

CO₂, a Molecule Essential in Greening the Planet

Why we Must Cherish Our Carbon Emissions

LETTER TO THE EDITOR, TRAIL TIMES

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Richard Cannings' article in the 'Opinion' section of the Trail Times deserves a reality check ("Hoping the heat wave sparks a new sense of urgency", July 15, 2021). He states that we have a global climate crisis and provides a litany of anecdotal evidence allegedly to support his claim. The premature onset of winter in the southern hemisphere is ignored.

To "fight" what are in fact the natural cycles of climate change, Cannings implores everyone to "finally stop" the release of greenhouse gases into the atmosphere. Nowhere in the article does he reveal that the falsely-accused, greenhouse-gas villain is carbon dioxide (aka "CO₂". "carbon emission"), which is generated by the consumption of fossil fuels.

As a biologist, I suspect that Cannings is reluctant to demonize CO₂, a molecule that is essential in greening the planet. The important role of CO₂ is described in a recent letter by Warren Watson entitled "Photosynthesis is Good" (Trail Times, July 8, 2021).

Unfortunately, Cannings reveals a lack of knowledge of phase-equilibrium principles when he states that our emissions to the atmosphere will "stay there for centuries". Actually, this "residence time" is about 5 years but, more importantly, it is not a measure of the time to reach equilibrium conditions, which is less than a year.

The oceans are our primary store of CO₂ with 2% allowed to circulate through the atmosphere at about 10 times the rate of our emissions. Consequently, when 100 tonnes of CO₂ are emitted to the atmosphere, the increased partial pressure of CO₂ suppresses the outflow from, and increases the absorption rate by, the oceans.

This redistribution process achieves equilibrium conditions within a few months

with and without the participation of the manmade CO₂ molecules. The result is an increase of atmospheric CO₂ of only 2 tonnes, not 100 tonnes.

Cannings states that the "pandemic has shown us what we can accomplish quickly when faced with a clear crisis". The COVID lockdown has also shown us that the current increase of atmospheric CO₂ is primarily attributable to natural ocean outgassing, thereby confirming the foregoing equilibrium analysis.

The CO₂ content of the atmosphere has steadily decreased from over 2,000 parts-per-million ("ppm") during the dinosaur era to today's CO₂-starved atmosphere of 416 ppm.

Using the most optimistic estimate of the planet's carbon reserves, fossil-fuel emissions will increase the CO₂ level by 100 ppm over roughly 1,000 years at current consumption rates. The atmosphere is doomed to remain starved of CO₂ and to eventually reach the threshold level for plant growth of 150 ppm.

Clearly, we must cherish Canada's insignificant 1.6% share of global carbon emissions and allow them to replenish the atmosphere!

It is obvious that China doesn't subscribe to the destructive, anti-CO₂, climate-crisis myth. China is increasing the size of its massive coal-fired power system at a rate of one (1) coal-fired power plant per week. India and other countries are following China's lead.

I'm sure everyone will agree that these countries are not stupid nor suicidal. Can we say the same for our western leaders?

Thorpe Watson, PhD
Warfield