

# [Net] Zero Would be Nice

## But it's not happening. Is it time for carbon-based tariffs?

David I Gustafson, Ph.D., St. Louis, MO  
January 31, 2025

As an avid movie-goer (who still loves “real” theaters) and a scientist who dabbles in theoretical physics, I absolutely loved the 2023 Best Picture, *Oppenheimer*. One of my favorite lines comes when Matt Damon’s General Groves is asked if he is reassured by Cillian Murphy’s Oppenheimer saying that the chance of the Bomb igniting the entire atmosphere is “near zero.” Groves dryly responds: “Zero would be nice.”

Alas, in the world of quantum-scale physics, absolute certainty is out the window, and we are left with only probabilities – a troubling reality that bewildered even Einstein. A repeated line in the movie is that “theory will only take you so far.” None of the scientists, however brilliant, could say for certain what would precisely happen when they pushed that first button.

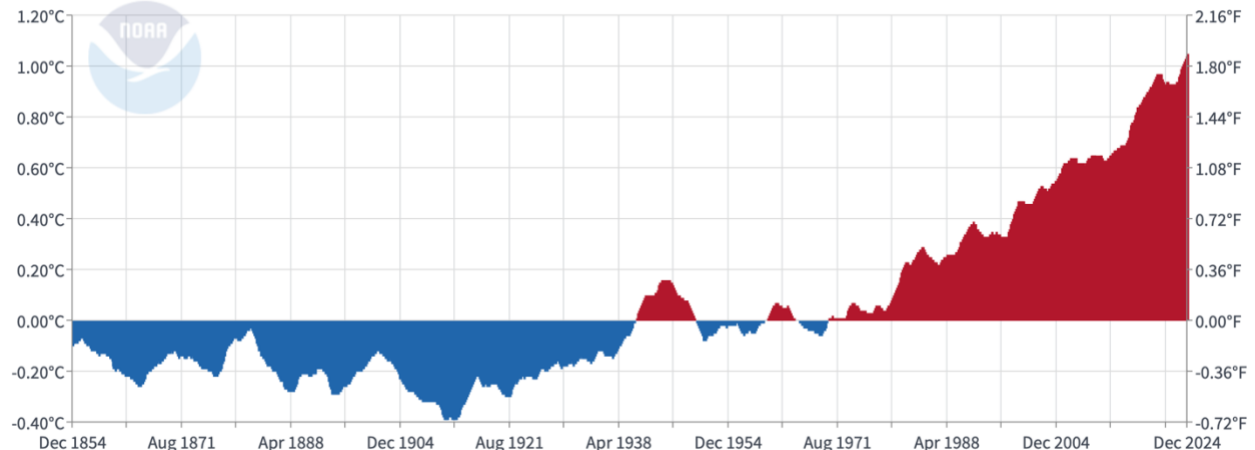


Of course, the explosion was indeed “limited” – albeit by far the largest until that time. In a few years, it was eclipsed by the H-Bomb – based on fusion, rather than fission, unleashing far more power. We don’t think about it much in our day, but if such bombs are ever used again, there is still a non-zero (albeit small!) probability of igniting the atmosphere each time one is used.

These dark thoughts about fire came to mind again this month as I contemplated the horrific conflagrations in California and the continued accelerating rate of global warming, with the World Meteorological Organization declaring 2024 as yet another [warmest year on record](#), likely exceeding 1.5°C for the first time. The data shown below are from the official US source: [NOAA](#).

### Global Land and Ocean Average Temperature Anomalies

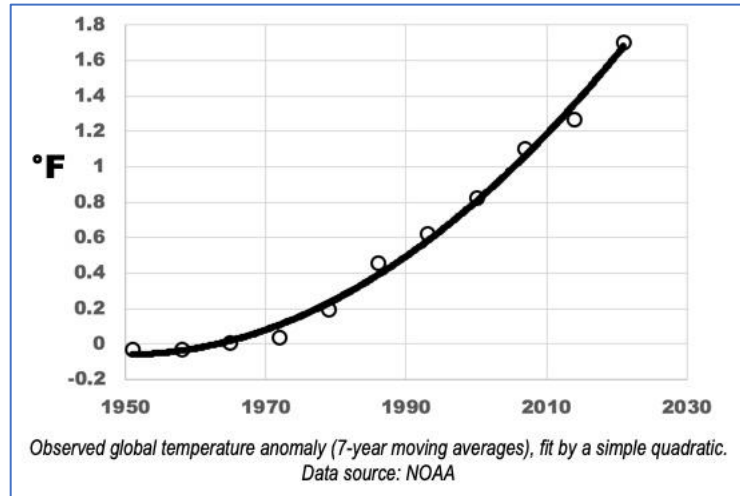
60-Month Period



## *Is it time for carbon-based tariffs?*

Focusing on the anomaly data just since 1950, and smoothing the numbers to 7-year moving averages, the accelerating trend of the past several decades is even clearer. The best-fit quadratic shown here reaches 3.4°F by 2050 and 7.7°F by the end of this century – both obviously far hotter than the stated targets of current global climate policy.

These disturbing data are all juxtaposed against the ever-vanishing chance that current carbon policies will achieve the “net zero” carbon emissions scenario still being pursued by the most ardent climate advocates. As noted in [my recent posts](#), there is no evidence that the various global treaties put in place over the past few decades are doing anything to slow the still-accelerating levels of CO<sub>2</sub> in our atmosphere, which is provably responsible for the vast majority of the observed warming.



Against this entire backdrop, the new administration has again pulled the US out of the [2015 Paris Climate Agreement](#). In itself, this act is of negligible consequence because Paris has been just as ineffective as its predecessors (Kyoto, etc.). The basic problem with all of these UN-based agreements has been their reliance on voluntary pledges, ignoring the fundamental reality that the only effective way to change behavior at scale is through binding economic incentives. Accordingly, what should the US propose as an alternative to Paris?

Tariffs seem to be a favored tool of the new administration. There is plentiful evidence from the economics literature to suggest that globally-enforced carbon-based tariffs would be a particularly effective and efficient mechanism to reduce emissions (e.g., [Zhao & Yarime, 2022](#); [Devarajan et al., 2022](#); etc.). We often hear current administration officials claim that American production systems are far cleaner than those in China and elsewhere. Well, here’s a great opportunity to put those words into action!

Economic modeling suggests that the funds collected by the US in such a global system would be significant, a great way to reduce national debt and begin making the huge investments in our infrastructure that will be required to make our country more resilient to the various challenges that worsening climate change will continue to bring with ever-increasing frequency: especially flash floods – which wreaked such havoc across North Carolina and adjoining states last year.

Will any of this happen? Will the US engage in the next round of climate negotiations to lobby for such a policy? I confess that I place the probability as being in the same range that Oppenheimer gave for atmospheric ignition (i.e., “near zero”). However, that doesn’t mean that those of us who would like to see rational national and global climate policies shouldn’t argue for them to be pursued. Standing on principles didn’t ultimately work out very well for Oppenheimer. Indeed, speaking unsettling truth to power often doesn’t end well for the speaker. But that’s the commandment for those who are called to sound the warning ([Ezekiel 33:6](#)).