
12/18/2019

Dear Editor

Subject: Equal Time

First, carbon dioxide, CO₂, is a minor greenhouse gas at 0.04% of atmospheric composition. The major greenhouse gas is water vapor (steam) and condensed steam (clouds). Water vapor is about 1% of the atmosphere, 25 times greater than CO₂. Of course, there is no technology which can mitigate the greenhouse effect of water vapor and clouds, not that meddling AGW* believers haven't considered. On the other hand, CO₂ yields easily to meddling under the false belief that ceasing use of fossil energy will end global warming and save the planet.

Second, CO₂ has a very interesting property which limits its greenhouse effect. The property derives from the fact that the average global temperature change (delta T) caused by CO₂ depends upon the logarithm** of the CO₂ concentration. An explanation of theory is given at the end of this essay.

With the present CO₂ concentration of 400 ppmvd***, greenhouse heating attributed to CO₂ is about 0.51 degrees*** Celsius. Concentration of CO₂ grows in the atmosphere about 2 ppmvd**** per year. Thus the time to double the concentration to 800 ppmvd will take about 200 years. This doubling will cause one additional degree Celsius, or 1.51 degrees C of greenhouse heating. The next doubling to 1600 ppm will take 400 years and will add just another one degree C, bringing the warming effect to 2.51 degrees C. Thus to increase the CO₂ greenhouse effect 2 more degrees C from today will require six centuries. The term used to describe the doubling behavior is saturation*****. The theory of the logarithmic behavior is well established in quantum physics and has been confirmed. Thus, CO₂ increase is not the existential threat that the AGW alarmists claim. It is not a threat at all. It is a benefit to life on earth.

Just as an aside. It would be a cruel irony of creation - evolution if the substance which is essential to life is also the substance which will end it.

If your news source is only the main stream media: ABC, CBS, NBC, CNN, C-SPAN, PBS, etc., then the logarithmic property of CO₂ will come as a revelation. These news

outlets refer to AGW, as a matter of fact, as if the science is settled, which is an absurd notion, but particularly for a discipline as complicated as climate. Science progresses via the scientific method, hypothesis and then prove or disprove by data, not by 97% consensus, also bogus.

Supposed scientific organizations (NOAA, NASA, EPA and the IPCC) promulgate doomsday predictions, based upon the circulation models, which lapse and require revision. Often doomsday predictions are made by celebrities: Prince Philip, AOC and Al Gore, to name three, all having absolutely no scientific credential, not even a reference to a credential, and gleefully reported by the main stream media.

Now I come to the crux of the matter. To be sure, the whole AGW / Climate Change issue has been politicized, with progressives believing and conservatives skeptical. I hope that my explanation of the non-threat from CO2 would lower resistance to the skeptic side. I know that Al Gore's Inconvenient Truth has been shown in Hanover science classes. But, I don't believe the students have been exposed to any opposing research. Apostate Dr. Michael Moore (disavowed by Green Peace) produced a worthy example. Link Follows:

<https://www.youtube.com/watch?v=PoQnsYcmkpw&feature=youtu.be>

My hope is, in the near future, that the school board shall proclaim, in statement and in writing, that the skeptic side of the issue shall be given equal time in the classroom. With such proclamation, I ask that the school board work with administration on a plan to implement a more even handed climate curriculum. Being good stewards of the earth does not require returning humanity to the Stone Age.

Thank you and respectfully yours,

Rick Ryan, Old Church

Socialism is the ideology of envy. Fairness and equality are euphoniums for wealth redistribution, the fulfillment of envy.

References:

Dr. William Happer explains much of the science denied by the climate alarmists. The website containing his dialogue follows:

<https://thebestschools.org/special/karoly-happer-dialogue-global-warming/william-happer-interview/>

* AGW – Anthropogenic Global Warming. The term has been supplanted by “climate change” because the average global temperature has not increased since about 1998.

This is the documented, by satellite and weather balloon, global warming pause.

** Logarithmic behavior – Happer page 14

*** ppmvd – parts per million by volume dry. Usually it is just referred to as ppm.

2015 CO2 concentration, about 400 ppm – Happer page 14

**** delta T = 0.51 degrees C – Happer page 15

***** CO2 increases 2 ppm per year – Happer page 12

*****Saturation, the mathematical relation follows:

$$\begin{aligned}\text{delta T} &= S * \log_2 (\text{ppm} / 280 \text{ ppm}) \\ &= \ln(\text{ppm} / 280) / \ln(2)\end{aligned}$$

with S = 1 degree C - Happer page 14

Recall that $\ln(x) / \ln(2) = \log_2(x)$ This relation allows changing the base of the natural logarithm (\ln) to any other base of interest, like base 2.

where,

\log_2 is the logarithm to the base 2

\ln is the natural logarithm, which has as base the number $e = 2.718282$

“e” commemorates the great Swiss mathematician / physicist, Leonhard Euler, pronounced oiler. Values of the natural log are ubiquitously tabulated.

S is a fudge factor used by climate modelers to estimate CO2 heat feedback, which contributes to atmospheric warming. The natural value, derived from quantum physics, is about one. Climate modelers stubbornly use three, which yields three times the temperature rise as compared to the natural value. This is one reason the climate model results are higher than observed temperatures. The modelers base their twelve year doomsday predictions on these models. The predictions scar children and others, keep the public believing in the AGW crisis, and keep the money flowing to the modelers and purveyors. Doomsday predictions are routinely revised, pushing doomsday farther and farther into the future. This fact alone should give believers pause.

\log_2 is the base 2 logarithm of the argument, ($\text{ppm} / 280 \text{ ppm}$). It has the form:

$y = \log_2(x)$. Expressed as an exponential, $x = 2$ raised to the y power. Solving for y returns the logarithmic form.

(ppm / 280 ppm) is the argument of the logarithm, which must be a pure number, thus the reason for the ratio. The numerator ppm is the CO2 value of interest. 280 ppm was about the atmospheric CO2 concentration around the year 1800. Going back to 1800 will capture the CO2 emissions of the industrial revolution.

Table showing results of calculation: $\Delta T = S \cdot \log_2(\text{ppm} / 280 \text{ ppm})$ $S = 1 \text{ degree C}$
 $= \ln(\text{ppm} / 280 \text{ ppm}) / \ln(2)$

years	x ppm	arg = x/280	temp = ln(arg)	delta T = temp / ln2
	280	1	0	0
	300	1.07	0.069	0.10
	320	1.14	0.134	0.19
	340	1.21	0.194	0.28
	360	1.29	0.251	0.36
	380	1.36	0.305	0.44
0	400	1.43	0.357	0.51
10	420	1.50	0.405	0.58
20	440	1.57	0.452	0.65
30	460	1.64	0.496	0.72
40	480	1.71	0.539	0.78
50	500	1.79	0.580	0.84
60	520	1.86	0.619	0.89
70	540	1.93	0.657	0.95
80	560	2.00	0.693	1.00
90	580	2.07	0.728	1.05
100	600	2.14	0.762	1.10
110	620	2.21	0.795	1.15
120	640	2.29	0.827	1.19
130	660	2.36	0.857	1.24
140	680	2.43	0.887	1.28
150	700	2.50	0.916	1.32
160	720	2.57	0.944	1.36
170	740	2.64	0.972	1.40
180	760	2.71	0.999	1.44
190	780	2.79	1.025	1.48
200	800	2.86	1.050	1.51

Notice the values at year zero and year 200.