

Dr. Lupo's reply to: "In Defense of a Theory of Anthropogenic Global Warming" by L.W. Halverson, MD.

In the Fourth Assessment Report¹, the IPCC has concluded that there is a 90% chance that at least some climatic warming is human induced. This is a key point. It is a statement that even a skeptic can agree with since it does not conclude that humans are responsible for 100%—or even 1%—of observed warming. Presently, I don't believe it is possible to determine the extent of a human contribution. Thus, the debate cited in the conclusions of my article² is alive and well.

Dr. Halverson cited three pillars on which the anthropogenic global warming (AGW) argument rests. The pillar supporting a human induced cause for climate change based on computer models is the easiest to knock down. I've cited the reasons² models cannot be entirely trusted. Computer models lack adequate numerics and physics and fail to factor in deep ocean contribution which is not completely understood.

The broad support in the scientific community is pillar number two. While there is support in the climate science community, the degree of support is not consistently strong. There are also many skeptics, especially among US state climatologists. A flat earth was once the 'consensus opinion' of science. That opinion has changed in the last 1000 years. Science should never rest completely on consensus opinion.

The Oreskes study³, purporting to find 928 papers published from 1993 to 2003 which agreed with AGW, has been found to be flawed. Dr. Richard Lindzen followed up the Oreskes Study.⁴ Lindzen cited a colleague who found that several of these studies actually opposed the AGW consensus opinion. My own instinct tells me that the 928 articles which address the issue of climate change are a small number of articles that investigated any aspect of climate science in those same ten years (there were in fact about 12,000). However, I wouldn't accept this as evidence of indifference to the climate change issue.

Only the last pillar in Halverson's argument is difficult to deconstruct. There has been an increase in CO₂ concentration, it can be attributed to human sources, and it does correlate with the very small recent warming (albeit not perfectly). Changes we are seeing all around the world due to warming (loss of arctic ice, animal habitats, etc.) would occur with any warming, natural or human induced. In the history of the planet these cyclic warming-cooling changes antedated human existence.

While I consider myself a skeptic, I have always been supportive of efforts to find alternatives to CO₂ producing fossil fuels. I have faith that scientific and technological development will solve this problem much the same as the internal combustion engine solved the "horse manure" pollution that plagued vibrant cities in the late 1800's. Additionally, many of the world religions call upon their followers to be good stewards of the environment. A secular argument would suggest it makes good sense to strive for cleaner, more efficient and less costly renewable resource(s), thus leaving our children with a better world and a higher standard of living. Finally Dr. Halverson and I agree that the race for fossil fuels by developing societies will bring us into conflict unless we find alternative energy sources.

Respectfully,

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References

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2. Lupo, A.R., 2008: Anthropogenic global warming: A skeptical point of view. *Journal of Missouri Medicine.* **INSERT REFERENCE**
3. Oreskes, N., 2004: The scientific consensus on climate change. *Science,* **306**, www.sciencemag.org.
4. Lindzen, R.S., 2006: There is no ‘consensus’ on global warming. *June 26th issue of the Wall Street Journal.* http://online.wsj.com/article_print/SB115127582141890238.html