

## Debate over 'global warming' frustrating

By Dr. Hans Martin

The debate over 'so-called global warming' is indeed frustrating. In addition, the education of the public can be hugely jeopardized by ambiguity to the point of disinterest.

In Gairdner's article we read that a good deal of the science is not up to a high standard, the subject matter is far too vast, the number of fluctuating variables is far too great for progress to be made and so on. Nonetheless, in scientific laboratories scientists ponder upon observations and make conclusions. Our reports are neither literary nor philosophical. Gairdner refers to the whole business as being shot through with political sensitivities.

It is true in Canada these days, politics rules supreme in the public reporting of science. But in the conduct of scientific research, other more compelling restraints prevail such as the laws of thermodynamics and Newton's Laws. The world of rigour and reproducibility is tough.

Opinions don't count.

Gairdner supports his arguments with vague reference to his rabid adversaries 'global warming proponents' being reflex leftists, neo-romantic nature lovers and green fanatics. I do not recall any of these types being in my laboratories when, from 1988 to 1995, I was director of the Air Quality Research Branch in Environment Canada. I should have encountered them, I had over 40 PhDs, the same number of technical staff and another 40 or 50 support staff working on issues related to global warming (or climate change), air toxics, stratospheric ozone depletion and ambient air quality. On the contrary, my scientific and technical staff was constantly invited to participate in research programs in other similar institutes around the world. In turn we had a stream of guest technicians and scientists working in our labs, learning from us.

It is no accident that Canadian science, including research conducted in Downsview at Environment Canada, has played a leading role in international environmental policy:

1. The design of the agreements between Canada and the U.S. on the issue of acid rain.
2. The design of the Montréal protocol on stratospheric ozone.
3. The many agreements and protocols developed by United Nations Economic Commission for Europe, ECE.
4. The assessment of the impact of toxic chemicals in the Arctic 'Arctic monitoring and assessment program, Norway.
5. The first International High-level Conference on Global Warming, Toronto, 1988!

On May 21 in the Sentinel, we read a warning in the 'nutshell part 1' article that 'that we ought to question all statements about global warming (and many other environmentalist claims, too) because of the presence 'and prevalence' of certain of these unbalanced and pseudo-mystical motivations that turn up in the 'science' of climate change.'

The article then provides a fairly extensive discussion of chaotic weather systems. Apparently we have failed miserably in modeling and predicting even very limited chaotic systems. The author is unaware of some of the fundamental research done over the last 75 years on the turbulent structure of the atmosphere. In 1966, I defended my PhD thesis on the turbulent structure of water vapor in the atmosphere.

In 1986, during the days following the Chernobyl power station explosion, one of my scientists, an atmospheric modeller, was asked to come immediately to London to assist in predicting the pathway of the radioactive cloud. He went and they produced within days a valuable pan-European tool for assessing and minimizing the risk to humans from radioactive fallout.

And then Gairdner turns to the 'political agency,' the IPCC. Why is there so much scientific debate if the matter is political? Only in Canada you know! Why does the IPCC engage thousands of scientists in debate about the state of knowledge of climate change? Why not just make a final political statement as is done now in Ottawa and leave it at that? The reason is that the scientific community relentlessly improves our knowledge and understanding of this phenomenon each day and will not be ambushed by amateurs and political interests. And foreign governments believe that the situation poses an urgent threat to global wellbeing. For Canada, there is a paradox. The deputy director of the IPCC is a Canadian and man of impeccable integrity. I doubt if he will ever come back to work here from his office in Bonn, Germany.

Of course there have been public debates and errors in the process and reporting of the IPCC. Overall, however, we have come a long way.

For the laymen, interested in some clarity in this morass of half-baked opinions and political deception, I suggest you examined one single scientific item 'the concentration of carbon dioxide in the atmosphere. We have been measuring atmospheric concentrations

of carbon dioxide (CO<sub>2</sub>) every hour for years at the Canadian research station at Alert, Northwest Territories. Alert is one of a handful of background monitoring station around the world. The increase of carbon dioxide concentrations in the atmosphere is a fairly reliable indicator of global climate warming.

We see that the current concentrations of carbon dioxide in the atmosphere are higher than they have been for the last 800,000 years. And the dramatic rise has occurred in the last few decades.

<http://www.epa.gov/climatechange/science/indicators/ghg/ghg-concentrations.html>

Geneva, 26 May 2014 (World Meteorological Organization WMO). For the first time, monthly concentrations of carbon dioxide (CO<sub>2</sub>) in the atmosphere topped 400 parts per million (ppm) in April throughout the northern hemisphere. This threshold is of symbolic and scientific significance and reinforces evidence that the burning of fossil fuels and other human activities are responsible for the continuing increase in heat-trapping greenhouse gases warming our planet.

According to WMO's Greenhouse Gas Bulletin, the amount of CO<sub>2</sub> in the atmosphere reached 393.1 parts per million in 2012, or 141% of the pre-industrial level of 278 parts per million.

[https://www.wmo.int/pages/mediacentre/press\\_releases/pr\\_991\\_en.html](https://www.wmo.int/pages/mediacentre/press_releases/pr_991_en.html)

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