

Report treats complex topic in naive way

SPOONER'S VIEW



AND IF NOT FOR THE MAGIC BALLOON GIFTS, GOLDILOCKS WOULD HAVE BEEN IN BIG TROUBLE

Records used to represent global average temperature show that Earth has not warmed since 1998 and has been cooling since 2002, writes **Bob Carter**.

PROFESSOR Ross Garnaut is a distinguished economist. Global warming is a scientific subject. Spotted the problem yet?

This lack of competence is exemplified by the first sentence of the news release that accompanied last week's draft Garnaut report, which reads: "Australians are facing risks of damaging climate change."

No careful scientist would write such a statement. First, because, as written, it is vacuously self-evident — tantamount to saying the sun will rise tomorrow. Second, because it is ambiguous and does not mean what it says.

In fact the statement is coded, and was, as intended, read by the media and public as: "Australians are facing risks of damaging global warming caused by human emissions of the greenhouse gas carbon dioxide". As thus rephrased, Garnaut's opening statement has no factual basis.

Garnaut concedes his inability to make scientific judgement by saying: "The review takes as its starting point, on the balance of

probabilities and not as a matter of belief, 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."

This, apart from being a naive way to treat a complex scientific topic, is yet more code. It means the review has accepted holus-bolus, and without independent checks, the advice about global warming that has been provided in the 2007 4th Assessment Report (4AR) of the politically motivated Intergovernmental Panel on Climate Change (IPCC).

Thereby, in the absence of proper due diligence, Australian domestic policy is now effectively being set by the United Nations. Worse, buried in the code, is the factually incorrect statement that there has been substantial global warming since the mid-20th century.

In reality, the best

instrumental record of that length (from weather balloon radiosondes) shows no warming since 1958. Also, no one — and manifestly not Garnaut, who has ignored all advice except that of the IPCC — knows what the "majority" scientific opinion is.

Even if they did, it is an astonishing suggestion that a matter of significant science policy should be determined by a show of hands. Vote-counting is a political activity; science is about demonstrated, factually tested truths.

The IPCC's fourth report was closed off from considering new scientific input in May 2006. Because of this, the report's fashionable opinion that the climate is warming dangerously due to human influence suffers from two irredeemable flaws.

First, the science in 4AR is in general more than two years out of date; it is therefore significantly uninformed, in particular about the actual path of recent climate change.

Second, the IPCC judgement that dangerous human-caused warming is occurring, or will occur, is based entirely on projections (not predic-

tions) from unvalidated and unsuccessful computer models.

In regard to the first point — current climate change — all four major international records used to represent global average temperature now show that Earth has not warmed since 1998 and has been cooling since 2002; and this despite an increase in atmospheric carbon dioxide of almost 5%.

One probable cause of the cooling is the still-extending length of the solar quiet period between sunspot cycles 23 and 24. Noting this, solar physicists are projecting that cooling will continue for a decade or more, and may be as severe as that of the historically notorious "Little Ice Age".

In regard, to the IPCC's unvalidated computer model projections, all such models are of the type that CSIRO uses, and about which it comments in its climate consultancy reports to government and industry, that:

"This report relates to climate change scenarios based on computer modelling. Models involve simplifications of the real processes that are not fully understood.

"Accordingly, no responsibility will be accepted by CSIRO or the Queensland Government for the accuracy of forecasts or predictions inferred from this report or for

any person's interpretations, deductions, conclusions or actions in reliance on this report."

Using outdated and incorrect science, which itself is largely based on PlayStation-4 computer gaming, Garnaut heaps further uncertain economic computer modelling on top. In accord with the well-known acronym garbage-in-garbage-out (GIGO), no useful conclusions can possibly result.

Garnaut's economic review of climate change policy is an edifice built on a profoundly flawed "scientific" base.

Introduction of the penal carbon dioxide taxation system that he proposes will severely damage the Australian economy. At the same time, it will have an impact most on those who are already socio-economically disadvantaged.

The intended pain will result in zero gain, for, incredibly, implementation of even the strictest emissions trading scheme will produce no measurable change to climate.

Only one conclusion is possible. The emissions trading system recommended in the draft Garnaut report is in equal measure unnecessary, immoral and irresponsible.

Bob Carter is a marine geologist and environmental scientist at James Cook University, Queensland.

Spending on science and innovation is best for combating climate change

There are technological solutions to the problems created by technology, writes **Kim Carr**.

NOTHING can shake my optimism about Australia's future — not even global warming. Nothing can diminish my faith in our ability to meet the technical challenges posed by climate change.

The real challenge is to achieve maximum reform at minimum cost while maintaining living standards. That's what the Government's emissions trading scheme will do.

We will also ensure that unavoidable costs are shared equitably. We can't expect industrial workers to carry the whole burden. We can't demand the same contribution from low-income earners and pensioners that we might ask from the better-off. Our commitment to tackling climate change is unwavering, but so is our commitment to social justice.

We can balance those commitments by taking a high-tech path to a low-carbon economy. That means attracting new investment. It means reinventing existing industries and developing new ones. It means investing in science, research and innovation.

That's the way to keep high-value export industries and high-skill, high-wage jobs in Australia. Letting industry migrate to locations where environmental controls are lax is bad for Australia and bad for the planet. It doesn't have to happen.

Professor Ross Garnaut argues that science and research can give us greenhouse-friendly technologies in the short term, reduced mitigation costs over time, and ultimately a lower carbon price.

He suggests that Australia should be spending at least \$3 billion a year on research, developing and commercialising low-emission technologies.

It is hard to calculate exactly how much of the \$6.37 billion the Government has budgeted for science and innovation this year will be used for these purposes, but it is a lot.

Programs wholly or partly dedicated to climate change-related research and development include Climate Ready (\$75 million), the Energy Innovation Fund (\$150 million), the Renewable Energy Fund

(\$500 million), the National Clean Coal Fund (\$500 million) and Australia's Farming Future (\$130 million).

The Green Car Innovation Fund (\$500 million) does not come on stream until 2011, but, as we showed with the hybrid Camry, we are prepared to draw on it now if the right opportunities come along.

Three-quarters of Commonwealth spending on science and innovation supports R&D in industry, universities and public sector research agencies such as the CSIRO. A significant and growing share of this investment is going into low-emission technologies.

Last week I launched the CSIRO's Climate Adaptation Flagship, which joins the Energy Transformed Flagship, the Light Metals Flagship, the materials science and engineering division and other CSIRO units dedicated to finding scientific solutions to climate change problems. In May I approved 208 collaborative R&D projects involving universities, industry and other organisations under the Australian Research Council's Linkage Program. About a third focused on environmental sustainability and a third on technologies with the potential to transform Australian industry.

And new ideas aren't just being worked out in the laboratory; they are also being worked out on the factory floor. Industry is changing both its products and the way it makes them. Recent figures from the Australian Bureau of Agricultural and Resource Economics show energy consumption in manufacturing fell 0.7% in 2006-07 — a year in which the sector's industry value added 4.5%, exports rose 13.7% and employment remained constant.

Making steel, aluminium and electricity will always be energy-intensive, but there are many ways to minimise the impact — through co-generation, carbon capture and storage, heat recovery and other techniques. In an Australian first, the CSIRO and its partners at Loy Yang in the Latrobe Valley last week captured carbon from the power station's flue gases.

This is a reminder that there are industrial solutions to the problems created by industry — technological solutions to

the problems created by technology. That's why it is so important that we keep pushing back the frontier in fields like biotechnology and nanotechnology.

Biotechnology promises us drought-tolerant crops, better biofuels, trees that store more carbon and species that require less energy to grow. It could even give us cattle that produce less methane. Nanotechnology promises us cheaper solar panels, more efficient fossil fuels, better hydrogen fuel cells and plug-in electric vehicles that can recharge in 10 minutes.

The answers are out there, but if we want to find them we must get individuals, institutions and sectors working together. We must concentrate our efforts and resources and improve connections across the innovation system. That is an important aim of the innovation review chaired by Dr Terry Cutler, which reports later this month.

The greatest danger is uncertainty. As Garnaut says: "It is important to create a long-term, stable and consistent framework to promote investment in low-emissions technologies."

The Government has set out to provide that framework. The last thing we need is the kind of dithering and confusion we have seen from the Opposition in recent times. That's the real threat to investment and employment.

It is unfortunate that we have an Opposition paralysed by fear and pining for a return to outdated certainties. What matters is that the Government and the community are clear about where we are heading and why.

A report by the CSIRO to the Dusseldorp Skills Forum released last month concluded that we can reduce greenhouse gas emissions and stabilise energy use while still raising our standard of living — if we get the policies right.

We should never give up on the belief that our children can, and will, live better than we do. There is no reason why they can't have the way of life they want and a healthy planet to live on. The key is to give people the firm policies they need to make long-term investments in renewal and innovation. It is all about having faith in the future.

Senator Kim Carr is Minister for Innovation, Industry, Science and Research.