

ANU Climate Change Institute

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Senator Steve Fielding
Parliament House
Canberra ACT 2600

Dear Senator Fielding

Thank you very much for your letter of 21 July 2009 and your kind invitation to make a presentation to Senators on 12 August 2009, along with Professor Bob Carter, on Minister Wong's response to your three questions on the relationship between carbon dioxide and global warming, and on the science of climate change more generally.

While I certainly agree that it is very important that Senators have the most credible and up-to-date scientific information on climate change, I do not agree that your proposed approach to informing Senators will achieve this aim. I therefore respectfully decline your invitation. My detailed reasoning follows.

You state in your letter that "...it is important that all Senators are given the opportunity to hear both sides of the debate...". In terms of the relationship between carbon dioxide (and other greenhouse gases) and global warming, there is no debate in the climate change research community. That the Earth's surface is warming is unequivocal, and there is also strong agreement amongst the vast majority of climate change scientists that anthropogenic emissions of greenhouse gases (carbon dioxide is the most important of the gases emitted by human activities) are the primary cause for the warming observed since the middle of last century.

The counter arguments put forward by Professor Carter and his colleagues do not constitute the "other side of a scientific debate". In fact, based on the written documentation that I have seen ((i) the three questions that you posed to Minister Wong and the supporting material for those questions, and (ii) the so-called "due diligence report" that commented on the Minister's response), these counter arguments do not constitute credible science. These documents demonstrate a serious misunderstanding of climate science and the processes for assessing that science; they also contain violations of the fundamental principles of sound statistical analysis. In addition, there are numerous examples of flawed logic, misleading and inaccurate statements, and confused and inconsistent analyses. In my professional opinion and experience, science students at the ANU would be expected to do much better than this.

Here are just a few examples from the 'due diligence report':

- use of material from web-blogs and conference reports from advocacy groups as legitimate scientific literature
- a very confused account of what warming of the climate system actually means.
- a confused and inconsistent analysis of the internal variability of the climate system.
- flawed logic in terms of the effects of natural variability on warming by solar radiation compared to its effects on warming by greenhouse gases.
- misleading and inaccurate statements on Arctic and Antarctic temperature and cryospheric trends.

Furthermore – and very importantly – to the best of my knowledge, there is no peer-reviewed article in a major scientific journal such as *Nature*, *Science* or the *Journal of Geophysical Research* that refutes the main finding of the Intergovernmental Panel on Climate Change that anthropogenic greenhouse gas emissions are the primary cause of the observed warming of the Earth since the middle of last century. In scientific communities, publishing in the peer-reviewed literature is the normal way for those with minority views to confront the mainstream views on a particular scientific issue (not via debates in the media, in political settings or in the blogosphere).

In summary, there is no debate in the credible scientific community on the relationship between greenhouse gas concentrations in the atmosphere and temperature change at the Earth's surface. My participation in your proposed event would thus send precisely the wrong message to your colleagues in the Senate.

My negative answer to your invitation is certainly not meant to be either disrespectful or inflammatory. Rather, it is based on my considerable experience in the climate and global change research communities and my unwavering commitment to provide the highest quality scientific information on climate change in the most appropriate fora and settings for a very wide range of audiences. Thus, I felt that I owed you this detailed explanation of why I cannot accept your invitation.

Looking ahead, I would like to extend to you, your staff and your advisers the invitation to take advantage of the many opportunities that the ANU - the Australian Government's university and one of the world's very best research-intensive universities – offers in terms of high quality information and education on critical issues that face Australia, such as climate change.

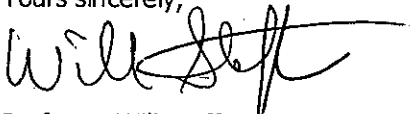
More specifically, opportunities include:

- The ANU Climate Change Institute Open Day, to be held next Monday 27 July. A program is enclosed.
- A large number of undergraduate and postgraduate courses with significant climate change-related content, ranging from law and economics to climate science and energy systems. An excellent course on climate science and policy, taught by Associate Professor Janette Lindsay of the Fenner School of Environment and Society, is offered this term, and provides a superb, in-depth treatment of the nexus between climate science and climate policy.
- World-class library and information resources that provide a wealth of information on climate change. For example, enclosed is a short reading list of books and book chapters for understanding the climate as a system, for building a fundamental understanding of contemporary climate change (including its impacts), for placing the nature of contemporary climate change in the context of past climatic changes, and for understanding the dynamics of the Earth System as a whole.

If you would like further information on any of these or other opportunities, please don't hesitate to contact me or my staff in the ANU Climate Change Institute. We will be happy to provide further information, and to facilitate your involvement or that of your staff or advisers in any of these or other events sponsored by the ANU.

Finally, I appreciate that you are very busy, but if you have a day or a half-day to visit the ANU, I would be delighted to arrange a first-rate program of visits with some of the university's most outstanding scholars on issues related to climate change.

Yours sincerely,



Professor Will Steffen
Executive Director
ANU Climate Change Institute