

A THREAT GREATER THAN CLIMATE CHANGE

EXECUTIVE SUMMARY

December 21, 2021

The following defense of the gas of life was prompted by a report published by the National Academies of Sciences, Engineering, and Medicine. Not to be outdone by virologists with their dangerous gain-of-function research, the report suggests that the natural sequestration of CO₂ in the oceans should be accelerated.

Unlike the COVID pandemic, the lack of bioavailable CO₂ places all carbon life forms at risk. Attacking CO₂'s primary store represents a most serious escalation of the war on CO₂ and, conceivably, could be much more effective than all the carbon-capture-storage facilities.

This paper, entitled "A Threat Greater Than Climate Change", completely demolishes the belief that CO₂ is a climate-control variable. A recognition of the role being played by Henry's Law reveals that the IPCC's own alarmist numbers provide maximum annual temperature increases of 0.00117 degrees Celsius over the next millennium. This is certainly not a climate emergency!

It would appear that we are suffering a pandemic of fear supported by unscrupulous politicians and journalists. I regret to inform you that this paper replaces an imaginary hobgoblin with a truly real and much more dangerous hobgoblin. However, it is one that can be easily annihilated simply by accepting the truth about CO₂ and recognizing the fact that we can't generate too much CO₂.

May all your hobgoblins be vanquished.

MERRY CHRISTMAS and a HAPPY NEW YEAR!!!

Thorpe

A THREAT GREATER THAN CLIMATE CHANGE

Politicians are lying when they proclaim climate change an existential threat to life on Earth. Nevertheless, they are close to the truth because the real threat is the alleged climate-control strategy adopted by Western Civilization. The strategy has the potential not only to facilitate the economic and cultural suicide of a society but also to transform Earth into a dead planet.

This warning is not hyperbole. It is based on sound scientific principles.

The destructive strategy may be described as a war on carbon dioxide (aka "CO₂", "carbon emission") with an ultimate goal of curtailing or banning the use of fossil fuels. Initial tactics involved the closure of coal-fired power plants and the commissioning of wind and solar farms. The war on CO₂ quickly escalated with the introduction of carbon-capture-storage ("CCS") facilities.

CCS facilities are proliferating with up to 30 units now operational and hundreds more in the planning stages. Much more threatening (or terrifying) is the proposal contained in "A Consensus Study Report of The National Academies of Sciences, Engineering, and Medicine" and entitled: "[A Research Strategy for Ocean-based Carbon Dioxide Removal and Sequestration](#)".

The following paragraphs will explain why such attacks against CO₂ should be denounced and deemed not only a crime against humanity but also a threat to all carbon life forms; that is, a threat to both plant and animal life.

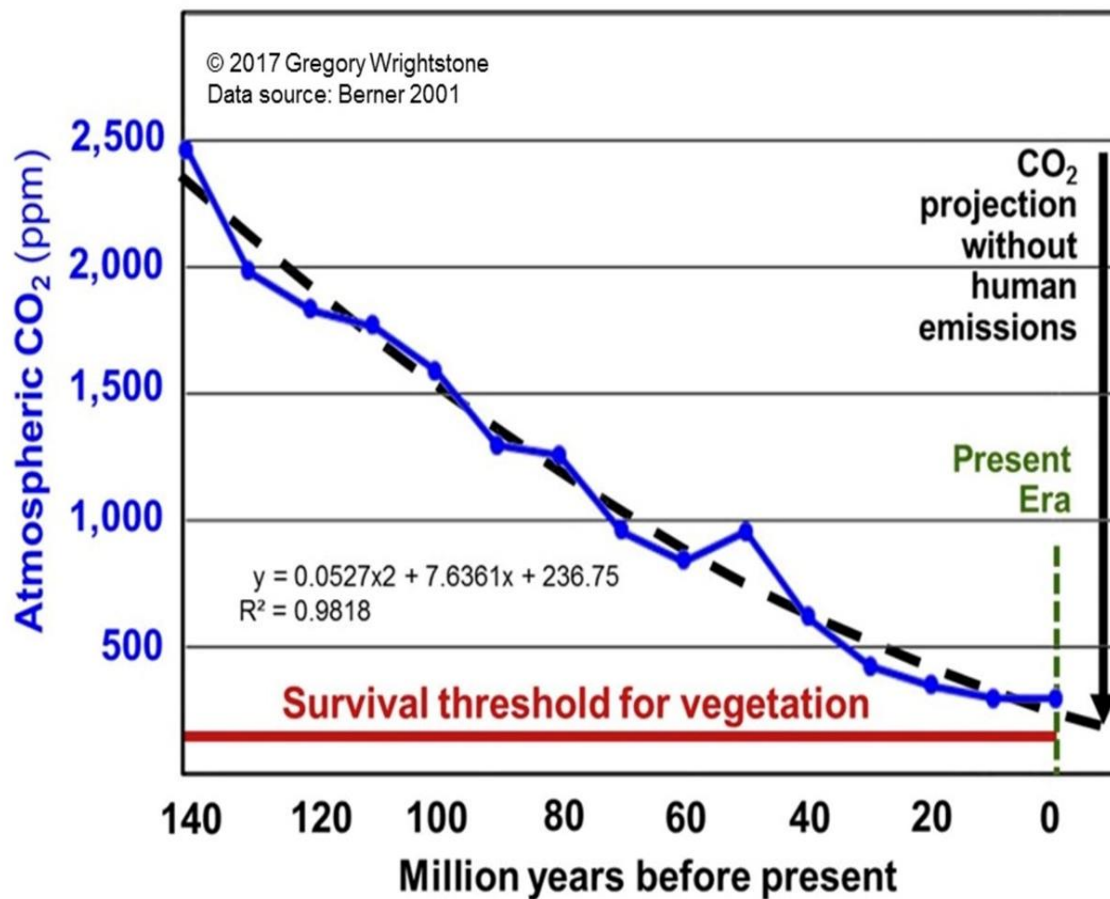
This anti-CO₂ insanity is tantamount to sequestering atmospheric oxygen to fight forest fires. However, there is a difference. An oxygen-deprived atmosphere will fight forest fires but a CO₂-deprived atmosphere will not fight climate change. Both tactics will destroy animal life; that is, one by asphyxiation and the latter by starvation.

CO₂'s history and its role in sustaining life on the planet clearly repudiate the belief that CO₂ is a climate control variable. Rather than explain why CO₂ is NOT a climate control variable, this article will focus on why a dearth of CO₂ is the real threat to all life on the planet. It will also explain why it is impossible to generate too much CO₂.

Without CO₂, Earth is a dead planet! In fact, any reduction in CO₂ reduces a plant's growth rate and its drought resistance. At 150 parts per million ("ppm"), the plant will cease to grow. The cold oceans of the Earth's reoccurring glacial periods absorb CO₂ and reduce the atmospheric content to 180 ppm, a level dangerously close to the no-growth level.

The primary store of CO₂ is in the oceans with 2% of it allowed to circulate through the atmosphere. The store has been severely depleted by more than 99% as a result of natural, ongoing processes that form carbonate sediments on the ocean floor. The layered limestone bed that can be seen at a road cut is one example of the final product.

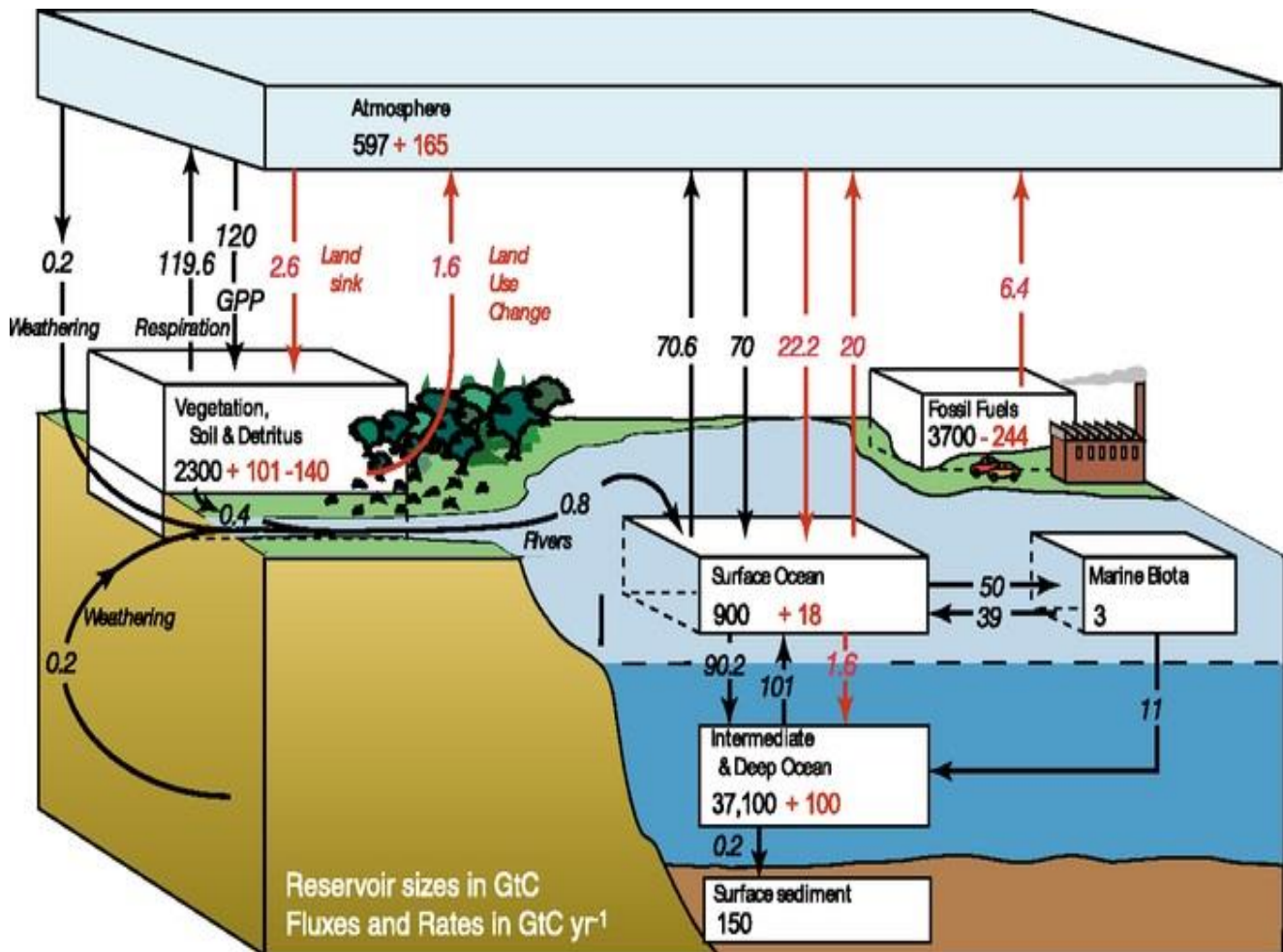
The following figure reveals the natural depletion of CO₂ since the dinosaur era, which enjoyed a CO₂-rich atmosphere more than five times the current level of 416 ppm. The declining trend should set off alarm bells!



Because of this severe depletion, the quantity of CO₂ circulating through the atmosphere has been reduced to a level well below the optimal level for plant growth and is approaching the survival threshold for vegetation.

Unfortunately, the consumption of all known fossil-fuel reserves will not materially restore the CO₂ content of the atmosphere. Based on the emissions identified in Figure 7.3 of the UN's IPCC Fourth Assessment Report, the contribution by fossil fuels to the annual increase of atmospheric CO₂ is only 2.9%.

Respiration	=	119.5 GtC
Land Use	=	1.6
Oceans (70.6+20)	=	90.6
Fossil Fuels	=	6.4 - 2.9%
TOTAL EMISSIONS	=	218.1 GtC



Another method of estimating the fossil-fuel contribution to the annual increase of atmospheric CO₂ is to recognize the role of Henry's law in determining the distribution of CO₂ between the oceans and atmosphere. The primary store for bioavailable CO₂ is in the oceans (roughly 38,000 GtC) with 2% (762 GtC) of this severely-depleted store allowed to circulate through the atmosphere in accordance with Henry's Law.

Typical of phase equilibria systems, the dilute solute is constantly moving between the two phases. The figure above shows a flux of 90 GtC of CO₂ per year, which is many times man-made emissions. Adding solute to the gas or liquid phase will result in a redistribution of the solute to restore equilibrium conditions; that is, the CO₂ ratio of 38,000 to 762 or 50 to 1.

In other words, the addition of CO₂ to the atmosphere increases its partial pressure, thereby suppressing the outgassing flux and enhancing the absorption flux until equilibrium conditions are restored (i.e. 50/1). Consequently, atmospheric CO₂ will increase by an amount equal to 2% of fossil-fuel emissions, which is materially in agreement with the 2.9% calculated above.

The time to restore equilibrium conditions can be estimated from the Keeling curve found on the [NOAA website](#). Accordingly, the restoration of atmospheric CO₂ related to the annual greening of the Northern Hemisphere is about 26 GtC per year, suggesting an equilibrium time of less than a year. This time must not be confused with the much longer, irrelevant "residence time".

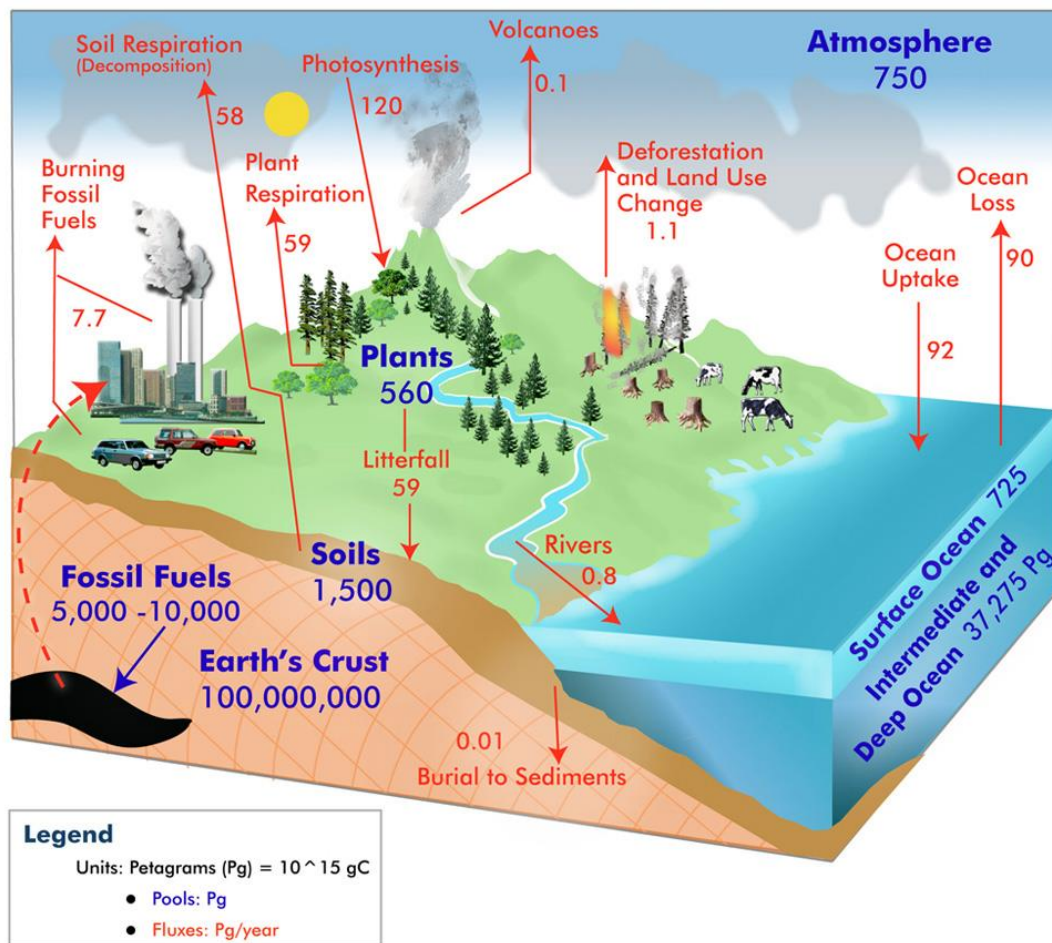
Atmospheric CO₂ is increasing at a rate of about 1.7 ppm per year. If the increase were solely attributable to man made emissions, the rate of increase would be 4 to 5 ppm per year. Obviously, the equilibria

redistribution process controls the CO₂ content of the atmosphere while fossil-fuel emissions are responsible for less than 0.1 ppm per year.

The UN, through its IPCC, has reported that a doubling of atmospheric CO₂ will result in a temperature increase of 1.5 to 4.5 degrees Celsius. This projection, which is from climate models, is failing to materialize. Furthermore, it is impossible to double the CO₂ content of the atmosphere because the CO₂ content of the oceans would also have to be doubled, which would require about 4 times the planet's carbon reserves.

Using the most optimistic estimate of the planet's carbon reserves from the following figure (10,000 GtC), fossil-fuel emissions will be responsible for only a 26% increase over a thousand-year period at current consumption rates. According to the IPCC's own exaggerated projections, this translates into a maximum 0.00117C increase per year, an increase far from being a climate emergency. For readers interested in what really determines the Earth's climate, I recommend a Vimeo video by [Dr. Ned Nikolov](#). It is also on [YouTube](#).

Global Carbon Cycle



Copyright 2010 GLOBE Carbon Cycle Project, a collaborative project between the University of New Hampshire, Charles University and the GLOBE Program Office.
Data Sources: Adapted from Houghton, R.A. Balancing the Global Carbon Budget. Annu. Rev. Earth Planet. Sci. 007.35:313-347, updated emissions values are from the Global Carbon Project: Carbon Budget 2009.

With the foregoing knowledge, it would be reasonable to ask why the anti-CO₂ hysteria has so much traction. Obviously, humans are very vulnerable to the machinations of groupthink especially when aided and abetted by agendas involving power, money, and ideology. Needless to say, a corrupt media plays an important role. "Fear sells"!

Perhaps the simplest explanation for the impressive traction of climate groupthink was stated by H.L. Mencken about 100 years ago.

“The whole aim of practical politics is to keep the populace alarmed (and hence clamorous to be led to safety) by an endless series of hobgoblins, most of them imaginary.”

In conclusion, carbon dioxide is as important as water, oxygen, and sunlight in sustaining life on the planet. Tragically, CO₂ has been reduced to dangerously low levels by natural processes. Therefore, it is imperative that we condemn CO₂ sequestration projects and allow our relatively meager fossil-fuel emissions to replenish the planet's severely-depleted store of bioavailable carbon dioxide.

Although it is impossible to restore the CO₂-rich ancient atmospheres, our carbon emissions will nevertheless materially extend the green period of the planet.

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