

Neue Forschung nutzt die Chemie, um Löcher in den angeblich CO₂-bedingten Klima-Alarm zu reißen

geschrieben von Chris Frey | 30. November 2024

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Die Molekularchemie widerspricht grundlegenden Komponenten des Paradigmas der anthropogenen globalen Erwärmung (AGW).

Einer neuen [Studie](#) zufolge hält die Vorstellung, wonach wir das atmosphärische CO₂ reduzieren können und müssen, um eine Klimakatastrophe (z. B. eine unkontrollierte globale Erwärmung oder die Versauerung der Ozeane) zu vermeiden, einer eingehenden wissenschaftlichen Prüfung nicht stand.

Carbon Capture and Storage (CCS) ist eine Minderungsstrategie, die vorschlägt, CO₂ unterirdisch zu binden, um die Emissionen bis 2050 auf „netto null“ zu reduzieren. Das Verfahren wird in den kommenden Jahrzehnten voraussichtlich mehrere Billionen Dollar kosten. Neue [Analysen](#) legen nahe, dass hohe oder ehrgeizige CCS-Szenarien etwa die Hälfte der heutigen Emissionen bis 2050 eindämmen könnten. Doch diese wirtschaftlich drakonischen CCS-Szenarien werden voraussichtlich 30 Billionen US-Dollar mehr kosten als solche, die nur etwa ein Zehntel der heutigen Emissionen eindämmen. In jedem Fall sind die Kosten für CCS astronomisch.

Aber kann CCS tatsächlich das tun, was beabsichtigt ist, nämlich die CO₂-Konzentration in der Atmosphäre zu verringern? Die Chemie sagt nein, CCS „wird die atmosphärische CO₂-Konzentration überhaupt nicht verringern“.

„Der springende Punkt ist, dass im Gegensatz zur pflanzlichen Photosynthese eine perfekte Sequestrierung von CO₂ nicht auf magische Weise das O₂ freisetzt, das effektiv in den CO₂- und H₂O-Molekülen‘ sequestriert‘ wurde, die bei der Verbrennung entstehen.

Wenn der Brennstoff aus reinem Kohlenstoff bestünde, dann wäre das Nettoergebnis in der Zusammensetzung der Atmosphäre eine leichte Verringerung der O₂-Konzentration ... und ein leichter gleichzeitiger Anstieg der CO₂-Konzentration aufgrund der leichten Schrumpfung des Nenners.“

Bei der alarmistischen Darstellung der „Versauerung der Ozeane“ wird angenommen, dass der moderne Trend des steigenden CO₂-Gehalts in der Atmosphäre zu Veränderungen des pH-Werts führt. Die chemische Grundlage für diese Behauptung ist jedoch zweifelhaft.

Aus der stöchiometrischen Verbrennungsgleichung geht hervor, dass für jeden Anstieg des CO₂-Gehalts um 1 ppm durch die Verbrennung fossiler Brennstoffe die O₂-Konzentration um etwa 2,15 ppm abnimmt. (Über einen Zeitraum von 20 Jahren nimmt beispielsweise die CO₂-Konzentration um 50 ppm zu, während die O₂-Konzentration um ~130 ppm sinkt). Dieses Konzept wirft jedoch grundlegende Fragen zu dem Paradigma auf, das besagt, dass der Mensch die Veränderungen des pH-Werts in den Ozeanen verursacht.

„Wenn die Verringerung der atmosphärischen O₂-Konzentration direkt mit dem Anstieg der CO₂-Konzentration in der Atmosphäre zusammenhängt, wie kann es dann zu einer ausreichenden Absorption von CO₂ durch die Ozeane kommen, um eine Versauerung der Ozeane zu verursachen, zumal die Ozeane chemisch stark gepuffert sind?“

Wenn die beobachtete Verringerung des atmosphärischen O₂ durch den beobachteten Anstieg der atmosphärischen CO₂-Konzentration erklärt wird, wie er als Ergebnis der Verbrennung erwartet wird, woher soll dann das zusätzliche CO₂ kommen, das die Versauerung der Ozeane verursachen kann?“

Dies sind nur einige der vielen anderen chemiebasierten Herausforderungen des AGW- Narrativs, die in der Studie beschrieben werden. Es lohnt sich, sie zu lesen.

 **chemistry**
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Challenging the Chemistry of Climate Change
by Bruce Peachey ^{1,*} and Nobuo Maeda ^{2,*}
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Carbon Capture and Storage (CCS)

The “Net Zero Response” to the global warming issue has been to capture and dispose of the CO₂ underground. But what will happen to the oxygen cycle when the CO₂ is sent underground to “Carbon Capture and Storage” schemes (CCS)? A short answer is that oxygen levels will be depleted as the oxygen atoms will be tied up forever as part of CO₂ and H₂O.

If the purpose of CCS is to reduce the atmospheric concentration of CO₂, it is important to ascertain that one can reasonably expect that CCS will reduce the atmospheric concentration of CO₂. However, it is not at all clear if this is indeed the case. The crux of the issue is that, unlike photosynthesis by plants, perfect sequestration of CO₂ will not magically release the O₂ that has effectively been “sequestered” in the CO₂ and H₂O molecules produced by combustion. A simplified “thought experiment” might help here.

Suppose there is a power plant or a factory that consumes O₂ from the atmosphere and emits CO₂ and water vapor back into the atmosphere. Suppose one installs a CCS system and captures 100% of the CO₂ that comes out of the plant and that the CO₂ can be sequestered perfectly and permanently.

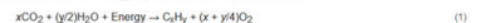
If the fuel were made of pure carbon, then the net result in the composition of the atmosphere would be a slight reduction in the O₂ concentration (basically a 1:1 O₂ to CO₂ injected ratio) and a slight concomitant increase in the CO₂ concentration due to the slight shrinking of the denominator. If the fuel is not pure carbon but hydrocarbons, then the process will still result in a slightly lower O₂ concentration in the atmosphere and, with the CO₂ captured and sequestered, an increase in the relative concentration of water vapor replacing oxygen in the atmosphere. Given that the construction/installation/commissioning of a CCS system will consume additional materials, energy, water, and O₂ in the atmosphere, CCS will not reduce the atmospheric concentration of CO₂ at all.

A recent study indicates that to meet Paris targets for 2100, CCS is required to meet most scenarios to limit impact to 1.5 to 2 degrees of warming (based on “ensembles” of models). Cumulative CO₂ injection over the next 80 years would have to be a minimum of 1000 Gt (in contrast, only about 0.1 Gt has been sequestered by all projects initiated and operating to date) [24]. However, the ultimate requirement could be as high as 2700 Gt by 2100 [24], which would sequester about 0.35% of atmospheric oxygen by 2100. In short, CCS will reduce the atmospheric concentration of oxygen, will not reduce the atmospheric concentration of CO₂, and will increase the atmospheric concentration of water vapor, which is a potent greenhouse gas.

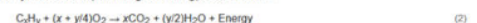
Worse, the water produced by the combustion of hydrocarbons cannot be turned back into hydrocarbons without CO₂ (photosynthesis by plants). Then, the sea level would incrementally rise as a result of having more water than before, as well as through the displacement of brine from subsurface aquifers by the CO₂ injected. Given that the two major components of the greenhouse gases, CO₂ and water, are both essential for life on earth, and only their impact on potentially rapid changes in the Earth’s surface climate may be undesirable, it raises a question as to whether CCS is worth carrying out at all.

Combustion Processes

The fast oxygen and carbon cycles are driven by two equations. The oxygenic photosynthesis reaction, which creates hydrocarbons from CO₂ and water with energy input from the sun, is as follows:



The combustion reaction of hydrocarbons (including breathing) is as follows:



The combustion of fossil fuels by humans and, to a lesser extent, breathing by animals is increasing the amount of carbon available in the atmosphere, which has the effect of increasing the solar energy that can be captured by photosynthesis through Equation (1). At the same time, combustion is depleting some of the available oxygen in the atmosphere through Equation (2) to form CO₂ and H₂O. The net result observed in the atmosphere is that for every 1 ppm of CO₂ concentration increase in the atmosphere due to fossil fuel combustion, oxygen concentrations decrease by ~2.15 ppm [20], which is what should be expected from the stoichiometric combustion equation.

Challenges for chemists about the interaction of combustion processes and the atmospheric oxygen balance are as follows:

(a) **CO₂ Absorption by the Oceans**—If the reduction in the atmospheric O₂ concentration is directly related to the increase in the CO₂ remaining in the atmosphere, then how can there be enough absorption of CO₂ by the oceans to cause ocean acidification, especially since the oceans are highly buffered chemically? Figure 5 shows [O₂] dropping by ~130 ppm while [CO₂] increases by about 50 ppm over 20 years [21]. If the observed reduction in the atmospheric O₂ concentration is accounted for by the observed increase in the atmospheric CO₂ concentration, as expected as a result of combustion, then where does the extra CO₂ come from that can cause ocean acidification? Over a geological timescale, past warming degassed CO₂ from the oceans. Did the oceanic pH rise because of such warming (and degassing) in the geological past? Is there any way to measure or estimate the pH of the ocean when the atmospheric concentration of CO₂ was 7000 ppm?

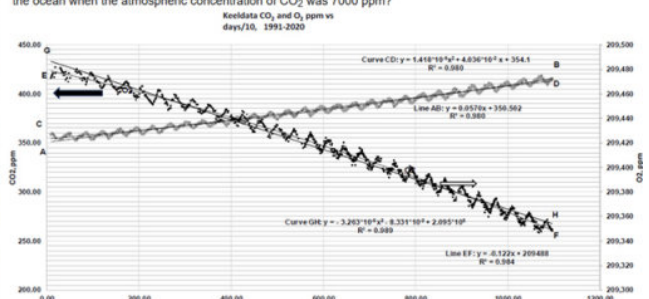


Figure 5. Measured data on CO₂ and O₂ concentrations between 1991 and 2020 with correlations (reproduced from Ref. [21]). The O₂ concentrations have been dropping by ~130 ppm, while the CO₂ concentrations have been increasing by about 50 ppm over 20 years. What does this potentially tell us about the availability of CO₂ for ocean acidification vs. the transfer of carbon to ocean sediments?

Quelle: [Peachey and Maeda, 2024](#)

Link:

[https://notrickszone.com/2024/11/26/new-research-uses-chemistry-to-poke-holes-in-the-CO₂-induced-climate-alarm-narrative/](https://notrickszone.com/2024/11/26/new-research-uses-chemistry-to-poke-holes-in-the-CO2-induced-climate-alarm-narrative/)

Übersetzt von Christian Freuer für das EIKE