

A VIEW ON PERMANENT CLIMATE CHANGE
[POST IPCC 6TH ASSESSMENT REPORT, 7AUG21]

EXECUTIVE SUMMARY

OVERVIEW

The sensitivity of the Earth's climate to increases in atmospheric greenhouse gases, especially from carbon dioxide (CO₂) produced from burning fossil fuels and exacerbated by an ever-increasing world population, sits at the heart of climate science and of the debate about possible permanent climate change that has been raging around the world in recent decades.

There is so much alarm in the world today from climatologists and believers¹ about the doomsday to come unless all governments take adequate counteraction to minimise harmful greenhouse gas emissions,² especially carbon dioxide (CO₂).

Because of the vast array of literature available - the good, the bad and the ugly - average citizens, including politicians, have no real hope of understanding the science and little hope of knowing where the truth may lie. They are simply asked to "trust the science". Unfortunately, misinformation about the 'science' by powerful vested interests, in the Media, on the Internet and especially in social media, is rife and, given recent protest movements, may be seen to resemble a quasi-religion. So, very little of what is claimed as scientific literature on these platforms is seminal, almost all being regurgitation of what others have written.

Scientific debate concerns the future Average global surface temperature (Tw), discussed primarily in terms of the Temperature anomaly (Twi), defined as the increment in average surface temperature since pre-industrial revolution times. Notwithstanding a great deal of often bitter controversy among scientists, it can be concluded from analysis of bona fide literature, that the average temperature is increasing gradually, in part and not exclusively, as a function of greenhouse gas emissions. **However, a note of caution: published temperatures are very much averages from surface sensors around the world and satellites and pertain predominantly to the northern hemisphere;** they vary quite significantly about the average, depending on region and particularly in latitudes towards the poles. Consequently, Australia needs to be more cognisant of its own temperature records and not be swayed by what may be happening in the northern hemisphere, about which the greater majority of literature is written.

Seminal research into global warming, conducted by a Professor Charney and team of MIT³, has been responsible for most of the scientific research on global warming over the past 40 years. The basic conclusion of the report predicted that Twi would increase by $3 \pm 1.5^\circ\text{C}$ for a doubling of CO₂ concentrations from 280ppm⁴ in pre-industrial times to 560ppm. Subsequent research shows that this relationship would also hold for later periods. In 2020, Twi stands at 1.05°C , for a CO₂ atmospheric concentration of 413ppm (0.0413%), which is consistent with the theory.

Following the research by Charney, the IPCC⁵ of the United Nations identified two values of Twi, being 1.5°C and 2°C , comprising targets later enshrined in the Kyoto Protocol and the Paris Agreement to which most countries subscribe.

A Twi of 1.5°C is seen as tolerable and the most desirable limit endorsed by the protocols. A Twi of 2°C is seen as manageable and causing possible, greater strength and damage from climate events, but not permanent climate change. A Twi of 3°C , not specifically identified in IPCC reports as a target, may be considered as a maximum tolerable threshold before permanent, detrimental climate change could occur. Projections by the IPCC, assuming 'business-as-usual'⁶, i.e. about 36.7 gigatonnes of CO₂ emissions per annum, show that the average world

¹ The opposite to 'deniers', 'contrarians', 'sceptics' and other heretics.

² 'Emissions' refers to the non-condensable greenhouse gas emissions, i.e., excluding water vapour.

³ Massachusetts Institute of Technology

⁴ ppm = parts per million Moles in the atmosphere.

⁵ Intergovernmental Panel on Climate Change (reports before IPCC Sixth Assessment Report, August 2021).

⁶ 'business-as-usual' means continued consumption rates of fossil fuels and consequent emissions of greenhouse gases.

surface temperature is gradually increasing by an expected 0.017°C per annum. Given this figure, Twi could reach 1.5°C by 2046, 2°C by 2074. Extrapolation of these values gives a projected date of 2131 for 3°C.

However, it can be shown that if the world was able to reduce emissions by an average across all nations of about 1% per annum, over the next 30 years and beyond, a Twi of 1.5°C and 2°C would be delayed by some years but, most importantly, 3°C would never be reached.

Under the UN protocols, most countries have committed to reduce emissions by about 1% to 1.3% per annum by 2030, based on 2005 levels.⁷ Australia has committed to reducing its emissions by 26% to 28% of 2005 levels, by 2030, i.e., about 1% per annum.

Most of the countries comprising the United Nations are small emitters and are lobbying for greater effort by industrialised nations to prevent perceived climatic catastrophe in their regions, or to subsidise reduction efforts in their countries. The USA (12.1% of world emissions) had, under President Trump, threatened to no longer subscribe to the protocols, but President Biden has since resubscribed to the Paris Agreement. China, the biggest emitter (24%), like most countries, is committed to a reduction of about 1% per annum through to 2030.^{8,9}

Notwithstanding commitments, industrialised nations like Australia may have to do better than a continual 1°C per annum reduction, to compensate for an expected increase in emissions by under-developed nations that have a lot of economic catching-up to do and probably will not be denied their place in the sun, at the expense of further global warming. In particular, India could be a ‘sleeper’, even though it has committed to reduce its emissions by 33% to 35% from 2005 levels by 2030.

Some countries like the United Kingdom have even legislated to achieve ‘net zero emissions by 2050’¹⁰. While any success would depend on a raft of minimisation initiatives, it rests primarily on the continued investment in renewable energies. Notwithstanding huge government subsidies in Australia over the past few decades, renewables currently meet a mere 6.5% of total annual energy demand, i.e., 24% of the electricity sector which, in turn, accounts for 27% of total demand. Nevertheless, given that electricity sectors in developed countries account for about 30% or less of total energy demand, a reduction in emissions of 30% over the next 30 years could prove to be enough to prevent excessive global warming.

The average world per-capita emissions in 2020 are 5.6 tonnes per annum. Australia’s per capita rate is high at 15.8 tonnes per annum¹¹, but ranking 14th compared to other countries. However, Australia contributes only 1.06%¹² of world greenhouse gas emissions, which is so small that no matter what it does to minimise these, it can have virtually no impact on global warming, let alone on climate change. In reality, Australia needs only to meet its international obligations and is then doing its fair share. Arguments by its critics that Australia should be out there as an example to and leading the world is nothing short of sophistry, even hypocrisy, and more likely motivated by politics than genuine concern for the environment.

Australia is the leading exporter of coal, but only the 5th largest miner of coal at only 7% of world production. It exports only the highest-grades of coal, that being the very reason why other countries need and buy it - no sales no export. It makes zero sense for those anxious about climate change to demand the shutdown of coal mining in Australia, its second biggest export, when buyers would have to source inferior coal elsewhere that would produce greater emissions. If it is to close down, coal mining in Australia should be allowed to do so naturally as world demand and economics dictate.

Australia is also the world’s leading exporter of natural gas, which can and does compete with coal because of its lower greenhouse gas emissions per unit of energy produced. Whether availability

⁷ Note that these rates of 1% to 1.3% per annum are of the respective levels by country recorded in 2005, and not a progressive (negative exponential) rate.

⁸ Actual achievements by countries are something else again. See Annex J, *What can and is being done*.

⁹ In recent times, China is reported to not have a policy of reducing to zero emissions.

¹⁰ Net-zero CO₂ emissions. See Annex S, *Glossary*.

¹¹ With good reason, given its small population in a vast continent.

¹² Could vary from 1.03% to 1.1%, average 1.06%, depending on source data.

of natural gas could ever supplant coal completely in Australia would appear feasible, but should occur as un-subsidised economics permit.

In respect of the science, climatologists (again endorsed by the IPCC) have long claimed that it is the non-condensable greenhouse gas emissions produced by burning fossil fuels, especially CO₂, that control the surface temperature (T_w) and any increment (T_{wi}), by acting as the ‘thermostat’ of the planet’s temperature. They further claim that water vapour and clouds affect temperature only as a positive feedback process, i.e., as the greenhouse gases push up temperature, more water vapour and clouds are produced, so adding to the greenhouse (warming) effect (and higher precipitation somewhere on the planet).

However, water vapour is acknowledged as a much stronger greenhouse gas than CO₂ and, after considerable analysis, it is clear to this analyst that water vapour and clouds together have a far greater effect on surface temperature than does CO₂, the latter contributing only around 25%.

Scientific records show that the Earth has gone through many alternating warm-ages and ice-ages over many millions of years and that CO₂ atmospheric concentrations have always lagged increasing temperatures. The Earth has now been in another warming period for several hundreds of years, which could well prove to be the primary ‘thermostat’ of the Earth’s surface temperature, or at least a strong contributor.

Climatologists (and the IPCC) claim proof of climate change due to global warming by citing the retreat of glaciers and ice-caps, more severe droughts, more severe bushfires, bleaching of coral reefs, migration of fish species, and greater frequency and severity of hurricanes/typhoons/cyclones and tornados. In fact, they agree that glaciers and ice-caps have been retreating for hundreds of years, since the pre-industrial age, but now claim that global warming due to burning fossil fuels is exacerbating and accelerating the melt.

Although Australia has recently suffered another long drought, there is no statistical evidence that droughts, which are endemic to Australia because of its geographical position and topography, are getting more frequent or longer. Nor is there evidence that the devastating bushfires of 2019 were a consequence of climate change, rather than of the parching effect on vegetation by an extended drought, by the avoidable build-up of the fuel-load in bushland and forests, and the penetration of housing and commercial development into these vulnerable zones.

It can be shown that the climate and prevailing weather patterns in Australia are primarily a function of the combined effects of El Nino/La Nina in the east, the Indian Ocean Dipole in the west, the south-west cold air masses from the Antarctic and by the summer monsoons in the north.

While there has been some evidence of bleaching of coral reefs and migration of fish species due to an increase of ocean temperatures, these were on the planet long before the human race came along and will be here long after humanity disappears. In the meantime, any ill-effect is primarily economic, e.g., the impact on tourism.

Nor is there evidence of increased activity of hurricanes/typhoons/cyclones and tornados around the world. To the contrary, there is statistical evidence of reductions in frequency of all of these. Cyclones are an annual event in Australia but are not increasing in frequency or intensity. The only really devastating cyclone in the past 60 years was Tracy through Darwin in December 1974.

Nor are hurricanes and tornados increasing in frequency in the USA and Caribbean. Obviously, Katrina (2005) and, of late, Ida (2021) were very devastating hurricanes, but statistically not unusual.

Given acknowledgement of significant risk of global warming, Australia’s priority should be on proofing itself against consequences like drought and fire and not on excessive subsidies of renewable energy generation, much of which will prove eventually to have been largely a waste of both industry investment and taxpayer funds.

Contrary to the claims by climatologists, genuine believers and irrational protesters like those of “Extinction Rebellion”, climate change is not an ‘existential threat’ to the world, let alone Australia; not like a world nuclear war or some remote planetary calamity would be. Even the United Nations puts the fighting of climate change well down its list of priorities for humanity in general.

Rather, it would appear that the world is facing a ‘perfect storm’ of several possible existential threats over the next 50 years or so, given the pressures of an ever-growing population, nationalistic threats, religious intolerance, rapidly advancing technology and the perverting effect of social media, let alone the risk of permanent climate change. Above all, the threat of global warming and consequential climate change should be kept well in perspective.

For Australia, our greatest threats are much different from, but not immune to, those of humanity in general. Notwithstanding that climatologists say it would have serious impact on countries like Australia, in suffering more from droughts and limited water resources, permanent climate change poses a relatively small threat for Australia, given its climate history.

In Australia’s case, one order of importance of threats to its way of life and wellbeing could be: Chinese expansionism (economic strangulation, a diaspora of over a million already flooding the country with immigrants of doubtful allegiance); sustainable population growth (given Australia’s limited fresh water resources and arable land); global competition for limited world resources (leading to mass illegal immigration and possible conflict); artificial intelligence (AI - eventually leading to loss of control by human intellect); nanotechnology (especially combined with future AI); action on climate change; pandemics (from whatever source, even biological warfare); complemented by myriad other problems facing the world that would impact Australia.

Notwithstanding the various sources of serious threats, before the turn of the century the unchecked growth in global population and its natural consequences could yet prove to be the greatest existential threat to humanity in general - with or without global warming. In particular, neither China nor India, together with about 35% of the world’s population, is likely to meet or even try to meet their reported targets for reduction of emissions. China has lived with heavy air pollution for so long, it probably would not care about growth in emissions nor temperature rises. In India’s case, it has a lot of economic catching-up to do, which cannot be done without increasing emissions.

Principal conclusions and messages

There have been many conclusions drawn and implied recommendations made throughout main document. So, what are considered the principal conclusions and messages for our leaders and their baying critics?

- Australia accounts for only 0.32% of the world population and contributes only 1.06% of world greenhouse gas emissions. Consequently, no matter what Australia does to lower its emissions, it cannot make any significant impact on global warming, let alone on climate change.
- Australia may be the world’s largest exporter of coal (all high-quality), but accounts for only 7% of total world coal production. It makes zero sense for irrational calls to close down an industry that is the nation’s second biggest exporter. Export of Australia’s coal and natural gas should be allowed to change as international demand and economics dictate.
- Renewable energy sources in Australia account for only 6.5% of its annual energy demand. Other than to help meet its international obligations, why should Australia waste further resources in subsidies for renewable energy, at great expense, with virtually zero effect on climate change?
- The average world surface temperature is currently, gradually increasing by an expected 0.017°C per annum, but the claim of climatologists that greenhouse gas emissions, especially of CO₂, are the primary cause thereof, is not yet proved.¹³ While there is a well-documented gradual increase in atmospheric CO₂ concentrations, the relationship between average temperature and average CO₂ concentration is but a correlation and not an established cause

¹³ The IPCC Sixth Assessment Report, August 2021, still does not address this point. While it admits that the effect of clouds to extremely difficult to estimate, it concludes that modelling shows that clouds will most probably amplify global warming rather than reduce it.

and effect relationship. Seasonal dynamics of the Earth's atmosphere are far too complicated to draw such conclusions, even with use of the powerful computers available today.¹⁴

- Climate change is not the 'existential threat' to the world, let alone Australia, claimed by climatologists and camp-followers. In Australia's case, we should be much more worried about the threats posed by Chinese expansionism, sustainable population growth, pandemics and, especially, how to adequately climate-proof Australia.
- Australia's real challenge is, under the precautionary principle¹⁵, to recognise the probable effects of global warming across the country - what, when and how change might occur. Australia can move only to protect itself as best as possible and that means climate proofing this land of 'droughts and flooding rains'.
- Instead of wasting billions of taxpayer funds on reducing greenhouse gas emissions for zero effect, that money should be put into capturing and managing the country's water resources. If we can build gas pipelines across the country, surely dams and water pipelines from the North to the South would also be economically feasible and to great effect.
- Australia is currently just meeting its commitment under the Kyoto Protocol and Paris Agreement at about 1% per annum reduction in emissions. It may have to do better, not so much as to make any difference to global warming, which it cannot, but to meet its moral obligation as a responsible world citizen. However, it need not be shooting itself in both feet or out there, big-noting itself as the climate change harbinger to the world.

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¹⁴ Although the IPCC Sixth Assessment Report, August 2021 claims that computer models, on which contended scientific proof of anthropological global warming depends, have increased in accuracy, there have been recent Media reports (July 2021) that NASA has admitted that the models give erroneous information on global warming.

¹⁵ Better to prepare than be sorry.

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