

Science held hostage in climate debate

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Climate change crusaders evoke the saying ‘lies, damn lies and statistics’, writes **Garth Paltridge**

The broad theory of man-made global warming is acceptable in the purely qualitative sense. If humans continue to fill the atmosphere with carbon dioxide, there can be little doubt that the average temperature of the world will increase above what it would have been otherwise. The argument about the science is, and always has been, whether the increase would be big enough to be noticed among all the other natural variations of climate. The economic and social argument is whether the increase, even if it were noticeable, would change the overall welfare of mankind for the worse.

Attempts to resolve the arguments are plagued with problems, a lot of which are inherently insoluble. There are many aspects of the behaviour of the natural climate system and of human society that are unpredictable in principle, let alone in practice. But perhaps the biggest of the underlying problems, and it is common to both arguments since it inevitably exists when there is large unpredictability and uncertainty, is the presence of strong forces encouraging public overstatement and a belief in worst-case scenarios.

From the social and economic side of things, one might take much more notice of the global warming scare campaign if it were not so obvious that many of its most vociferous supporters have other agendas. There are those, for instance, who are concerned with preservation of the world’s resources of coal and oil for the benefit of future generations. There are those who, like the former president of France, Jacques Chirac, speaking at a conference on the Kyoto protocol in 2000, look with favour on the possibility of an international decarbonisation regime because it would be a first step to global governance (the president’s actual words were “For the first time, humanity is instituting a genuine instrument of global governance”.) There are those who, like the socialists of the 20th century, see international action as a means to force a redistribution of wealth both within and between the individual nations. There are those who regard the whole business mainly as a path to the sort of influence which, until now, has been wielded only by the major religions. More generally, there are those who, like the politically correct everywhere, are driven by a need for public expression of their own virtue.

Of course there is nothing wrong, or at least not much that is wrong, with the ideals behind any of the above agendas except perhaps the last couple on the list. But the battles over them should be fought in the open and on their own merits rather than on the basis of a global warming crusade whose legitimacy is founded on still-doubtful science and on massive slabs of politically correct propaganda.

It is generally assumed that climate scientists themselves are more or less united on the matter and are not pushing a global warming barrow because of their interest in some other agenda. Certainly this is the story the activists would have us believe.

To the extent that there is such a thing as normal science, it relies upon accurate observations to verify its theories. Accurate is the operative word here. Climate research has to rely on spectacularly inaccurate data from information on Earth's past climate. Even though there are vast amounts of atmospheric and oceanographic data to play with, together with lots of proxy information from tree rings and ice cores and corals and so on, abstracting a coherent story from it all is something of a statistical nightmare. It gives a whole new meaning to the old saying "lies, damn lies and statistics".

Suffice it to say that climate science is an example of what Canadian educator Sue McGregor calls "post-normal science", in which "the facts are uncertain, values are in dispute, stakes are high and decisions are urgent". In such circumstances it is virtually impossible to avoid subconscious cherry-picking of data to suit the popular theory of the time. Even Isaac Newton and Albert Einstein were not immune from the problem. In their case they were of sufficient genius (and were sufficiently lucky!) for their theories ultimately to trump the inaccuracy of the observations they had selected. Other scientists are rarely so prescient or so lucky. In the modern era, the problem is compounded by the existence of vastly complex computer models that can be tuned, again more-or-less subconsciously, to yield the desired result. From theory to observation and back again – if we are not careful, the cherry-picking can go round and round in an endless, misleading loop.

But the real worry with climate research is that it is on the very edge of what is called postmodern science. This is a counterpart of the relativist world of postmodern art and design. It is a much more dangerous beast, whose results are valid only in the context of society's beliefs and where the very existence of scientific truth can be denied. Postmodern science envisages a sort of political nirvana in which scientific theory and results can be consciously and legitimately manipulated to suit either the dictates of political correctness or the policies of the government of the day.

There is little doubt that some players in the climate game – not a lot, but enough to have severely damaged the reputation of climate scientists in general – have stepped across the boundary into postmodern science. The Climategate scandal of 2009, wherein thousands of emails were leaked from the Climate Research Unit of the University of East Anglia in England, showed that certain senior members of the research community were, and presumably still are, quite capable of deliberately selecting data in order to overstate the evidence for dangerous climate change. The emails showed as well that these senior members were quite happy to discuss ways and means of controlling the research journals so as to deny publication of any material that goes against the orthodox dogma. The ways and means included the sacking of recalcitrant editors.

Whatever the reason, it is indeed vastly more difficult to publish results in climate research journals if they run against the tide of politically correct opinion. Which is why most of the sceptic literature on the subject has been forced onto the web, and particularly onto web-logs devoted to the sceptic view of things. Which, in turn, is why the more fanatical of the believers in anthropogenic global warming insist that only peer-reviewed literature should be accepted as an indication of the real state of affairs. They argue that the sceptic web-logs should never be taken seriously by "real" scientists, and certainly should never be quoted. Which is a great pity. Some of the

sceptics are extremely productive as far as critical analysis of climate science is concerned. Names like Judith Curry (chair of the School of Earth and Atmospheric Sciences at the Georgia Institute of Technology in Atlanta), Steve McIntyre (a Canadian geologist-statistician) and blogger Willis Eschenbach come to mind. These three in particular provide a balance and maturity in public discussion that puts many players in the global warming movement to shame, and as a consequence their outreach to the scientifically inclined general public is highly effective. Their output, together with that of other sceptics on the web, is fast becoming a practical and stringent substitute for peer review.

Climate science has transformed itself from a research backwater a few decades ago into one of the greatest public-good scientific cash cows ever devised. In Australia, for instance, there is a separate federal Department of Climate Change and Energy Efficiency specifically devoted to implementing (buying?) the social change required to limit global warming. The livelihood of many of the climate scientists within the CSIRO and elsewhere is now dependent on grants from that department. It is not a situation conducive to sceptical outlook and balanced advice. When a tendency toward postmodern science is mixed with a single, generous and undoubtedly biased source of money, it is not surprising that things can go very wrong very quickly.

This has all come about largely because government laboratories these days are required to earn a goodly fraction of their operating income from external sources – this even when their activity is public-good research for which there is not a private market. The requirement inevitably encourages the emergence of activist-scientists who are not overly concerned about sliding into the realm of postmodern science.

In the particular case of CSIRO for instance, the encouragement starts with a formal mission statement to the effect that CSIRO seeks to achieve “a profound and positive impact on the most significant challenges and opportunities facing Australia and humanity”. Good stirring stuff of course, except that “impact” can get translated to “influence” in the reviews of its scientific programs, and the mission statement can be interpreted as justification for devoting a large fraction of overall scientific resources to the business of creating a market for one’s scientific advice.

As one organisation after another jumps, or is pushed, into producing public assessments of the climate change issue, we see the same small group of activist-scientists in the background. We see them providing briefings to federal and state politicians. We see them as primary advisers to supposedly independent organisations such as the Australian Academy of Science. We see them involved in programs to introduce school children to the dangers of a carbon footprint. Generally we see them in what agricultural science used to call extension activities – although in the case of climate change much of the extension effort is devoted to convincing the various audiences that there is indeed a problem worth doing something about.

No doubt these scientists genuinely believe in their own perception of the climate change story. But why do mainstream scientists go along with the inevitable overstatement associated with the activism business?

One factor is a form of loyalty to colleagues. Another, bearing in mind the singular nature of the funding source, is the need to eat. But mostly it gets back to the

uncertainty of the science. The typical climate researcher is reluctant to go public with contrary opinion not backed by something very close to real proof. And there is very little real proof on either side of the climate change story. Contrary opinion in an era where postmodern science is almost respectable can be dangerous to a research career.

The bottom line of all this is that deliberate understatement of the uncertainty of the science allows overstatement of the climate change problem. In the early days of the debate – back in the '70s and early '80s, before the whole issue became highly politicised – scientists were quite happy to admit to the uncertainty.

As a consequence, there was a philosophy around the traps at the time to the effect that, if nations really wanted to do something drastic and expensive about global warming, then the sensible course would be to take only those actions which would also be worth doing for other reasons. Improving the efficiency of transport would be sensible for instance. Burying vast quantities of carbon from the smokestacks of power stations would not.

That philosophy soon got lost in the politics. It is mildly encouraging now, perhaps as a result of the Climategate scandal, that we are beginning to see a new generation of climate scientists look again with a properly jaundiced eye at the question of uncertainty and how it might be assessed.

It is not surprising that society's opinion on what to do about climate change is highly polarised. There are passionate and vocal supporters on both sides of the argument as to whether global warming will be disastrous.

It is a bit surprising that what seems to be a roughly 50/50 split of public opinion is not at all a reflection of the much vaunted consensus of the climate science community. Perhaps this says a lot for the commonsense of the person in the street. In any event, the complexity of the issue, and the vast scale of the resources required to solve the problem (if there is a problem), make it difficult for middle-ground argument to be heard.

All of which makes it very hard for politicians to make sensible decisions on the basis of some reasonable balance of probability. One can but wonder at the prescience of former US president Dwight D Eisenhower in his farewell address to the nation in 1961:

“Yet, in holding scientific research and discovery in respect, as we should, we must also be alert to the equal and opposite danger that public policy could itself become the captive of a scientific-technological elite.”

Suffice it to say that there is a need for politicians to have access to a real diversity of advice on the science of climate change. In this country, and in most Western countries, the sources of advice are highly inbred.

It would seem important also that any political and economic action on the matter of global warming should be flexible enough to be changed, or indeed discarded, should there be a significant shift in scientific or public perception. In terms of practical

politics, the government of the day needs to give itself future wiggle room by making it clear to everyone that it is indeed making decisions on the basis of a fluid balance of probabilities, rather than on what activists insist is a scientific and economic certainty.

Garth Paltridge is an emeritus professor with the University of Tasmania, a visiting fellow at the Research School of Biology at the Australian National University and a fellow of the Australian Academy of Science. He is the author of *The Climate Caper: facts and fallacies of global warming*, Connor Court, 2009. He was a chief research scientist with the CSIRO division of atmospheric research.

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