'use every cent it receives from the sale of pollution permits to help households and businesses adjust and move Australia to the low pollution economy of the future.' It is not clear whether this commitment is in addition to the planned expenditures under the \$2.45 billion Climate Change Action Fund as well as the costs of the Department of Climate Change, World Climate Research Program, Global Atmosphere Watch, the International Geosphere-Biosphere Program, the Global Climate Observing System, the Australian Climate Change Science Program, the Centre for Australian Weather and Climate Research and downstream CSIRO, Bureau of Meteorology, university and consulting firm studies.

LOW-EMISSION TECHNOLOGY INCENTIVES

Incentive effectiveness

The IPCC reported that 'policies that provide a real or implicit price of carbon *could* create incentives for producers and consumers to *significantly* invest in low-GHG products, technologies and processes' and 'an *effective* carbon-price signal *could* realise *significant* mitigation potential in all sectors. *Modelling studies show* that global carbon prices rising to US\$20-80/tCO₂-eq by 2030 are consistent with stabilisation at around 550ppm CO₂-eq by 2100.' (*my emphases*) The future impacts of incentive policies are always uncertain because they are filtered by human expectations, while modelling studies of incentive impacts can only ever be as reliable as the assumptions included in the models.

Assumptions

The IPCC, Garnaut and CPRS reports incorporate a number of global assumptions of optimal legislative and administrative arrangements ranging from 'simple and obvious' through to 'wishful thinking.' The presumptions include the '*ceteris paribus*' tool of economic theory, which assumes that desired changes can be made without any beneficial or adverse impacts on issues beyond the desired change target.

Global assumptions like the following examples which depict Utopian implementation and outcomes rather than real world likelihood do not engender the confidence displayed by their author - '*at some time, there will be breakthroughs that fundamentally lower the costs of producing goods and services, 'agriculture being difficult unless, as is possible, there are transformative developments in biosequestration, 'there is considerable technological upside. This could leave Australian energy*

costs *relatively low*, so that it remains a competitive location for metals processing,' 'the introductory impact of the Australian emissions trading scheme will not be inflationary *if permit revenue is used judiciously* to compensate households,' 'the costs of *well-designed* mitigation, substantial as they are, would not end economic growth in Australia,' '*ambitious* emissions reductions goals will have *limited* impacts on global and national economic growth *if they are achieved* using *broad-based, market-oriented* policies,' and 'with *efficient policy settings*, Australia and the world continue to prosper while making the emission cuts required.' (*my emphases*) These assumptions follow the IPCC's line of 'assuming that market efficiency is improved by policies and measures and barriers are removed (and) can only be achieved when adequate policies are in place and barriers removed' and that 'all stabilisation levels assessed can be achieved by deployment of a portfolio of technologies that are either currently available or expected to be commercialised in coming decades, assuming appropriate and effective incentives are in place for development, acquisition, deployment and diffusion of technologies and addressing related barriers.'

Wishful thinking

One 'wishful thinking' scenario predicted that 'one or more of these will be "backstop technologies" that become commercially viable at one or two or three or four hundred dollars per tonne of carbon dioxide equivalent ... (and) will take carbon dioxide from the air at some cost, without relevant limit, and so end the inexorable rise in the carbon price.' The future carbon price hypothesis was presumably copied from the IPCC modelling studies noted above. Another reported that 'Australia ... is well placed to provide the necessary financial services to support developing carbon markets in the Asia-Pacific region' on the presumption that Asia-Pacific region countries will adopt carbon pricing at some unspecified future time.

The majority of Australian carbon dioxide emissions result from energy production, particularly from coal burning. The 'low-emission technology' proposal for electricity generation to utilise carbon capture and storage (CC&S) begs the question on a number of issues. The most obvious are the major electrical energy requirements and capital and operating costs associated with separating carbon dioxide from hot exhaust flue gases and for compressing the gas into exhausted natural gas fields. These costs would be much higher for the Victorian brown coal-fired generators, as the nearly 70 percent water in raw brown coal requires to be evaporated in their boilers before the coal can be burned to generate electricity, resulting in much larger emissions of exhaust gases, carbon dioxide and water vapour per electricity unit generated, with corresponding increases in capital and operating costs for CC&S.

Human expectations drive reality

All the climate change economic modelling presented to date presumes a high level of human compliance with the modelled scenarios. Compliance is presumed as the only possible outcome resulting from CPRS legislation with enforcement together with government and lobby group marketing. A cursory glance at the history of most legislation - and of election voting patterns - gives a rather different impression of the range of responses generated by human expectations. Human expectations are arguably more sensitive to 'hip pocket' issues such as stability of employment prospects and income together with family and social group maintenance, all of which become 'at risk' issues under the scenarios associated with the proposed CPRS legislation. We are also told that 'this transformation will shift investment and employment between sectors,' which poses a wider range of options than depicted by the CPRS documentation. Human expectations play a vital role in determining future investment and employment actions by governments, businesses and individuals alike. While few individuals and small business operators would be likely to include moving offshore as an option for them, the evidence is that medium and particularly larger businesses would do so - not necessarily immediately, but over time. With a substantial proportion of investment capital in Australia being directly or indirectly sourced from overseas, the economic expansion depicted in the Treasury and CPRS documentation could also be an 'at risk' issue, with the necessary overseas-sourced investment funding being directed to more amenable prospects.

Energy production

Electrical energy generation emissions are expected to grow strongly with predicted population and GDP growth. With Australian GDP forecast to triple during the 2000-2100 century, Garnaut's prediction that 'coal-fired electricity generation would be cut by more than half as Australia shifted to cleaner energy forms' begs the question on replacement electrical energy sources. Natural gas-fired electrical energy is expensive, particularly on an opportunity cost basis, and generates significant carbon dioxide and nitrogen oxides emissions. Australian hydro-electric resources are fully occupied already, geothermal sources are unlikely to make a major contribution and the potential contributions from solar and wind energy production are only a small fraction of the requirement and are both highly variable over time, requiring continuous back-up (coal- or gas-fired) generation. As a result, the nuclear energy option adopted in other countries appears to be the only way to bridge the credibility gap implied by the CPRS-associated reports.

GREEN COLLAR JOBS

There has been a number of climate change-associated reports claiming, for example, 'that *with a strict domestic emissions-reduction target and a raft of other government incentives and regulations*, the (extra 500,000 jobs by 2030 in six "green" industries) jobs could be created ... *predicated on government incentives* for retrofitting housing to make it more energy efficient, *extra depreciation and tax benefits* for "green" industry, *preference for green products* in government purchasing, and specific "green" jobs training places in the Government's \$2 billion training package.' (*my emphases*)

The comprehensive restructure of the Australian economy required by the Government's proposals together with the preferential treatments demanded by the multitude of lobby group advocates and downstream supplicants including climate change-associated research funding lobbyists pose a number of unintended adverse consequences for Australian society, community cohesiveness and prosperity as well as for a great many individual Australians. Among other things, focus on the proposed climate change-based restructuring will inevitably - and already has - divert attention away from issues of arguably greater human significance, such as public health, the aging demography, urban spread and aid to developing nations. There is a need to evaluate the feasibility and prospective cost-benefit impacts of the downstream social, economic and human ramifications of the proposed climate change-associated restructuring before implementing the proposals..

APPROPRIATE INVESTMENT SIGNALS

How reliable is the advice ?

Diligent evaluation involves concepts familiar to all parliamentarians - pro-active awareness and objective consideration of the magnitude and probabilities of potential beneficial and adverse outcomes posed by acts and omissions together with consideration of available alternatives. In this context, the *Carbon Pollution Reduction Scheme White Paper* includes a Disclaimer in its front matter stating that 'While reasonable care has been taken in preparing this White Paper, the Commonwealth provides no warranties and makes no representations that the information contained in the White Paper is correct, complete or reliable. The Commonwealth expressly disclaims liability for any loss, however caused and whether due to negligence or otherwise, arising directly or indirectly from the use or reliance on information contained in the White Paper by any person' which poses questions about the credibility and relevance of its content and recommendations.

Full compliance ?

The CPRS confidently presumes that 'firms will ... take the cost of carbon pollution into account in their investment and production decisions' without apparent recognition of the administrative workload implied for all businesses, not just the larger firms. The following Nelsonian 'everyone needs to do their bit to tackle climate change by reducing carbon pollution' exhortation is unlikely to persuade reluctant businesses and individuals to fully comply.

Commodity exports

An important conclusion in the CPRS documentation is that 'rising per capita incomes in developing economies are expected to result in more of the world's population spending a larger share of their income on more energy-intensive goods and higher-value food. These forces will create strong

demand for Australia's commodity exports.' It is implied that a significant proportion of the increased global demand for 'energy-intensive goods and higher-value food' will be met from Australian production and export. But during the same period, Australia is forecast to be significantly reducing its energy generation and use with a 'structural shift ... towards low-emission goods, technologies and processes,' together with gloomy predictions of increasing drought from an already minimal water supply base available for agricultural production. The issue of redeployment of employment resources back from urban areas to agricultural locations is another issue of major significance. It would be prudent to examine more closely whether the claims of expanded export revenue can be justified, with particular consideration to the issues of arable land, irrigation water and workforce relocation and availability.

Australia's export revenue

The Bureau of Resource Economics has estimated that Australia's minerals exports will fall by \$35 billion in 2009-10 with reduced coal and iron ore exports. Introduction of carbon trading costs from mid-2010 on those and other mineral exports under the proposed CPRS Act would further erode export income. The foreseeable downside impact is reduced investment in Australia and enhanced exports and investment for competitor nations who have not implemented similar legislation - accelerating the export of primary and secondary industry investment and jobs from Australia to other Asian nations. A further and apparently unrecognised major downside impact is the associated reduction in regional infrastructure and job opportunities which have been made possible by mineral industry developments over past years. While 'fly-in fly-out' jobs are an increasing mineral industry workforce segment, many remote and regional towns with their employment opportunities rely on mineral industries for their existence.

With Australian economic growth significantly dependent on export commodity revenues from coal, iron ore, alumina, aluminium, copper, gold, lead, zinc and nickel, the reported minimal domestic economic impacts arising from major changes in those exports does not appear consistent with Australian economic realities associated with the current 'global financial crisis' or Garnaut's prediction that 'coal mining would lose a quarter of its business by mid-century as demand fell in a lower-carbon world.' The '*deus ex machina*' risk of accepting as truth computer-generated predictions poses the need for prudent checking against known and probable reality, particularly when major economic restructuring is being proposed on the basis that Australia 'can achieve substantial emission reductions with relatively small reductions in economic growth.'

What will China do ?

The CPRS scenarios assume that China (from 2015) and India with others (from 2020) will adopt similar carbon emission pricing measures. As agricultural productivity in China (and North America, Europe and Russia) would be advantaged by the longer growing seasons associated with the predicted global warming, this assumption appears premature. As a net global creditor, China is in a good position to determine its own policy without advice from other countries. And if China does not fall into line, it is likely that India would adopt the same policy. In any event, there should by 2015 and 2020 be ample evidence on whether the IPCC's 'projections' of continuing rapid global warming with major adverse consequences are fact or fiction.

UNCERTAINTIES

Economic evaluation of CPRS

Garnaut reported that 'the overall cost (of the proposed measures) to the Australia economy is manageable and in the order of one tenth of one per cent of annual economic growth.' The Treasury modelling reached similar conclusions to Garnaut by adopting essentially similar assumptions. While the validity and probability of some of the assumptions - export revenue, electrical power generation and CC&S and industrial energy efficiency - have been questioned in this submission, the principal reservation must be the demonstrated inadequacy of the IPCC climate modelling which underlies the stated 'need ... to reduce carbon pollution.'

Other questionable assumptions include the prospective economic growth rates and future event discount rates employed in the Garnaut and Treasury modelling. Some of the reported growth rate

estimates are mutually inconsistent and the 'ethics-based' discount rates adopted by Garnaut, following Stern, are not consistent with reality while the forecast growth rates do not appear to recognise any downside economic impacts of major economic restructuring. One basic example is the economic impacts associated with financing the closure of existing businesses in what is - and due to the CPRS will continue to be - a falling market, relocation of capital and workforce participants, development and acquisition of new processes and skills and the establishment of the new 'green' industries envisaged by the CPRS. Another is the economic impact of financial market uncertainty associated with prospective new enterprises which would increase the 'risk premium' cost of borrowing.

CPRS timing

The CPRS Act is scheduled to come into effect on 1 July 2010, the middle of next year. That date appears to have followed a number of reports and publications stressing the 'urgency' of promptly addressing the challenges of the predicted 'dangerous climate change' together with reports claiming that early 'mitigation' action would be less expensive than any later similar actions. The IPCC reported that 'mitigation actions begun in the short term would avoid locking in both long-lived carbon intensive infrastructure and development pathways (and) reduce the rate of climate change' without providing examples of 'long-lived carbon intensive infrastructure (or) development pathways.' Possible examples might include power stations, aluminium smelters, copper and zinc refineries. As power station infrastructure investment can be minimised through load factor, maximum demand and power factor optimisation initiatives, while Government policies are perceived to have already diverted new energy-intensive investment to other countries, the IPCC concern does not appear to be a significant issue for Australia.

Stressing a need for urgent action is a ploy constantly used by advocates to keep their topic in the headlines, particularly since the brief 1976 to 1998 warming period ended and average global temperature is now cooling in the face of progressively increasing emissions world-wide. The proposition that early changes will be less expensive than later alternatives presumes that 'mitigation' activities at any time are essential and is also not consistent with the earlier *Supplementary Report* admission that 'the optimal level of Australian mitigation effort – the level that maximised the income and wealth of Australians – is easily calculated. It would be zero.'

With the global financial crisis presently diverting national focus toward issues of economic activity, employment prospects and export revenue, the additional social and economic disruption and uncertainties associated with the proposed CPRS timing do not appear politically tenable. This submission recommends that the proposed CPRS Act and associated 'mitigation' activities should at the least be deferred until the global economic situation has stabilised and a clearer picture of Australia's economic prospects is available. With reported global temperatures substantially constant for the past ten years, later adoption of the CPRS would not materially affect the predicted impact outcomes. There is also the probability that a deferred decision on climate change legislation might prove better informed than is apparently the situation with the proposed CPRS.

The CPRS White Paper advice that 'in delivering this significant economic reform, the Australian Government is focused on getting the balance right,' poses questions about unrelated political agendas beyond the purported 'climate change mitigation' objective. In any event, present economic circumstances are not consistent with achieving that objective through what is now arguably ill-informed and premature legislation.

CONCLUSIONS

The 'need' for a climate change policy

- present policy and legislative proposals are based on IPCC reports
- IPCC mandates that climate change is 'human induced'
- IPCC 'attributes' warming to 'human induced climate change'
- IPCC computer modelling is used to predict future climate scenarios
- IPCC predicts significant future global climate warming

- IPCC Chairman asserts that ‘science has given us precise answers and robust conclusions’
- IPCC climate models include inappropriate assumptions and basic scientific errors
- there is no valid scientific basis to the IPCC climate predictions
- there is no evidence that ‘greenhouse gases’ cause climate change
- IPCC climate modelling failed to predict climate for the most recent ten years
- factors influencing global climate are not yet adequately understood
- the claim that climate change is ‘the greatest social, economic and environmental challenge of our time’ is not supported by any valid evidence
- the IPCC and Garnaut reports do not validate the need for an Australian climate change policy

Climate science

Climate science is an evolving technology which appears to have been temporarily subverted by special interest groups with unrelated agendas. While the vast majority of climate science literature is genuine, IPCC-sponsored climate modelling has been truncated to fit the mandatory IPCC agenda of human-sourced emissions causing potentially apocalyptic global warming.

Is carbon dioxide a pollutant ?

- Carbon dioxide is one of a number of ‘greenhouse’ gases in the earth’s atmosphere
- Water vapour is the dominant ‘greenhouse’ gas in the earth’s atmosphere
- Carbon dioxide is presently 0.038 percent of the earth’s atmosphere
- The amount of carbon dioxide in the atmosphere is very slowly increasing
- Some of the carbon dioxide increase may be due to human activities
- Carbon dioxide makes a minor contribution to global temperature
- Increased carbon dioxide is unlikely to significantly affect global temperature
- Defining carbon dioxide as a ‘pollutant very likely to cause dangerous climate change’ is not supported by evidence-based science.

Where do Australian emissions fit ?

- Our ‘greenhouse gas’ emissions are a minor and diminishing component of the global total
- the potential climate impact of any Australian emission reductions is substantially zero
- planned Asian emission increases would promptly negate all Australian reductions

Environmental effectiveness

The inappropriate assumptions and basic scientific errors built into the IPCC climate prediction models identify the IPCC, Garnaut and downstream recommendations as a classic case of ‘market failure’ due to what can only be termed ‘misinformation overload.’ The widening credibility gap between current global climate records from satellite sources and the IPCC climate predictions confirms that the IPCC models are not scientifically valid and unable to predict present or any future climate scenarios. IPCC reports of more research being needed on ‘the effects of solar behaviour on climate’ and ‘the El Niño-Southern Oscillation (ENSO) phenomenon’ reinforce this conclusion.

Continuing solar radiation and climate model studies, and global climate records over the next five years should provide the necessary evidence on whether the IPCC’s ‘projections’ of continuing rapid global warming with major adverse consequences are fact or fiction.

What are the likely economic impacts for Australia ?

Predictions of minimal economic impact with continued buoyant growth for the proposed emission reductions demonstrate ‘market failure’ due to limited perception of relevant issues, inadequate information and deficient analysis of uncertainties. Some key adverse impact areas such as export revenue, balance of trade, investment capital sources and deployment and the human impacts of economic restructuring on Australian citizens do not appear to have received appropriate consideration in the recent Garnaut or Treasury reports. Selection of ‘cost-effectiveness’ criteria rather than the more robust ‘cost-benefit’ analyses for evaluating options has limited the validity of all conclusions and recommendations from the IPCC reports up to the present policy proposals.

The present global economic environment together with the recent steep falls in Australian mineral export prices and reduced export values were not factored into the earlier climate change reports. Premature implementation of the proposed climate change legislation would add further adverse impacts to an already deteriorating economy.

If the Parliament opts to believe the IPCC reports and intends to proceed with the proposed legislation - which this submission does *not* recommend - a more comprehensive analysis of the short- and longer-term economic benefit and cost impacts for Australia and its citizens should be commissioned to better inform the Parliament of the potential consequences.

Despite the IPCC Chairman's assertion that 'science has given us precise answers and robust conclusions' it would be unwise to base any legislative proposal on such a fragile foundation - supported by 'apocalyptic' scare campaigns rather than evidence-based science.

Timing

It is clearly premature for Australia to adopt or implement 'climate change' legislation with potential for significant and long-term economic, social and human disruption before the major uncertainties are resolved. Despite the Garnaut and Treasury predictions, if the present legislative proposals are implemented, there will be no measurable benefits for Australia but very significant adverse impacts for Australian prosperity and its citizens.

The stable global climate in recent years despite increasing emissions does not signal a need for prompt action on climate change. It would be prudent to defer any climate change legislation until the global economic situation has stabilised and the major uncertainties about present and future climate predictions and Australian economic prospects have been resolved. Deferral would also keep open the option of identifying and pursuing more appropriate alternative actions in the future.

Tradeable permits

While tradeable emission permits are an effective mechanism for managing emissions, the invalid rationale for and improbability of benefit from reducing 'greenhouse gas' emissions together with the probability of unacceptable Australian economic, social and human cost impacts do not justify adoption of tradeable permits or any alternative emission policies. And without simultaneous global emission controls, Australian implementation would just be costly and ineffective.

Funding allocations

Research funding and activity in other areas of arguably greater human health and welfare significance appear to have diminished world-wide in inverse proportion to the focus on atmosphere-based 'climate change.' While climate will continue to be a very significant issue for Australians and our economy, the present 'world-leading' expenditures on climate-related research in Australia need to be carefully balanced against other significant research options, water conservation and utilisation, public health and economic development projects in developing nations. Funding of climate change-associated activities would have been better targeted toward identified rather than hypothetical human needs.

Conclusion summary

- there is no valid scientific basis to the presently proposed policy and legislation
- 'greenhouse gas' emissions do not significantly affect climate
- climate is and will continue to be within the range of human adaptability
- contemporary technology cannot reliably predict future climate beyond a few days, and
- emission legislation cannot change climate.

RECOMMENDATIONS

It is respectfully recommended that implementation of the proposed CPRS Act and associated legislation should be deferred until:

- the global economic situation has stabilised and a clearer picture of Australia's economic prospects is available,
- prospective customer, competitor and supplier nations simultaneously adopt similar binding legislation,
- climate computer modelling techniques have been demonstrated to reliably predict future climate outcomes,
- the major uncertainties for Australian climate predictions are resolved, and
- the Parliament is fully informed on the potential costs and benefits associated with the range and timing of alternative climate change-related legislative options.