

WHAT YOU DON'T KNOW ABOUT CLIMATE

The climate cooled for 37 years during the period 1940 to 1976. Books were written expressing alarm. Lowell Ponte's 1975 book warns: "Global cooling presents humankind with the most important social, political, and adaptive challenge we have had to deal with for 110,000 years. Your stake in the decisions we make concerning it is of ultimate importance: the survival of ourselves, our children, our species."

We now have a new climate alarm and similar statements are being made. Climate models used by authorities forecast that CO2 emissions will cause dangerous global warming, now referred to as Climate Change.

PSYCHOLOGY, BIAS ERRORS AND CLIMATE

Recent findings in the area of psychology, "Psychology and Economics" by the eminent behavioural economist Prof. Matthew Rabin, University of California, show the prevalence of a number of bias errors when people make decisions.

Such errors are relevant for climate scientists in examining the evidence claimed to support the threat of dangerous global warming with rising CO2 levels. The following reviews the importance of two key bias errors referred to by Prof. Rabin in his paper.

The bias error of "there is a misinterpretation that purely random events are too long to be purely random and represent a long term trend".

- The Australian Millennium Drought from 1997 to 2010 was misinterpreted as a long term trend as a consequence of Climate Change. This lent support to State Governments over-investing in desalination plants.

- Research by Professor Sir Samuel Wadham, University of Melbourne of world climate over 100 years, revealed

that Australia of all countries has the most variable rainfall. This is not well appreciated by policy makers or investors.

The bias error of "once forming a view people are often inattentive to information contradicting their view. There is the problem of selective scrutiny of evidence".

A bias problem of "selective scrutiny of evidence" that carbon dioxide emissions drive Climate Change is illustrated by the following:

- Over the past one million years climate cycles ranging from ice ages to warmer periods have been caused principally by changing levels of energy from the sun, changing planetary alignments and changing ocean currents. These three important climate determinants are not well enough understood to be included in climate models.

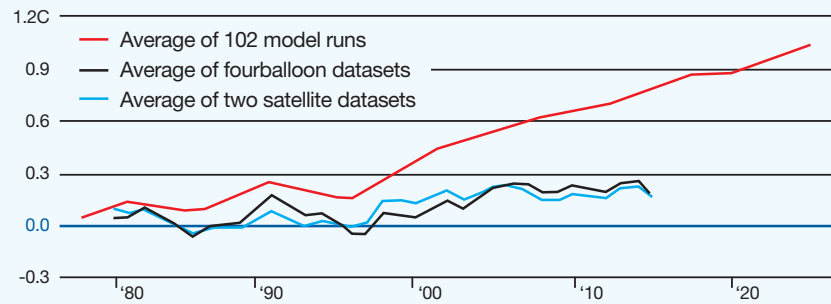
It is thus not surprising that all temperature predictions by these climate models over the past fifteen years have been inaccurate by a considerable margin. Nor can they explain earlier climate records. It is clear that the models are unable to make reliable climate forecasts.

The comparison of measurements and prediction in the mid troposphere, at a height of 5 to 15 kilometres, show the lack of accuracy of climate models (see Graph 1).

- Ice cores taken from the end of the last Ice Age reveal that temperature rose

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GRAPH 1: GLOBAL MID-TROPOSPHERIC TEMPERATURE 5-YEAR AVERAGES, IN DEGREES CELSIUS



Sources: Various, as described in the "State of the Climate in 2012" in the Bulletin of the American Meteorological Society, August 2013.

some 200 years in advance of rising CO2. During that Ice Age much of the Northern Hemisphere had a permanent ice cover and sea levels fell by 120 metres.

More recently, despite rising CO2, there was a cooling of climate for 37 years from 1940 and measurements show no increase in temperature over the past 17 years.

Global warming, with interruptions, has therefore continued since the end of the last Ice Age unrelated to CO2 levels.

The 600 million geological record shows levels of CO2 varied from 200 ppm (0.02%) to 7,000 ppm (0.7%). The significant fall from 7,000 ppm was mainly due to removal of CO2 in marine skeletal material to form vast limestone deposits. At that time the ocean could not have been acid otherwise the limestone would have dissolved.

The present level is near 400 ppm (0.04%) and this could double only if all the known fossil fuel reserves were used but would still be well below past high levels of CO2 which did not cause dangerous warming. Plants evolved in the Cambrian Period when CO2 levels were typically near 5,000 ppm (0.5%) which provides further evidence that past higher levels of CO2 did not cause dangerous global warming.

- Melting of Arctic ice is commonly referred

to as confirming Climate Change caused by CO2 emissions.

In 1922 the US Weather Bureau advised in respect of an Arctic ice melt, "Reports all point to a radical change in climate conditions and hitherto unheard-of temperatures in the Arctic zone." Subsequently the ice cover returned.

There is no evidence rising CO2 has any influence on the historical phenomenon of retreating and advancing of Arctic ice.

- The IPCC has forecast an acceleration in the rise of ocean levels with rising CO2 to several times the 2 to 3 mm per year measured over the past 100 years associated with the planet continuing to warm since the end of the Little Ice Age in the 19th century.

Actual sea levels derived from satellite altimeter measurements by University of Colorado scientists demonstrate no measurable global increase in the rate of annual sea level rise over the period 1993 to 2010.

- There has been an assumption that the increase in atmospheric CO2 has been due to fossil fuel emissions.

In fact as reported in the Journals 'Science' and 'Nature', forest and peat fires can make a significant contribution to atmospheric CO2 as experienced

during the 1997-98 El Nino ("66 ± 24% of the CO2 anomaly" Science 2 Jan. 2004).

Because of bias errors, the view that dangerous global warming caused by CO2 emissions has no basis. There has been the bias of "selective scrutiny of evidence".

Another bias error is evident with estimates of future atmospheric levels of the greenhouse gas methane (see Graph 2).

The rise in methane levels was associated with leakage from poorly maintained natural gas facilities. This has now been corrected and methane levels are shown in CSIRO published data to fluctuate with the various effects caused by El Ninos. Methane levels based on projections of earlier increases are incorrect and wrongly associated with grazing animals and rice fields.

Other research by behavioural economists shows how the employment of the findings from psychology can be used to "nudge" people to do what "choice architects" think would be in people's best interests. The book "Nudge" by the authors, Thaler & Sunstein, reviews this research.

Referring to CO2, an invisible gas, as carbon, which as soot is a black dirty solid, is a good example of a "nudge" to sway public opinion in favour of reducing CO2 emissions. This is a deception which stands in the way of reason.

There is the "nudge" food quality will fall with increasing atmospheric CO2.

This is misleading. A rise in CO2, a plant nutrient, provides for a useful increase in food production. Food quality can decline if there is not a corresponding increase in other essential plant nutrients.

Another "nudge" is the claim that CO2 emissions will cause ocean acidity.

There is no evidence that levels as high as 7,000 ppm of CO2 did or could cause ocean acidity. The ocean is alkaline and contains minerals in solution which constrain lowering of alkalinity with rising CO2.

CONCLUSION

For greenhouse gases there has been a "selective scrutiny of evidence" to support Climate Change alarm. There is no evidence CO2 has determined climate in the past or that it could do so in the future. Just as there was needless alarm over the 37 year cooling from 1940 when CO2 was rising there is now unwarranted public alarm over a threat of dangerous global warming.

Australia should save the \$3 billion plus spent annually supporting renewable energy programs. The heavy burden of these costs falls on taxpayers, business and households.

No Australian post-2020 emissions reduction target could be justified unless emission-free energy can be produced at a cost competitive with traditional energy suppliers.

– THE CLIMATE STUDY GROUP

GRAPH 2: CHANGES IN ATMOSPHERIC METHANE

