

Testimony of Caleb S. Rossiter, Ph.D.
before the Subcommittee on the Environment
of the House Committee on Oversight and Reform,
April 30, 2019.

Chairman Rouda, Ranking Member Comer, and Members of the Subcommittee:

I am honored to be invited to testify on Climate Change: The Impact on Public Health. From my time on the congressional staff I developed a deep affection for this American institution and a deep appreciation for the difficult job you all do for all of us.

I am a climate statistician and the executive director of the CO2 Coalition, which was founded by Princeton atmospheric physicist and hence climate scientist Will Happer. Professor Happer is now President Trump's national security director for emerging technologies. As the Subcommittee knows from recent hearings, he advocates a scientific review of claims that fossil-fueled climate change threatens national security.

I represent our 46 members, who are atmospheric physicists, climatologists, agronomists, geologists, ecologists, statisticians, medical doctors, and energy economists. Our Coalition's mission is science education. We are trying to save the people of the planet from the people "saving the planet" from what has been – for 30 years -- an always predicted but never realized climate catastrophe.

The Coalition published a White Paper on Climate Change and Health last fall. We have provided copies with my testimony, and I hope the Chair will make the electronic pdf we provided part of the record. The principal researchers for the paper were two of our medical doctors and public health specialists, Jan Breslow, professor at Rockefeller University and head of its Laboratory of Biochemical Genetics and Metabolism, and Weston Allen, who practices in Australia, and is the author of "The Weathermakers Re-examined."

Mr. Chairman, I was pleased to be invited here today as executive director to represent our members' reasoning and conclusions for two reasons.

First, the decisions Congress makes on whether to restrict fossil fuels and their emissions of carbon dioxide will affect the health not just of Americans but of people all over the world.

So far, CO₂ emissions have had a modest, positive impact on public health in the United States: they have increased plant productivity because CO₂ is plant food, and reduced mortality because CO₂ has contributed to warming. And you have already heard testimony in a previous hearing, the fracking revolution may have averted many deaths here because it has reduced the price of home heating.

But it is in Africa that whether U.S. policy promotes or restricts fossil-fueled electricity is truly a matter of life and death. Only 25 percent of African homes has electricity. That explains much of why life expectancy in Africa is 20 years lower than in the rest of the world.

Reliable electricity means that Africans don't have to do their cooking and heating with wood and animal dung. That dramatically reduces lung and heart disease. Reliable electricity means that water can be purified for safe drinking. That reduces the largest cause of child mortality.

My second reason for being pleased to testify is that I and the members of the CO₂ Coalition were recently the object of an attempt by a member of this Subcommittee to censor us by blocking our public appearances, and to defame us by stating that we "deny established science." To use the "climate denier" label over technical disputes about immensely complex and uncertain computer models of the combined atmosphere-land-ocean system is to make a shameful comparison to kooks who deny the suffering of the victims of the Holocaust.

As I read through your recent hearings on Climate Change, I saw once again how difficult your jobs are. You were exposed to two contradictory views of climate science. First, former Senators Kerry and Hagel saw CO₂ emissions behind everything from the sinking land at a naval base to wildfires and hurricanes. Similarly, Jeffrey Sachs of Columbia said: "The U.S. and the planet are buffeted by extraordinary heat waves, droughts, floods, forest fires, and extreme storms."

Second, Nicolas Loris of the Heritage Foundation testified, as Roger Pielke Jr. did before the Science Committee in 2017, that UN IPCC and U.S. government data

show that rates of sea-level rise and extreme weather were the same during the half-degree of early 20th century warming, which was almost entirely natural, as during the half-degree warming since 1980, at least half of which the IPCC says was due to industrial CO₂.

What is the subcommittee to make of this dispute? I think that the answer was actually provided in statements by the Chairman and Senator Hagel.

Chairman Rouda noted that in 1992, the United States and 154 nations agreed that warming will occur from CO₂ and that it “may adversely affect natural systems and humankind.” The CO₂ Coalition are in complete agreement with that statement, as a scientific fact. Then Senator Hagel testified that: “Scientists reduced uncertainty about climate change over the last two decades.” And we agree with that too.

That’s because we look at the actual data that scientists have collected during this period. Science is fundamentally the testing of hypotheses with data. The data are what country singer Porter Wagoner calls, “the cold, hard facts of life.” And the cold, hard fact is that the “may” in the 1992 agreement remains possible, but has not yet occurred.

Using the IPCC’s own words and data, Professor Pielke and Professor Judith Curry have shown that decadal rates of drought, storms, flooding, hurricanes, cyclones, tornados, and the rate of sea-level rise have not registered *any statistically-significant change* during the recent period of warming that was partially induced by CO₂.

Here are the quotations and their sources:

IPCC AR5 (2014): “It is very likely that the mean rate of global averaged sea level rise was 1.7 (1.5 to 1.9) mm/year between 1901 and 2010...and 3.2 (2.8 to 3.6) mm/year between 1993 and 2010. It is likely that similarly high rates occurred between 1920 and 1950.” (Curry Sea-level paper, <https://curryja.files.wordpress.com/2018/11/special-report-sea-level-rise3.pdf>)

IPCC AR5 (2014): There is not enough evidence to support medium or high confidence of attribution of increasing trends to anthropogenic forcings as a result of observational uncertainties and variable results from region to region...we conclude consistent with SREX that there is low confidence in detection and

attribution of changes in drought over global land areas since the mid-20th century. (Pielke Jr. testimony, <https://republicans-science.house.gov/sites/republicans.science.house.gov/files/documents/HHRG-115-SY-WState-RPielke-20170329.pdf>)

IPCC AR5 (2014): In summary there continues to be a lack of evidence and thus low confidence regarding the sign of trend in the magnitude and/or frequency of floods on a global scale.” *Ibid.*

IPCC AR5 (2014): Current datasets indicate no significant observed trends in global cyclone frequency over the past century... No robust trends in annual numbers of tropical storms, hurricanes, and major hurricanes have been identified in the past 100 years in the North Atlantic basin.” *Ibid.*

So climate catastrophe *may* happen, and we need to maintain vigilant scientific inquiry. But it hasn’t happened yet. That, too, is a cold, hard fact.

So now that we have disposed of our current fears, let’s look at the issue of fossil fuels, carbon dioxide, and public health.

Humanity thrived during long periods considerably warmer than now and suffered terribly during cold periods, such as the preindustrial Little Ice Age. In most countries, winters are still much more lethal than summers. Globally, cold weather kills many times more people than hot weather, and modelling indicates that it will continue to do so regardless of greenhouse gas emissions.

Atmospheric carbon dioxide (CO₂) primarily affects minimum temperatures at night, in winter and high latitudes. This reduces temperature variability, the diurnal temperature range and hence cardiac and COPD mortality, asthma, respiratory infections and even gastroenteritis. Whereas heatwaves have a great effect on the those about to die, cold spells have more prolonged effects on respiratory, cardiovascular and stroke mortality.

The relationship between climate and vector-borne disease is complex. Despite global warming from 1900 to 2012, the malaria mortality rate per capita declined 95 percent. The recent upsurge in dengue is due primarily to rapid urbanization and international travel. The reason Chikungunya virus spread rapidly after 2005 was a genomic micro-evolution enabling it to be transmitted by the mosquito, *Aedes*

albopictus, which may be adversely affected by future warming and CO₂ fertilization of plants. Warm El Niño events actually reduce the transmission of tick-borne encephalitis. Modeling of Lyme disease in the U.S. projects an expansion into Canada and a retreat from the southern states, resulting in an overall reduction in the exposed population.

Extreme weather events such as cyclones, floods, droughts and tornadoes are not increasing in incidence or lives lost. Indeed, the global mortality from all weather-related natural disasters declined by 99 percent while the population trebled after 1920, thanks to improved economies and technologies. Food production and calorie consumption per capita continue to increase, thanks to the green revolution, increased CO₂ fertilization and longer growing seasons. Fossil fuels contribute enormously to the production, safe storage and transport of food and thus to human nutrition. Modeling indicates an inverse relationship between future global water stress and emissions.

Air pollution kills about 7 million people annually, and the major culprit is not fossil fuels, but burning biomass (wood, dung and crop waste). The provision of affordable electricity for cooking and heating of homes in developing countries could save millions of lives annually. Air quality in the developed world has improved greatly since the 1970s, thanks to catalytic converters, scrubbers and precipitators, removing 97 percent of the sulfur dioxide and 99 percent of coal's fly ash. Coal power in the U.S. is 17 times safer than that in India and China.

Energy costs need to be kept as low as possible, especially in cold climates, so that poor people can afford to keep warm in winter. For every death from heat, there are twenty from cold. Fossil fuels, including clean-coal will continue to have an important role to play in advancing civilization and human health over the 21st century. Our focus should be on conservation and health-promoting activities rather than on CO₂ and climate change. Unmitigated warming this century is likely to be less than 1 degree Celsius and thus more beneficial than harmful for humanity and perhaps for the planet.

The latest IPCC Summary for Policymakers states: "The most effective vulnerability-reducing measures for health in the near term are programs that implement and improve basic public health measures such as provision of clean

water and sanitation, secure essential health care including vaccination and child health services, increase capacity for disaster preparedness and response, and alleviate poverty (very high confidence).”

We agree with the IPCC. There’s no denying that we are part of that scientific consensus. But those solutions are not possible without cheap, reliable energy.

Thank you, Mr. Chairman.

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