



Testimony of Gregory Wrightstone
Executive Director, CO2 Coalition
Before the Pennsylvania House Environmental Resources and Energy Committee
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Fossil Fuels: The Greenest Energy

Good morning. Thank you for the opportunity to speak. I am Gregory Wrightstone, executive director of the CO2 Coalition, based in Arlington, Virginia. I am also a native of Cumberland County, a geologist, an expert reviewer for the Intergovernmental Panel on Climate Change and author of a best-selling book, “Inconvenient Facts.” I am also the co-author of the first comprehensive, peer-reviewed paper on the Marcellus Shale which is the largest natural gas accumulation in the world.

The CO2 Coalition is the nation’s leading organization providing scientific information – free of political bias – about the vital role carbon dioxide plays in our environment. Membership is comprised of more than 100 of the world’s foremost experts on climate change and represents a wide range of expertise including atmospheric physics, geology, oceanography, economics and more. Our membership has published many thousands of peer-reviewed scientific papers over a wide spectrum of climate-related topics.

Before I get into the meat of my comments, I would like to update you on a related and very recent legal and important proceeding concerning the government’s war on fossil fuels.

In 2009, the United States Environmental Protection Agency, under the auspices of the Clean Air Act falsely determined that carbon dioxide was a pollutant. This is known as the Endangerment Finding and has been used since then to enable EPA to regulate and control CO2 emissions.

It is this authority that is being used to shut down coal power plants, kill internal combustion vehicles, ban natural gas for home heating and the misguided attempt to achieve a net zero economy.

On October 14th, the Concerned Household Electricity Consumers Council petitioned the United States Court Of Appeals For The District Of Columbia for a review of their petition to repeal the Endangerment Findings. And just Friday, the CO2 Coalition along with Doctors William Happer and Richard Lindzen filed an amicus brief in support of their petition.

Our amicus brief found that the Endangerment Findings should be rescinded immediately because they were based on:

1. Speculative theories and not on the scientific method
2. False science based on consensus, fabricated material, and models that don’t work
3. Government opinion, not real science

4. Censorship of any science that contradicted their notion of man-made catastrophic warming

In addition, we found that net zero will disastrously reduce food worldwide and eliminate the major source of low-cost energy for the US and people worldwide

This is a hugely important case that is only now making its way through our legal system. And now on to my primary comments:

As you might imagine, the Coalition's focus on carbon dioxide and climate often draws us into the subject of fossil fuels. Today, I will summarize a recent paper published by our coalition that states that coal, oil and natural gas are the "greenest" of energy sources.

The paper was published by one of the CO2 Coalition's members, Dr. Indur Goklany. A recipient of degrees in electrical engineering from Michigan State University and the Indian Institute of Technology at Bombay.

He was involved with the Intergovernmental Panel on Climate Change since before its inception — as an author (First Assessment Report), U.S. delegate to IPCC and various subgroups, Expert Reviewer (Fourth and Fifth Assessment Reports).

He was part of the U.S. team that negotiated the UN Framework Convention on Climate Change, and later a delegate to that organization.

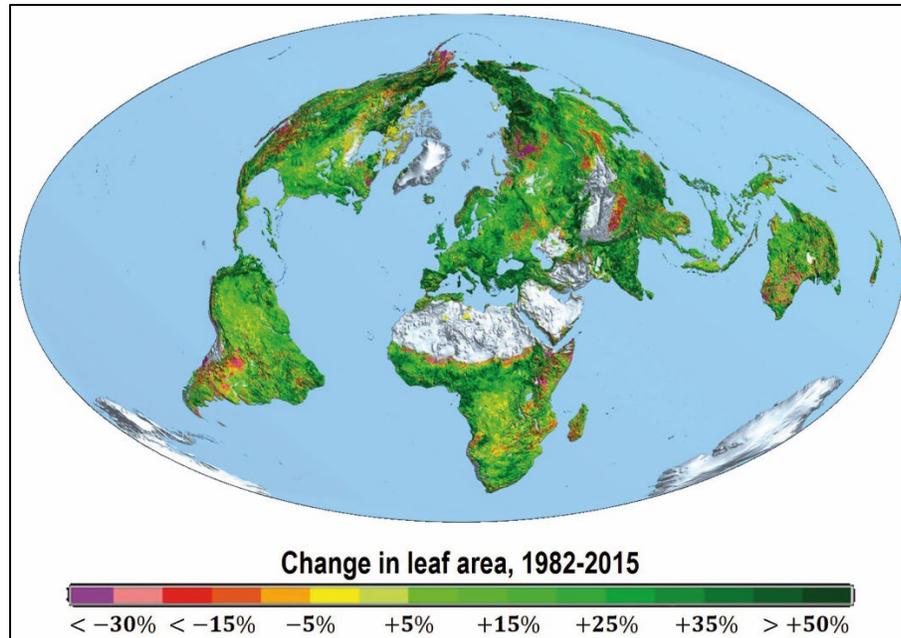
Dr. Goklany opens his paper with this very clear statement: "Contrary to the claims of proponents of the Green New Deal and Net Zero, fossil fuels are the greenest fuels." He makes this assertion on the basis of three factors:

1. The carbon dioxide emitted by the burning of fossil fuels has been a major contributor to the overall greening of Earth since 1900.
2. Fossil fuel-dependent technologies — that is, farm machinery along with pesticides and fertilizers derived from hydrocarbons — have enhanced agricultural productivity and forestalled conversion of large amounts of land to agricultural uses.
3. Relative to so-called renewable energy sources, plants fueled by coal and natural gas have smaller physical footprints and lower demand for metals and other minerals.

Let's review each of these factors in more detail:

Greening of Earth

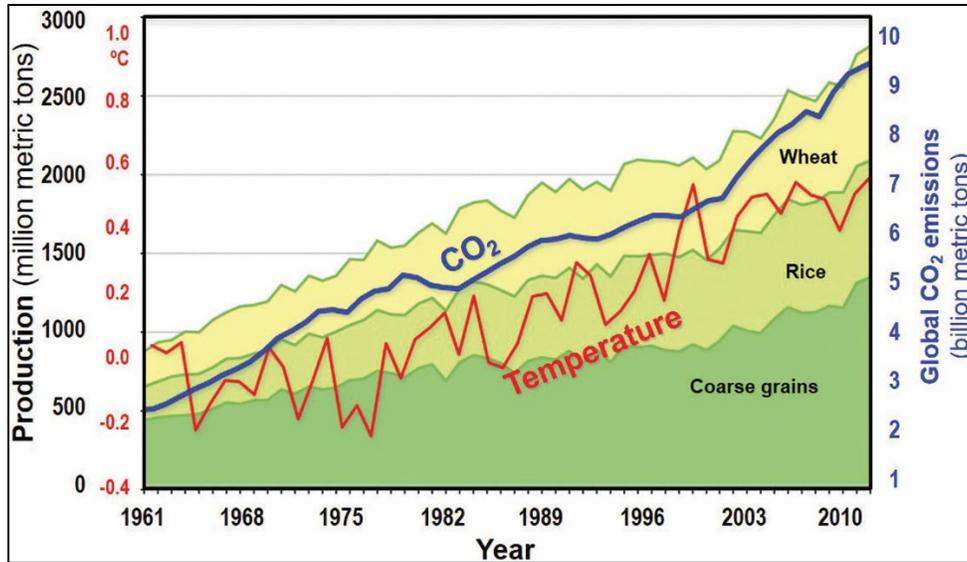
- Based on satellite data, researchers (Zhu et al., 2016) found that up to 50 percent of globe experienced increased vegetation while less than 4 percent had had a decrease They attributed 70 percent of the greening to CO₂ fertilization from emissions from fossil fuel combustion (which increases photosynthesis and water use efficiency of most vegetation)



- Other researchers (Chen et al., 2019) report that global leaf area increased by 5.4 million square kilometers from 2000–2017, equivalent to the area of the Amazon rainforest (Piao et al. 2020).
- Global tree cover increased by 2.2 million square kilometers, or by 7.1 percent, from 1982–2016.
- Strong greening has occurred in sparsely inhabited areas such as the Arctic, where global change drivers play a dominant role. Vegetation models suggest that CO₂ fertilization is the main driver of greening on the global scale.
- The Sahara Desert is shrinking. Nearly 200,000 square kilometers of the southern Sahara have been converted into a lush grassland from former desert.

Increased Agricultural Productivity

- The amount of land saved from conversion to agriculture is 25 percent larger than North America and exceeds the total amount of land currently set aside globally for both cropland (12.2 percent) and conservation (14.6 percent).
- Increased farm productivity has allowed cropland in many areas to revert to forest or other non-agricultural use.
- Overall, fossil fuel-dependent technologies have increased agricultural yields directly or indirectly by at least 167 percent (Goklany 2021). Consequently, the world sustains 10 times more people today (7.97 billion) than at the start of the Industrial Revolution (786 million in 1750) while supporting more biomass.



Fossil Fuels Require the Least Land and Materials

- Power plants fueled by coal and natural gas require about 12 acres of land per megawatt-hour of electricity produced. Solar needs more than three times as much land; wind, five times as much; and hydropower, 25 times as much.
- The IEA (2022) reports that solar and wind energy typically require significantly more metals and minerals than plants powered by fossil fuels.
- Similarly, coal and gas plants require significantly less concrete.



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Millions of trees chopped down to make way for Scottish wind farms

In 2021, the CO2 Coalition published a paper titled Pennsylvania's Regional Greenhouse Gas Initiative Relies on Faulty Data – Why RGGI is a “solution in search of a problem.” I have brought copies of that paper with me that I can make available after this hearing concludes.

In it, we found that Pennsylvania's ecosystems are thriving and prospering and that the claims of increasing natural disasters and climate change induced doom were not supported by the facts, science and data. The data on Pennsylvania show that

1. Floods are declining
2. Droughts are in decline
3. Heat waves have been in decline over the past 90 years
4. Pennsylvania's air and water are cleaner today than likely at any time prior to the Industrial Revolution and getting cleaner every year
5. Crop production has increased in the Keystone State because of the combination of modest warming leading to longer growing seasons and increased CO2-fueled crop growth
6. Pennsylvania has more than five times the area of standing timber today than in 1955

In summary, Dr. Goklany's findings and our recent paper are consistent with our view that fossil fuels are treasures to be valued and used for the benefit of humanity. Their demonization is irrational and destructive to our society. Critics of fossil fuels routinely exaggerate, and sometimes outright fabricate, their negative effects while ignoring altogether their enormous benefits.

Coal and oil fueled the Industrial Revolution, which gave us unprecedented prosperity and health. Together with natural gas, they promise to raise billions of people in developing countries from poverty and deprivation. Modern economies cannot long survive without fossil fuels.

In short, we love CO2 and so should you.



CO2 Coalition billboard on PA Turnpike