

COMMENT ON SECURITIES AND EXCHANGE COMMISSION PROPOSED RULE “THE ENHANCEMENT AND STANDARDIZATION OF CLIMATE-RELATED DISCLOSURES FOR INVESTORS.”

File No. S7-10-22

RIN 3235-AM87

Submitted by:

James P. Wallace, III, Ph.D., [REDACTED]
Harry W. MacDougald, [REDACTED]

INTRODUCTION

The SEC claims authority to issue regulations requiring extensive and massively burdensome “climate disclosures” on the grounds that climate risks are material because some investors want to know about them.

So-called investor “demand” for climate risk disclosures – an entirely synthetic and Astro-turfed phenomenon – does not by itself make them material. For a risk to be material, it must be real and actual, not contrived, imaginary, fraudulent or non-existent. Thus, a groundswell of investor demand for disclosures about the financial risks of witchcraft or phlogiston emissions could not make those risks material. Such is the nature of “climate risk disclosures.”

As shown below, there is no causal link between climate change and CO2. CO2 is in fact a beneficial substance with a negative social cost, especially considering the practically miraculous benefits of fossil fuels to human health and welfare. Much of the postulated climate-related financial risk is based on alarmist claims that GHG emissions cause increased extreme events such as floods, droughts, wildfires, tornadoes and hurricanes. *See*, e.g., proposed rule p. 9, n. 6 (and reports cited therein), and pp. 61, 122-123, etc. The best empirical evidence, discussed below, shows these alarmist claims are clearly false. The proposed additional disclosures therefore clearly fail to meet the “materiality” standard.

The SEC, and indeed the entire government, should abandon the impossible and destructive quest to decarbonize. First, as shown below, greenhouse gas emissions pose no threat and the social cost of carbon emissions is thus negative. Second, rapid decarbonization of the economy is impossible as a technical, economic and practical matter. Third, forcing the economy to unnecessarily undertake an impossible attempt to decarbonize will have catastrophically destructive effects on U.S., and indeed global, energy security, economic security and national security.

The climate and green energy delusion has recently suffered a fatal encounter with reality, exposing the epic folly of these policies for all to see. After 15 months in office, the Biden

Administration's energy and climate policies, of which this proposed rule is part, have *directly* caused the U.S. and the world to suffer a devastating reversal of fortune in energy, economic and national security. The Biden Administration's comprehensive strangulation of the domestic fossil fuel industry has more than doubled fossil fuel prices, contributed to both out-of-control inflation *and* economic stagnation, immiserated Americans, and enriched and empowered our most ruthless enemies in Russia and the Middle East. Such a string of spectacular policy failures has never before been seen in American history. Yet, as if blinded by zealotry, the Biden Administration presses on, regretting only not having pursued its benighted and catastrophic policies with even greater vigor.

The folly of these policies is also being proven in Sri Lanka, a country of 22 million souls occupying an area about the size of West Virginia. The government in Sri Lanka, sharing the same climate enthusiasms as the Biden Administration, decided to ban the use of fertilizer in order to fix the climate. The effect on the weather is zero but the effect on Sri Lanka is an epic disaster, earning the policy a high rank in the annals of human folly. Without fertilizer the crops came in short, leading to famine, food riots and the collapse of civil society. People who look rich by local standards are accosted and beaten in the streets. The homes of politicians are sacked and burned. The country is out of fuel. This nightmare awaits any society foolish enough to pursue such policies.

While weather risk is ever-present, an accurate and complete disclosure of financial risk from human-caused climate change would be "Zero." The financial risk from climate *policy*, however, is catastrophic, and not just for companies directly affected. Deranged climate policies threaten to cripple or destroy not just the fossil fuel industry, but the foundations of the entire economy and modern civilization along with it. It is a matter of the utmost urgency that these grave errors be immediately corrected.

I. THE SOCIAL COST OF CO₂ (SC-CO₂) IS NEGATIVE; CO₂ IS A BENEFICIAL GAS

There have been many recent assertions concerning fraud in peer-reviewed and published work in science—including climate.¹ All work cited here is peer-reviewed, published and purposely set up so as to be easily reproducible. No rebuttals have been received by the lead authors on any of the work cited.²

¹ (See e.g., [GWPF Observatory, 7 May 2021](#)), last visited February 27, 2022..

² Citations herein may all be found in Supplement #7 of a Petition for Reconsideration of EPA's 2009 GHG Endangerment Finding filed by the Concerned Household Electricity Consumer's Counsel ("CHECC"). The first and only attempted rebuttal received by the lead authors came on [April 21, 2022](#), when after more than five years of dithering, EPA denied the CHECC Petition for Reconsideration, as well as those filed by the Competitive Enterprise Institute, the Fair Energy Foundation, and the Texas Public Policy Foundation. The decision document is available at <https://tinyurl.com/yc7tf2dm>. CHECC intends to appeal this decision. Among the other fatal flaws in the EPA GHG Endangerment Finding that are impossible for EPA to overcome, is the fact that, for the period before 2000 there is virtually no data for entire Southern Hemisphere Ocean (which is over 80.9 % of the SH) means that all purported long-term (say 1900 to date) Global Average Surface Temperature (GAST) datasets rely on what amounts to totally fabricated data for well over 40% of the planet. This invalidation of the GAST data alone invalidates all three lines of evidence on which EPA relies – temperature records, a claimed physical understanding of climate, and

The proof that the social cost of CO₂ (SC-CO₂) is negative; that is, that CO₂ is actually a beneficial gas, is based on the six arguments below.

Social Cost of Greenhouse Gases calculations (e.g., SC-CO₂) are used in the policy making process to estimate the value to society of marginal reductions in greenhouse gas emissions, or conversely, the social costs of increasing such emissions. The current regulatory process assumes as a validated claim that SC-CO₂ is greater than 0, where the only open issue now is how much bigger than zero.

This claim is invalidated if the hypothesis that SC-CO₂ is less than 0 cannot be rejected; that is, that CO₂ is not a pollutant but rather is a beneficial gas. Following is a proof that such is the case.

1. Global Average Surface Temperature (GAST) data is a total fabrication.

A peer-reviewed Climate Science Research Report entitled *On the Validity of NOAA, NASA and Hadley CRU Global Average Surface Temperature Data & The Validity of EPA's CO₂ Endangerment Finding, Abridged Research Report* was published in June 2017. This research was peer reviewed, published and done pro bono.

The objective of this research was to test the hypothesis that these Global Average Surface Temperature (GAST) data sets are sufficiently credible estimates of global average surface temperatures such that they can be relied upon for climate modeling and policy analysis purposes. The relevance of this research is that proof of the validity of EPA's 2009 CO₂ Endangerment Finding requires GAST data to be a valid representation of reality.

In this research report, past changes to the previously reported historical data are quantified. It was found that each new version of GAST data has nearly always exhibited a steeper warming linear trend over its more than 100 years plus history. And, it was nearly always accomplished by each reporting entity systematically removing the previously existing cyclical temperature pattern.

This was true for all three entities providing GAST data measurement, NOAA, NASA and Hadley CRU. As a result, this research sought to validate the current estimates of GAST using the best available relevant data.

The conclusive findings were that the three GAST data sets are not a valid representation of reality. In fact, the magnitude of their historical data adjustments which removed their cyclical temperature patterns are totally inconsistent with published and credible U.S. and other temperature data.

Thus, despite current claims of record setting warming, it is impossible to conclude from the NOAA, NASA and Hadley CRU GAST data sets those recent years have been the warmest ever.

climate models – for its 2009 GHG Endangerment Finding. Invalidation of this Finding in turn invalidates all subsequent GHG Endangerment Findings.

Finally, since GAST data set validity is a necessary condition for EPA's CO₂ Endangerment Finding, it too is invalidated by these research findings. This means that EPA's 2009 claim that CO₂ is a pollutant has been decisively invalidated by this research. (See the June 2017 GAST Research Report: <https://thsresearch.files.wordpress.com/2017/05/ef-gast-data-research-report-062817.pdf> and <https://thsresearch.files.wordpress.com/2017/07/ef-gast-data-secondsupplementtopetitionfinal.pdf>)

While this research report provided ample evidence that the current officially reported GAST data are simply not credible, there is a far simpler proof of that fact that can be understood more quickly and easily. Over the period 1900-2000, there is virtually no credible surface temperature data available for at least 40% of the surface of the Earth. This follows from the fact that the Southern Hemisphere's surface is over 80% ocean (.50* .80 = .40), and essentially no credible temperature data were captured monthly for these vast oceans over this time period.

Hence, it never made any sense to even attempt to compute a GAST data set including this time period unless the purpose was to construct a temperature data set that could be made to have virtually any pattern over that time period that the institutions involved desired to portray as reality. In truth, with literally no credible temperature data available for well over 40% of the Earth's surface, these institutions were only limited by what was credible to the outside world.

Thus far, not knowing these facts, most relevant parties, e.g., regulators, environmentalists, and government officials, have been far too accepting of the GAST record as a valid global temperature database. Information on these temperature data limitations, along with citations to back it up, was published as an Addendum. (See: <https://thsresearch.files.wordpress.com/2019/05/ef-addendum-to-the-gast-research-report-012919-final-1.pdf>) It should be noted here that scientists in other key countries have begun to seriously question the validity of the GAST data.³ **Based on these facts, GAST data is a total fabrication.**

2. Proof of GAST data fabrication invalidates each of the three lines of evidence in 2009 GHG Endangerment Finding.

EPA's Endangerment Finding appears at 74 C.F.R., page 66,495, et seq. At page 66,518, EPA sets forth the three "lines of evidence" upon which the Agency says it has attributed "observed climate change" to "anthropogenic activities," thus providing the basis for the finding that human GHG emissions endanger human health and welfare. More information about the nature of each of the three "lines of evidence" can be gleaned from the Endangerment Finding itself and the associated Technical Support Document. (See also pages 6 -7 in <https://thsresearch.files.wordpress.com/2021/06/amended-epa-7th-supplement-to-pet.-for-recon.pdf>)

³ While many people, including most climate researchers, believe it is a confirmed fact that global surface mean temperatures have been rising and setting records since Industrial Revolution, a Japanese scientist in 2019 stated that it is "not backed by demonstrable data," further stating that the data foundation underpinning global warming science is "untrustworthy." (See: <https://thsresearch.wordpress.com/2019/06/21/mit-doctorate-climate-scientist-slams-gw-claims-based-on-untrustworthy-falsified-datano-scientific-value/> (last visited February 27, 2022))

Climate models are claimed by EPA to be valid for policy analysis purposes, that is, their predictions of the impact of rising CO₂ concentration levels on future GAST levels are claimed to be credible. Thus, GAST is the critical (dependent) variable in all the climate models that EPA has relied upon. These climate models are also critical to the Social Cost of Carbon (SCC) estimates used to justify a multitude of regulations across U.S. Government agencies. **But all climate models which are tuned to fit fabricated GAST data have clearly been invalidated.**

Invalidation of the 2009 Endangerment Finding invalidates all subsequent EPA Findings in that they all rely on the validity of the 2009 Finding. (See <https://thsresearch.files.wordpress.com/2018/03/checc-cpp-anprm-replacement-comment-final-to-epa-022618.pdf>, page 6)

To summarize, first, surface temperature records are one of EPA's three lines of evidence upon which it relies to attribute observed warming to human GHG emissions. Second, valid and reliable temperature records of long duration are a logical prerequisite to forming the "basic physical understanding" of climate, and third, to developing and validating climate models. (See, e.g., U.S. Climate Change Science Program, Synthesis and Assessment Product 1.3, § 1.3.2, p. 9; § 3.1.2, pp. 53-54 describing logical dependence of the physical understanding of climate, modeling and attribution on accurate temperature records.) It is therefore inescapable that if the GAST products from NOAA, NASA and Hadley CRU are invalid, then both the "basic physical understanding" of climate and the climate models themselves will also be invalid. (See <https://thsresearch.files.wordpress.com/2017/07/ef-gast-data-secondsupplementtopetitionfinal.pdf>, page 2)

Clearly, if GAST data is not valid, neither is the 2009 GHG Endangerment Finding nor any subsequent GHG Findings.

3. The climate models are fundamentally flawed and cannot be used for attribution of global warming to rising atmospheric CO₂/GHG concentration levels.

Argument 2 above alone invalidates all climate models that are tuned to explain the (now proven to be) fabricated GAST data – which is essentially all models cited by IPCC. EPA's climate model attribution claim is that analysts cannot tune/fit their climate models to GAST data without adding CO₂ as an explanatory variable. But this is not a valid mathematical proof **-even if the GAST data were a perfect reflection of reality.** (See <https://thsresearch.files.wordpress.com/2017/05/ef-checc-suppl-pfr-of-ef-050817-final.pdf>, pages 3-7)

To prove that changes in atmospheric CO₂ concentration levels have had a statistically significant positive impact on the Earth's atmospheric or surface temperatures, the proper mathematical methods must be utilized by the analysts. Using such tools, findings were published in April 2017 entitled: *On the Existence of a "Tropical Hot Spot" & The Validity of EPA's CO₂ Endangerment Finding Abridged Research Report, Second Edition.* (See <https://thsresearch.files.wordpress.com/2017/04/ef-data-research-report-second-editionfinal041717-1.pdf>. Pages 7-12 discuss proper structural analysis methods in the climate context.)

This peer-reviewed and published Climate Science Research Report has proven that it is all but certain that EPA's basic claim that CO₂ is a pollutant is totally false.

The Report's analysis results invalidate EPA's CO₂ Endangerment Finding, including the climate models that EPA has claimed can be relied upon for policy analysis purposes. These results amply demonstrate that CO₂ is not a required explanatory variable. Instead, these research results clearly demonstrate that once the solar, volcanic and oceanic activity, that is, natural factor impacts on temperature data are accounted for, there is no "record setting" warming to be concerned about. **In fact, there is no Natural Factor-Adjusted Warming at all.** (See also, pages 10 -11 in <https://thsresearch.files.wordpress.com/2021/06/amended-epa-7th-supplement-to-pet.-for-recon.pdf>)

This report also states in conclusion that, 1) no scientists have yet devised an empirically validated theory proving that higher atmospheric CO₂ levels have led to higher global temperatures, and 2) if the causal link between higher atmospheric CO₂ concentrations and higher temperatures is broken, then EPA's assertions that higher CO₂ concentrations also cause sea-level increases and more frequent and severe storms, floods, and droughts and other deleterious effects on human health and welfare are also disproved. Such causality assertions by EPA require a validated theory that higher atmospheric CO₂ concentrations cause increases in temperatures.

The merits of the structural analysis methods used in this Research Report and its predecessors versus those used to develop the climate models relied upon in EPA's CO₂ Endangerment Finding become more obvious every day. As relevant Congressional Testimony demonstrates:⁴

The advantage of the simple statistical treatment [used herein] is that the complicated processes such as clouds, ocean-atmosphere interaction, aerosols, etc., are implicitly incorporated by the statistical relationships discovered from the actual data. Climate models attempt to calculate these highly non-linear processes from imperfect parameterizations (estimates) whereas the statistical model directly accounts for them since the bulk atmospheric temperature is the response-variable these processes impact. It is true that the statistical model does not know what each sub-process is or how each might interact with other processes. But it also must be made clear: it is an understatement to say that no IPCC climate model accurately incorporates all of the nonlinear processes that affect the system. I simply point out that because the model is constrained by the ultimate response variable (bulk temperature), these highly complex processes are included.

The fact that this statistical model explains [as much as] 75-90 percent of the real annual temperature variability, depending on dataset, using these influences (ENSO, volcanoes, solar) is an indication the statistical model is useful. ... This result promotes the conclusion that this approach achieves greater scientific (and policy) utility than results

⁴ U.S. House Committee on Science, Space & Technology, 29 Mar 2017, Testimony of John R. Christy, pages 10-11, Professor of Atmospheric Science, Alabama State Climatologist, University of Alabama in Huntsville

from elaborate climate models which on average fail to reproduce the real world's global average bulk temperature trend since 1979.

Clearly, the climate models are fundamentally flawed and cannot be used for attribution of global warming to rising atmospheric CO₂/GHG concentration levels.

- 4. Climate models are fundamentally flawed since the Equilibrium Climate Sensitivity of CO₂ is actually zero. Therefore, the SCC estimation/modeling systems, which always link such climate models to economic models, are also fundamentally flawed.**

The TSD (Technical Support Document: Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866, Interagency Working Group on Social Cost of Carbon, United States Government, February 2010), at page 4, gives information on the key assumptions from which the SCC estimates have been derived.

From this document, it is clear that the SCC values that have been derived from this process were critically dependent on a key parameter, the so-called Equilibrium Climate Sensitivity (ECS). For this ECS parameter to be non-zero requires a proof that rising atmospheric CO₂ concentration have had a statistically significant impact on global temperatures. (*See https://archive.ipcc.ch/publications_and_data/ar4/wg1/en/ch8s8-6-2.html*)

However, from Arguments 1-3 above, no scientists have yet devised an empirically validated theory proving that rising atmospheric CO₂ levels have had a statistically significant impact on global temperatures.

Hence, for CO₂, the best estimate of Equilibrium Climate Sensitivity (ECS) is zero.⁵ Of course, this will mean that all SCC estimation/modeling systems would have to forecast no negative economic impact from continued increases in atmospheric CO₂ concentrations. **Thus, current SCC estimation/modeling systems, relying on flawed climate models linked to economic models, are themselves all fundamentally flawed.**

- 5. When postulated as separate falsifiable hypotheses, each of the Alarmist Claims is rejected.**

If the causal link between higher atmospheric CO₂ concentrations and higher global average surface temperature ("GAST") is broken by invalidating each of EPA's three lines of evidence, then EPA's assertions that higher CO₂ concentrations also cause loss of Arctic ice,⁶ sea-level

⁵ This statement is based on the fact that all of the structural analysis findings cited above found the impact of rising atmospheric CO₂ concentration on temperature to be not statistically significant; that is, either quite small positive or quite small negative. Thus, for policy analysis purposes, the appropriate current estimate is zero.

⁶ Technical Support Document for Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act ("TSD"), pp. ES-4 ("Sea ice extent is projected to shrink in the Arctic under all IPCC emissions scenarios") *See also id.* at pp. 52; 73

increases⁷ and more frequent severe temperatures,⁸ storms,⁹ floods,¹⁰ and droughts¹¹ are also necessarily disproved. (See <https://thsresearch.files.wordpress.com/2018/03/ef-cpp-fifth-supplement-to-petition-for-recon-final0d0a-020518-3.pdf> and see pages 15-18 in <https://thsresearch.files.wordpress.com/2021/06/amended-epa-7th-supplement-to-pet.-for-recon.pdf>)

To be absolutely sure such alarmist claims are not true for some other reason, the scientific method must be applied to test each separate alarmist claim by specifying it as a falsifiable hypothesis and testing each claim separately using the most credible, relevant empirical data. **Continuously updated Alarmist Claim Rebuttals thus far show no unusual climate behavior.** See http://icecap.us/index.php/go/political-climate/alarmist_claim_rebuttals_updated/.

6. One cannot reject That SC-CO₂ is less than 0. Therefore, CO₂ is a Beneficial Gas

This conclusion must be reached because based on Arguments 1-5 above, there has been no validation of the claims that rising atmospheric CO₂ levels have imposed any costs whatsoever on human health and welfare through any known mechanism and certainly not by causing record setting Global Average Surface Temperatures. In fact, independent of that now disproven mechanism, nothing truly unusual has been going in the Earth's Climate System over the last 100 plus years. The Alarmist's Claims have all been falsified.

So, there are no supposed *higher temperature-driven* costs, but the benefits of rising atmospheric CO₂ levels on plant growth and the reduced costs of feeding the Earth's growing population are clearly enormous. The vitality of global vegetation in both managed and unmanaged ecosystems is better off now than it was a hundred years ago, 50 years ago, or even a mere two-to-three decades ago thanks in part to rising CO₂ levels. **Thus, CO₂ is a Beneficial Gas having a negative SC-CO₂, even before considering the benefits to humanity of fossil fuels.**

II. THE SOCIAL COST OF EACH TRACE GHG OTHER THAN CO₂ IS ALSO NEGATIVE; THEREFORE, EACH TRACE GHG IS A BENEFICIAL GAS.

The proofs are based on the two arguments below.

⁷ *Id.* at p. ES-4 (“By the end of the century, global average sea level is projected by IPCC to rise between 7.1 and 23 inches.”); *See also id.* at 52,73.

⁸ *Id.* at pp. ES-4 (“It is very likely that heat waves will become more intense, more frequent, and longer lasting in a future warm climate, whereas cold episodes are projected to decrease significantly.”); *See also id.* at pp. 44-45; 73-74.

⁹ *Id.* at ES-4 (“It is likely that hurricanes will become more intense”).

¹⁰ *Id.* at ES-4 (“Intensity of precipitation events is projected to increase in the United States and other regions of the world. More intense precipitation is expected to increase the risk of flooding.”)

¹¹ *Id.* at p. ES-6 (Reduced snowpack, earlier spring snowmelt, and increased likelihood of seasonal summer droughts are projected in the Northeast, Northwest, and Alaska. More severe, sustained droughts and water scarcity are projected in the Southeast, Great Plains, and Southwest.”); 45-46; 73-74.

1. The Equilibrium Climate Sensitivity of each of the other GHGs currently subject to future emissions reduction regulation, e.g., Methane, N₂O, CFCs and HFCs, has been calculated incorrectly for years and is actually zero.

While it is beyond the scope of this analysis to go into detail here, a major error in climate modeling to date has been that the climate impact of the most important GHG by far, water, has been modeled almost as an afterthought. This has been true even though, on a molecular level, all GHGs from the standpoint of their backradiation potential are very much alike.

Considering how molecules stretch, bend and rotate, all the polyatomic atmospheric molecules behave in roughly the same way. The probability of a molecule absorbing a photon is characterized by its *cross-section*, and all the cross-section values lie within about one order of magnitude of each other. That factor is relevant when making a molecule-to-molecule comparison of GHGs.

However, the amount of each of these GHGs in the atmosphere varies enormously. Water can be estimated at about 15,000 ppm. Among the *trace gases*, CO₂ is currently about 418 ppm; CH₄ is around 1.7 ppm; and N₂O is below 0.1 ppm. The assorted CFCs and HFCs (Freons) are even much less populous.¹²

Calculations of infrared radiation out from the upper atmosphere by each gas have been carried out by Van Wijngaarden and Happer, and then compared with actual observations from satellites in space.¹³ The agreement – across the entire infrared -- is stunning. On graphs of the data, lines drawn using green or red ink allow close scrutiny to reveal the extremely tiny contribution of N₂O and CH₄ to impeding infrared radiation heading into space. *Id.*, fig. 4 This means those gases make only a tiny contribution to backradiation to warm the planet. (See also <https://thsresearch.files.wordpress.com/2019/05/ef-icecap-methane-real-story-r5.pdf>)

Additional calculations by van Wijngaarden and Happer with the amounts of each gas in the atmosphere varied show the importance of such changes. *Id.*, and fig. 5. Impacts of variations in CH₄ or N₂O are both of no consequence. Only changes in CO₂ concentration levels from its current level of around 400 ppm show any perceptible impacts: completely eliminating CO₂ causes an obvious change implying cooling; while cutting CO₂ in half from current levels has only a very slight effect; and the impact of doubling CO₂ from current levels is likewise difficult to detect. These facts are entirely consistent with the many structural analyses cited above (see Section 2, Argument 3) finding that the modern times increases in CO₂ have not had a

¹² The absorption bands of both CH₄ and N₂O are located around 7.6 microns (1350 cm⁻¹), where there is very little energy being emitted by the surface of the earth. More important, both their bands are completely overlapped by the wide absorption band of H₂O. What this means in practice is that any photon that CH₄ or N₂O might be eligible to catch on its way out into space has already been captured by H₂O. From an infrared radiation point of view, those two gases are just a very tiny blip within the water spectrum.

¹³ See *Dependence of Earth's Thermal Radiation on Five Most Abundant Greenhouse Gases*, by W. A. van Wijngaarden and W. Happer, CO2 Coalition, 2020 <https://arxiv.org/pdf/2006.03098.pdf>, last visited Feb. 27, 2022; *Methane and Climate*, W. A. van Wijngaarden and W. Happer, CO2 Coalition, 2020 <https://alarmistclaimresearch.files.wordpress.com/2022/02/methane-paperrev1.pdf>, last visited Feb. 27, 2022.

statistically significant impact on global temperatures - even given the 27% plus increase in atmospheric CO₂ concentration since 1959.

The above facts notwithstanding, a calculation method devised by the IPCC over a decade ago, but still used by EPA today, was designed to obtain a number called the “Global Warming Potential” of other trace GHG molecules compared to carbon dioxide. The idea was to compare the impact on temperature, say its Equilibrium Climate Sensitivity (ECS), of a marginal change in gas A to the *same amount of ppm change* in CO₂.¹⁴ For example, it implies that the

Equilibrium Climate Sensitivity of CH₄ (ECS_{CH4}) = GWP_{CH4} * ECS_{CO2}

Since the ECS_{CO2} variable in the equation above has been demonstrated in Arguments 1-4 in the Section above to be zero, then by this formula the ECS of all trace GHGs must also be zero. Moreover, quite independent of this “proof”, based on the physics discussed in the paper cited above, there is no reason to expect otherwise.

Thus, the ECS of all other trace GHGs must also be zero.

2. The Social Cost of Each Trace GHG Other than CO₂ is also Negative; therefore, each is also a Beneficial Gas.

The argument here can be made quite simply. First, it has been shown in this Section’s Argument 1 immediately above that all of these trace GHGs have ECS = 0. This means that the changes in the concentrations in any or all of these trace gases can be expected to not have a measurable impact on the Earth’s surface temperatures. Thus, there is no scientifically justifiable expectation of associated temperature-related costs to society.

Second, all of these trace gases, to the extent they end up in the atmosphere, do so because of processes that clearly provide economic benefits to society or they would not go on. The uses of all of these gases all derive from their value in the competitive marketplace and the benefits from their current use are obvious in the enormous demand for their related products and services.

Thus, the social cost of each trace GHG other than CO₂ is also negative; therefore, each is also a beneficial gas.

¹⁴ The increase in absorption potential of gas A was in the numerator, the change in CO₂ absorption potential in the denominator. But since the concentration of CO₂ is already well over 400 ppm, there is only a very tiny change in absorption potential associated with changing CO₂ concentration by 1 ppm. As a result, the number in the denominator is extremely small.

When the number for gas A, say, is divided by a tiny denominator for CO₂, the quotient will be very large. But that number is called the Global Warming Potential (GWP) of gas A. It will always be very large, whether for CH₄ or N₂O or any Freon. And, assuming its absorption spectra is not already overwhelmed by H₂O, the smaller the amount of gas A in the atmosphere, the less saturated its absorption spectra, and the higher the absorption potential of an increase in concentration, yielding an even higher GWP. Clearly, this GWP number is meaningless in this context, and must never be used to guide any climate policy. For example, it implies the Equilibrium Climate Sensitivity of CH₄ (ECS_{CH4}) = GWP_{CH4} * ECS_{CO2} which, if ECS_{CO2} were positive, would grossly overstate the impact of changes in the atmospheric concentrations of these trace GHGs on the Earth’s surface temperatures. However, the proper values of GWP for all these other GHGs are actually irrelevant to the issue at hand.