



PARLIAMENT OF AUSTRALIA
HOUSE OF REPRESENTATIVES

THE HON DANNA VALE MP
FEDERAL MEMBER FOR HUGHES



26 October 2009

Senator the Hon Kim Carr
Minister for Innovation, Industry, Science and Research
Parliament House
CANBERRA ACT 2600

COPY

Dear Minister,

Re: THE CARBON POLLUTION REDUCTION SCHEME BILLS

I apologise for such short notice, but I have an urgent request and respectfully trust that you may be able to assist me.

As you will be aware we will be debating the Carbon Pollution Reduction Scheme Bills (CPRS) in Parliament this week.

In carrying out research to prepare my speech, it has come to my attention that scientific observations published in two recent peer reviewed scientific papers disprove two key climate theories incorporated in the version of the CSIRO/BoM computer climate model (Garnaut Version) used to provide the theoretical forecasts for temperature and other climate changes. These forecasts were used as input to the Garnaut Climate Change Review report (Garnaut Report); and as you would also be aware, the Garnaut Report provides a great deal of the justification for the CPRS.

The two recent peer reviewed scientific papers are:-

1. "Trends in middle and upper-level tropospheric humidity from National Centers for Environment Prediction reanalysis data" by Garth Paltridge, Albert Arking & Michael Pook, (published on line: 26.2.09); and
2. "How Much More Rain Will Global Warming Bring?" by Frank J. Wentz, Lucrezia Ricciardulli, Kyle Hilburn & Carl Mears, (published on line in Science Express: 31.5.07).

I understand that in science, observation always trumps theory; so I would greatly appreciate receiving your assurance that the climate theories incorporated in the 'Garnaut Version' of the CSIRO/BoM computer climate model were in accordance with the observed climate principles clearly evident in the findings made by Paltridge et al and Wentz et al.

I am hopeful that you will be able to give me your assurance in the next day or so.

Yours faithfully,

DANNA VALE MP
FEDERAL MEMBER FOR HUGHES



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SENATOR THE HON KIM CARR

**MINISTER FOR INNOVATION, INDUSTRY,
SCIENCE AND RESEARCH**

The Hon Danna Vale MP
Member for Hughes
PO Box 1014
SUTHERLAND NSW 1499

11 NOV 2009

Dear Ms Vale

Thank you for your letter of 26 October 2009 concerning the CSIRO/BoM climate model used in the Garnaut Review.

I have referred your letter to CSIRO and have been advised that there are no observational data in either of the published papers you have cited that either disproves the underlying theories on which the global climate models (GCM) are based, or would invalidate outputs from those models.

I can clarify that two CSIRO Climate models were used in the Garnaut Review. These were:

1. CSIRO's Mk3.5 Global Climate Model (GCM), which was also one of 23 GCMs used in the Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment. The method used to provide probabilistic climate projections, referred to in Chapters 4 and 5 of the Garnaut Review, has been published in a peer-reviewed publication¹.
2. The model used in Chapter 11 (and for Figure 4.6) of the Garnaut Review was a low resolution version of CSIRO Mk3.5 GCM called CSIRO Mk3L. These models essentially capture the main climate processes similarly, though at different spatial resolutions.

Thank you for raising this matter with me.

Yours sincerely

Kim Carr

¹ Watterson IG, McGregor JL, Nguyen KC (2008) Changes in extreme temperatures of Australasian summer simulated by CCAM under global warming, and the roles of winds and land-sea contrasts. *Australian Meteorological Magazine* 57 (3) 195-212.



THE HON DANNA VALE MP
FEDERAL MEMBER FOR HUGHES



14 December 2009

Senator the Hon Kim Carr
Minister for Innovation, Industry, Science and Research
Parliament House
CANBERRA ACT 2600

COPY

Dear Minister, *Kevin*

RE: CSIRO/BoM GCM STRUCTURALLY UNSOUND

Thank you for your letter of 11 November 2009 in response to mine of 26 October 2009 regarding the above and recent empirical scientific discoveries by Paltridge et al and Wentz et al in relation thereto.

It appears from your response that not only has the Rudd government failed to ask the right questions of the CSIRO, it has apparently colluded with the CSIRO to excuse them from having to give answers when asked probing right questions. The Rudd government appears to have deliberately abrogated its fundamental responsibility to protect the interests of the people of Australia on climate change and is instead blindly determined to lead us into disaster.

While not stated explicitly, from the general tone of your letter I assume that the two Garnaut Versions of the CSIRO global climate model (GCM) were not compliant with the "observed climate principles clearly evident in the findings made by Paltridge et al and Wentz et al". Please correct me if I am wrong.

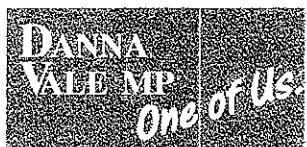
This means of course that the forecasts made by the Garnaut Versions were grossly exaggerated because they were based on now outdated science. Parliament and the Australian people must have the benefit of the latest science when making truly momentous decisions on Australia's response to climate change. Consequently the now joint CSIRO/BoM GCM needs to be updated and a new set of forecasts produced. I expect that the CSIRO/BoM will issue the normal scientific caveats with their updated set of forecasts.

The Treasury modelling, which used the forecasts from the Garnaut Versions will also need to be updated and lastly the Garnaut Climate Change Review report will itself need to be heavily revised.

Only after all of the above has been done will Parliament be properly informed for a debate on the CPRS Bills.

Thank you for referring my letter to the CSIRO. The CSIRO has advised you "that there are no observational data in either of the published papers you have cited that either disproves the underlying theories on which the global climate models (GCM) are based, or would invalidate outputs from those models." Both cited papers state explicitly that the observational data **flatly contradicts** key underlying theories on which all the major GCMs are based. I must conclude therefore that the team of scientists managing the joint

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CSIRO/BoM GCM has documented testable, hard science, rebuttals for both the Paltridge and Wentz empirical discoveries and as ethical scientists, rely on these rebuttals to justify continued use of their otherwise proven structurally unsound GCM.

Both the Paltridge et al and Wentz et al empirical discoveries relate to observed consequential changes in the atmosphere following an increase in CO₂ and temperature.

As you and your Department would be well aware, a doubling of CO₂ in isolation (i.e. without any consequential changes in the atmosphere) will result in a temperature increase of around 0.8°C.

You and your Department would also be well aware that the Garnaut Versions of the CSIRO GCM assume (i.e. no supporting observational data) consequential changes that provide positive feedback and thus amplify the 0.8°C by factors of 4 to over 8 times, giving forecast increases in temperature of 3°C to over 6°C, for a doubling of CO₂.

However, the Paltridge and Wentz empirical discoveries show that the real world feedbacks are in fact not positive but negative. Once the Garnaut Versions of the now joint CSIRO/BoM GCM have been corrected, the CSIRO/BoM forecasts will be for an almost imperceptible 0.2°C to 0.5°C increase, spread over a century.

For ethical scientists, observations always take precedence over theories.

It is apparent that the CSIRO's advice, as communicated by you, was disingenuous. The CSIRO's advice did not make clear to me that the team of scientists managing the CSIRO/BoM GCM are well aware that, in light of the Paltridge et al and Wentz et al empirical discoveries, ethically they can no longer amplify a 0.8°C temperature increase into a 3°C to over 6°C increase, unless they have documented testable, hard science, rebuttals for both the Paltridge and Wentz empirical discoveries. Having regard to the disingenuous nature of the CSIRO's advice, as communicated by you, I am concerned that Dr. Megan Clark, CEO of the CSIRO, was not properly briefed on this critical issue and have copied this letter to her. As you are no doubt aware a major scientific scandal came to light just recently with the publication of emails and data files from the Climate Research Unit at East Anglia University. Because of the senior roles within the IPCC of the scientists involved, the scandal casts doubt on the integrity of the entire IPCC process.

As you and your Department would be aware there is an unending flow of proven major contradictions between what field climate scientists discover through observation and what the GCMs predicted. GCM-scientists don't really need to challenge this type of empirical discovery, which proves that their GCMs have poor predictive power, because they have a near perfect come back. The typical GCM-scientist's response it seems is an unapologetic and arrogant demand for more money from governments so that their GCM's predictive capability can be improved.

However, the Paltridge and Wentz empirical discoveries are a very different type of empirical discovery. They contradict the underlying structure of the GCMs rather than a specific prediction. Their empirical discoveries show that the GCMs are structurally unsound and by implication their predictions will also be unsound and grossly exaggerated. Consequently, the underlying structure of the GCMs needs to be changed, so that they are compliant with both the Paltridge and Wentz empirical discoveries.

The team of scientists managing the joint CSIRO/BoM GCM know exactly what needs to be done. Apparently there is nothing stopping them from making their GCM compliant, except their wilful refusal to accept the results of excellent observation-based scientific research. Therefore the GCM-scientists have no choice but to disparage these empirical discoveries

as best they can, confident that this will suffice for the Rudd Government to leave them to carry on using various versions of their structurally unsound GCM to make exaggerated forecasts.

However, the implications of a say 0.2°C to no more than 0.5°C forecast rise in temperature are massively different to the implications of a say 3.0°C to over 6.0°C increase. So I am sure you will understand that unsubstantiated and half-baked "disparagement" will not suffice for the Abbott Opposition or the people of Australia.

Accordingly, I would be grateful to receive **copies of the testable, hard science, rebuttals for both the Paltridge and Wentz empirical discoveries**, that the team of scientists managing the joint CSIRO/BoM GCM rely on to justify continued use of their proven structurally unsound GCM. Please note that either of these empirical discoveries, even without the other, is sufficient to reduce forecast temperature increases to below 1.0°C.

As you are aware, I also wrote to Dr. Megan Clark, CEO of the CSIRO, on this matter and have copied this letter to her. I would appreciate it therefore if you would also confirm in your reply that **the most senior management of the CSIRO has formally endorsed the rebuttals** that their GCM-scientists rely on.

You will be pleased to know that the empirical discoveries by Paltridge et al and Wentz et al have resolved something of a climate paradox.

We know from the work of many scientists who have analysed changes in climate over hundreds of millions of years that significant increases and decreases by factors of 2, 3, 4 and more in CO₂ forced negligible changes in global temperatures.

We also know that CO₂ is a greenhouse gas, so these observations of past climate changes were something of a climate paradox. However, with these two empirical climate discoveries we now have the real world data and scientific theories needed to resolve the paradox and explain why massive changes in CO₂ forced negligible changes in global temperatures.

As I noted in my speech against the CPRS in Parliament last October, CO₂ is a potent plant fertiliser and a doubling of CO₂ will lead to a **free 20% to 50% increase in food production**, depending on crop type and local conditions. Native forests and vegetation generally will also grow much more vigorously, leading to a huge anthropogenic greening of planet earth.

I have included below some comments on the Paltridge et al and Wentz et al research, so that you can have the benefit of a more substantive view.

Paltridge et al:- Summary of research methodology and empirical discovery

The empirical (based on observations) findings by Garth Paltridge and his team are very strong.

Paltridge and his team noted, as ethical scientists should, the concerns of other scientists about radiosonde humidity measurements in general. They then studied the data and dealt with those concerns by excluding those measurements which seemed unreliable. The unreliable measurements are those made at altitudes and in regions where there is very low humidity, which are at high altitudes and in the polar regions. Data pre-1973 was also rejected by Paltridge.

Paltridge and his team only used data which was in their view reliable, but again noted, as ethical scientists should, that there may prove to be problems with the data. It is extremely unlikely that there are any substantial problems with the radiosonde temperature and humidity data used by Paltridge et al, for the reasons outlined below.

In a beautiful piece of scientific research Paltridge et al predicted that based on theory, as CO₂ increases, the temperature increase in the upper troposphere, just above the convective layer, would be greater than at lower levels.

Paltridge et al used one set of instruments, measurements and procedures to show that, based on observations this was in fact what happened.

Their findings were consistent across three separate regions, namely the tropics, northern mid-latitudes and southern mid-latitudes and for both summer and winter seasons.

Paltridge et al then predicted that based on theory, this disproportionate increase in temperature would result in a consequential decrease in the amount of water vapour in the upper troposphere, above the convective layer.

Paltridge et al used a different set of instruments, measurements and procedures to show that, based on observations this was in fact what happened.

Their findings were consistent across three separate regions, namely the tropics, northern mid-latitudes and southern mid-latitudes and for both summer and winter seasons.

Paltridge et al then calculated that for a doubling of CO₂ in isolation (before taking into account the consequential decrease in the amount of water vapour in the upper troposphere) the temperature would increase by 0.8°C. They then repeated the calculation, this time taking into account the consequential decrease in the amount of water vapour in the upper troposphere and found that this had a negative feedback effect and reduced the temperature increase from a doubling of CO₂ to 0.4°C.

Paltridge et al contrasted this with the typical GCM forecast that a doubling in CO₂, together with the typical GCM speculative theoretical assumption that there is a consequential increase in water vapour in the upper troposphere, results in positive feedback and an amplified 1.8°C increase in temperature.

The assumed increase in the amount of water vapour in the upper troposphere is built into the structure of the GCMs and is crucial to the production of forecast temperature increases above 0.8°C. As far as can be ascertained, this is a pure assumption, with no climate theory or observational data to support it.

The teams of scientists managing the GCMs don't have to bother qualifying the observational data supporting the speculative theoretical assumptions on which their over 0.8°C temperature forecasts depend, because as far as can be ascertained there isn't any.

For ethical scientists observations always takes precedence over theoretical assumptions.

Unless there is observational data supporting the 'increase in water vapour assumption' the teams of scientists managing the GCMs must surely be walking perilously close to the line.

Wentz et al:- Summary of research methodology and empirical discovery

The procedures used by Frank Wentz and his colleagues make their discovery extremely strong.

Wentz and his team used one method and one set of satellite data to estimate precipitation. They used a different method and a different set of satellite data to estimate evaporation. They used yet another method and another set of satellite data to estimate the amount of water vapour in the atmosphere.

Their results showed that the percentage increases in evaporation, precipitation and atmospheric water vapour were the same (6.5% per 1°C rise in temperature) for all three. Also, evaporation has to equal precipitation so their estimates of changes in evaporation are doubly verified

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Wentz et al contrasted their observational discovery with the typical GCM assumption that the percentage increase in evaporation and also precipitation is around 1.7%, while the percentage increase in atmospheric water vapour is around 6.5% per 1°C increase in temperature.

Water vapour is a greenhouse gas while evaporation removes around half the solar energy absorbed by the surface of the earth, so by constraining evaporation the GCMs replace observed negative feedback with assumed positive feedback.

The assumed constraint on the increase in evaporation is built into the GCMs and is crucial to the production of forecast temperature increases greater than 0.8°C. As far as can be ascertained, this assumption has no observational data to support it.

The teams of scientists managing the GCMs don't have to bother qualifying the observational data supporting the speculative theoretical assumptions on which their over 0.8°C forecasts depend, because as far as can be ascertained there isn't any.

For ethical scientists observations always takes precedence over theoretical assumptions.

Unless there is observational data supporting the 'constrained increase in evaporation' the teams of scientists managing the GCMs must surely be walking perilously close to the line.

I look forward to receiving from you copies of the testable, hard science, rebuttals for both the Paltridge and Wentz empirical discoveries, that the team of scientists managing the joint CSIRO/BoM GCM rely on to justify continued use of their otherwise proven structurally unsound GCM.

Since the cited papers explicitly contradict key underlying theories on which the joint CSIRO/BoM GCM is based, I expect the rebuttals will be to hand within the CSIRO and anticipate receiving copies early in the New Year and well before the CPRS Bills are reintroduced.

Yours faithfully,



DANNA VALE MP
FEDERAL MEMBER FOR HUGHES