

# THE CO<sub>2</sub> Controversy



# The Key Differences of Opinion

- There is a measured increase of CO<sub>2</sub> as we know, which a draw down is now available
- The fossil record shows us that even higher CO<sub>2</sub> levels have occurred in the past, and life forms tolerated it
- A comprehensive approach should include the following gases

# The Patrick Moore Skeptics

- Moore has also denied the consensus of the scientific community on climate change, for example by claiming that increased carbon dioxide in Earth's atmosphere is beneficial, that there is no proof that anthropogenic carbon dioxide emissions are responsible for global warming, and that even if true, increased temperature would be beneficial to life on Earth.[10] These views are contradicted by the scientific consensus on the effects of global warming, which holds that climate change is expected to have a significant and irreversible negative impact on climate and weather events around the world, posing severe risks like ocean acidification and sea level rise to human society and to other organisms.[11][12][13]

# Plants Worldwide Reach a Stomata Stalemate

- 2023 Research unveiled a surprising plateau in plants' ability to absorb carbon through stomata, which could mean more carbon left in the atmosphere. This is caused by an overall atmospheric drying effect that forces plants to close their stomata to conserve water. Carbon uptake is also subsequently lowered, and a plateau has been observed.
- Vivek Arora, October 5, 2023, "If land slows how much carbon it takes up, climate change will accelerate, Arora said, because more carbon dioxide will stay in the atmosphere. "What we are trying to project is, if we keep emitting at this rate, what the future of carbon dioxide concentration is going to be."

# Balancing the Perspective

- The chemistry of the hydroxyl radical can give us a guideline if it is dispersed in a concentrated stream
- The hydroxyl can remove 49% of the CO<sub>2</sub> in the Earth system on the first dose
- 51% is re-released, which suggests that its ability to handle CO<sub>2</sub> is in a range which serves to leave some CO<sub>2</sub> in the atmosphere, which should rest some of the controversy, it just needs balancing with other gases and the hydroxyl

# CO<sub>2</sub> as a lever and its Benefits

- It replenishes minerals in the soils by making acid available which leaches them out.
- The plants need this effect, as well as for respiration.
- Beyond this it could be used by combustion technology to help in a cooling trend management strategy

# The GHGs which are levers affecting overall temperature

- What is available to humanity in terms of managing both cold and warming events
- Water, CO<sub>2</sub>, and methane (which is entering a large burp phase, triggered by CO<sub>2</sub>)
- This has lifted water levels to the atmosphere through increased convection

# The Methane Lever

- Methane, which is now burping, is a rapid warming disturbance
- Hydroxyl is the main removal species for methane, so its release and presence controls it.
- This impending burp can be managed with large scale hydroxyl dispersal



# Water Vapor

- The increased water vapor now happening is an advantage in managing the 'in situ' or natural hydroxyl production which is not yet fully quantified
- Using it for increasing hydroxyl production is too slow for the emergency, it provides water into an unstable thermal pattern driven by CO<sub>2</sub> and now methane because the hydroxyl is inundated-increased moisture injection and chaotic coupling of cold and warm air fronts
- Our recent paper which has the referenced paper about this is at:
- <https://aiu.academia.edu/VivaCundliffe>

# Hydroxyl Mitigation on CO2 emissions

- We did a calculation to learn how powerful hydroxyl is against CO2 emissions
- It is a 5:1 mass power (versus the stoichiometry), which means that for every tonne of its emissions, it can remove 5 tonnes of CO2
- This indicates that CO2 emissions can be managed with a long term installation and FF infrastructure even if we are forced to use carbon to mitigate with hydroxyl which is clearly the most rapid option

# Available Options with Hydroxyl

- Increased water vapor which requires a high thermal energy input
- Injecting pure hydroxyl uses 1.3HP of electricity per ceramic and delivers a CO<sub>2</sub>e removal of at least 54 tonnes over 1 year
- The water input to boost hydroxyl cannot be titrated because of other mixing issues

# CO<sub>2</sub> Management with \*OH

- The best way to ensure that the reaction rate for CO<sub>2</sub> removal is increased is to increase the hydroxyl levels, through a concentrated stream that will loft upward from a stack due to thermal energy and a low mass

IN situ \*OH

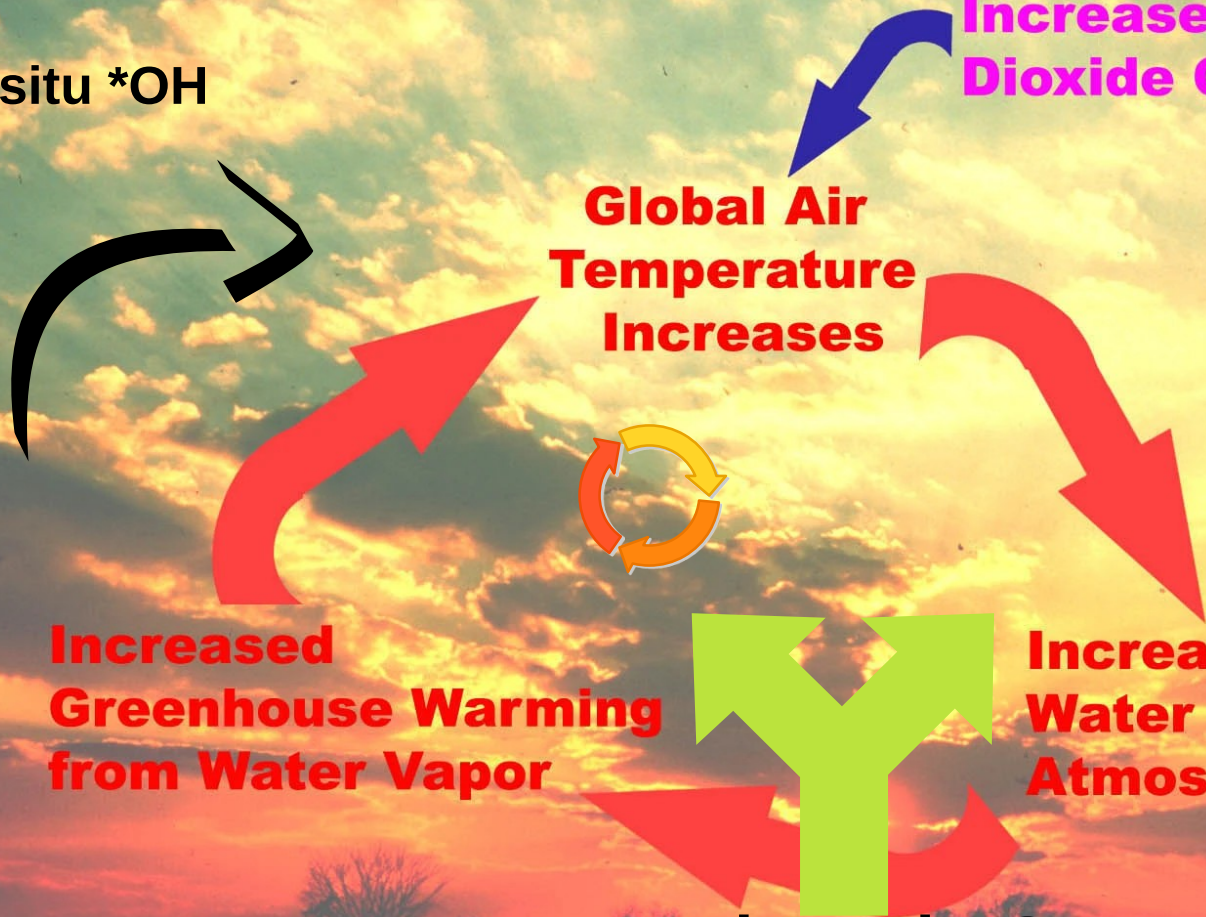
Increased Carbon Dioxide Concentration

Global Air Temperature Increases

Increased Greenhouse Warming from Water Vapor

Increased Water Vapor in Atmosphere

Injected \*OH



# Geoengineering Temporarily

- Placing particulate matter in the air for protection means that the GHGs and other pollution must be removed below it, or there will never be an end to that operation
- The leaders of this operation are seeing this presentation, so hopefully we can see some real progress with scaling our technology to break the Faustian Bargain (the trap it has created)

# Overhead Spraying Operations

- These operations can be discontinued only if the lower atmosphere is cleaned of all gases simultaneously, and phased out
- This will solve James Hansen's concept of the Faustian bargain
- Because the ice is going to melt, the crustal buckling is a consideration for locating hydroxyl dispersal technology and we can work with any regulatory agency once the technology is CSA approved for \$75,000CAD

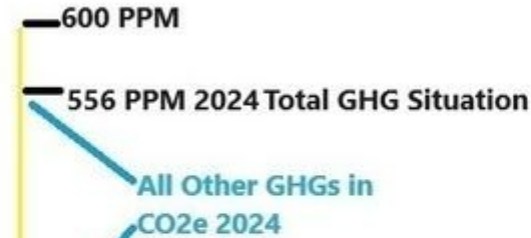
# Milankovitch Cycles Provide Cooling

- Up to 1.3°C from the baseline which is at the trough before the last cycle shown.
- See next graphic
- This is why SRM spraying is actually ill advised because it destroys the Ozone layer and the Oxidative Capacity of the hydroxyl radical.

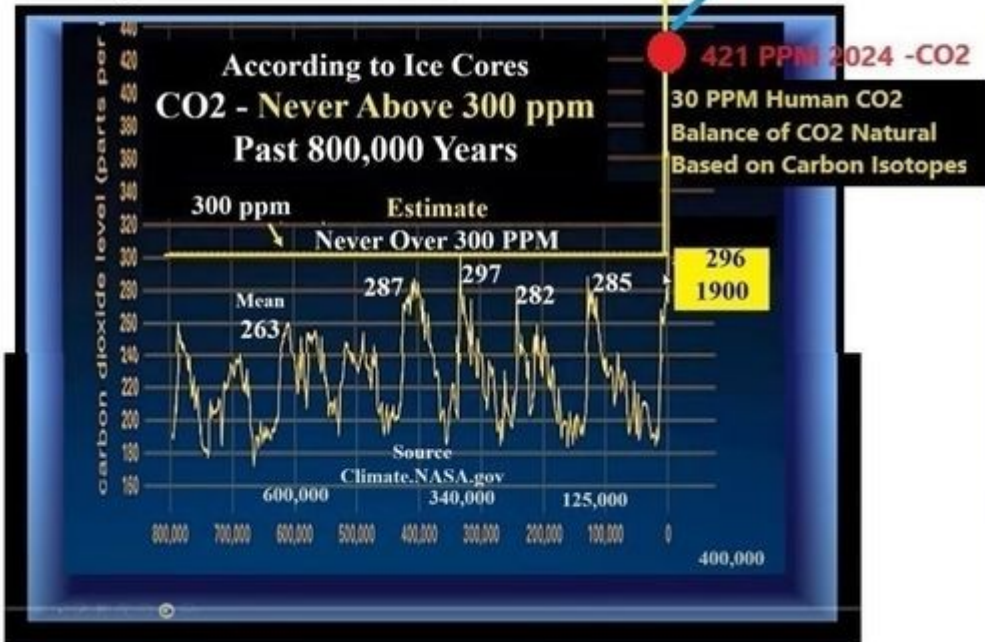


## Actual Global GHG Situation Feb 2024

CO2 with All GHGs to Present  
 Extrapolated from Historical Ice Core  
 CO2 data -with Isotopes Included  
 (Original Graphic, Dr. Dilley, 2023)

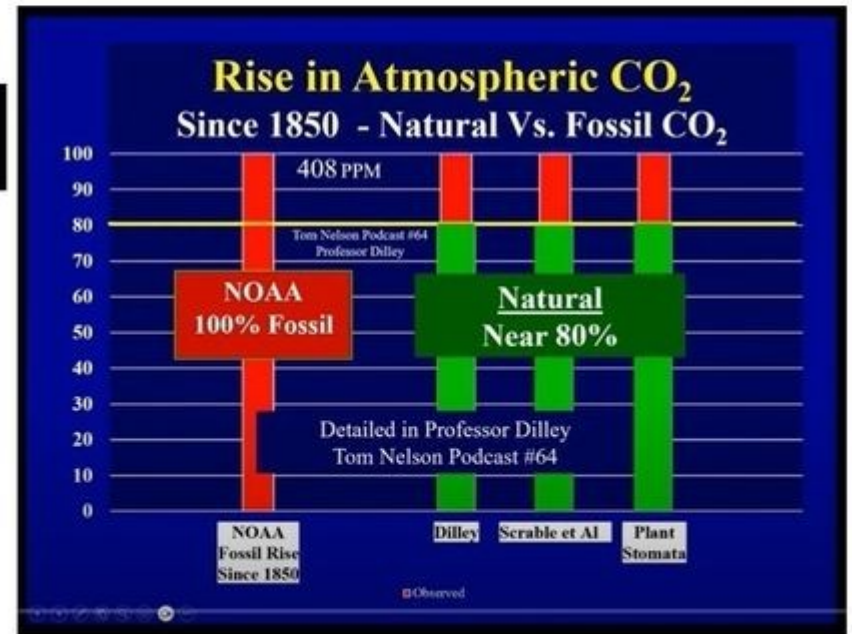


### "Unadjusted Ice Core Data"



### Carbon Isotopes Analyzed

### Attribution of CO2 to Fossil and Natural Emissions



# What's next

- We need to clean the atmosphere and keep CO<sub>2</sub> levels high to feed plant life that will receive more photosynthetic energy as particulate from weather and climate control are phased out.
- We can use a small fraction of oxygen to provide added hydroxyl
- Clean Carbon based fuels are acceptable without mercaptans and additives, Hydrogen fuels also deplete hydroxyl, and electric cars tear up the Earth landscape, so must be limited as the batteries need to be landfilled in injection wells.
- Geothermal energy, compressed Nitrogen power, and possibly nuclear where the caverns are limited and secured.
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# Satellite damage to the Ozone Layer

- This is a real threat and ReductionTech has a system on standby to provide lifted Ozone atoms if necessary, due to the ongoing forest fires, which also damage the Ozone layer
- We offer drone guided aluminum and polymer balloons or compressed oxide radicals in carbon tanks lifted by air with clean jet fuel, which we can also provide but it is proof of concept at this point and it will clean the atmosphere.

Courtesy of Reduction Tech Inc.  
March 23, 2024



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Biosphere Life Support



**Omega Group**