

Net Zero: An Existential Threat to Grid Reliability – and More

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Introduction: To be written

No climate crisis

I will start with some good news. That is that there is no climate emergency, and there will be none. As we say at the CO₂ Coalition, I love CO₂ and so should you. I have been married more than 50 years, and I tell that to my wife every night before going to bed. (Such is the sorry state of romance in my life.)

Today, I will discuss the subject of net zero and its threat to our way of life – and even to our lives. However, let's first put to rest this question of catastrophic global warming.

The fact of the matter is that modern warming of the climate is neither unusual nor unprecedented. Most the last 10,000 years have been warmer than today. Two thousand years ago, Romans grew citrus in northern England. One thousand years ago, Vikings grew grain on Greenland. None of that is possible today. And if it were warm enough to do so, for the life of me, I don't see a problem with it.

It is well documented by 600 million years of geological evidence that CO₂ levels are near a record low and that [atmospheric increases of the gas](#) follow warming periods rather than precede them. This is probably because warming oceans release carbon dioxide into the atmosphere, and cooling oceans absorb the gas from the air. Think about it. Which is fizzier – cold Coke or warm Coke? The answer is cold Coke because as the fluid warms it loses some of its carbonation – or CO₂.

These data alone are enough to demolish the assertion that atmospheric CO₂ concentrations control Earth's climate and the theory that combustion of fossil fuels will cause catastrophic warming. It will not. To repeat: The burning of fossil fuels – coal, oil and natural gas – and the carbon dioxide they emit will not cause catastrophic global warming. If there is any rise in temperature, it will be too small to notice.

A recent survey by [Rasmussen](#) reported that 60 percent of likely U.S. voters believe that climate change has become a religion that has more to do with political power than with environmental protection.

Nevertheless, the so-called global elite at places like the United Nations and the World Economic Forum, as well as many of our national and state leaders, persist with the net zero mantra as they pursue some idealized version of Earth unsullied by humanity. Somehow carbon-based creatures – human beings – will be better off if carbon is eliminated.

Net zero impossibility

Now, back to net zero. That is the elimination of carbon dioxide emissions from electric generation, manufacturing, transportation, agriculture and so on. I suppose only John Kerry knows what else must be carbon-less.

I am here to tell you that net zero is technically impossible and environmentally damaging. Besides being unnecessary, net zero is destructive because the carbon dioxide it seeks to eliminate is beneficial, not harmful.

A [Wall Street Journal](#) article by Steve Milloy speaks to the feasibility of net zero. Milloy references a report by the [Electric Power Research Institute](#), the research arm of electric utilities commonly known by its acronym EPRI. Among other things, Milloy is author of "[Scare Pollution](#)," which digs deep into the corruption of the Environmental Protection Agency.

According to the EPRI report, "This study shows that clean electricity plus direct electrification and efficiency . . . are not sufficient by themselves to achieve net-zero economy-wide emissions."

"In other words," Milloy writes, "no amount of wind turbines, solar panels, hydropower, nuclear power, battery power, electrification of fossil-fuel technologies or energy-efficiency technologies will get us to net zero by 2050."

Analyst [David Wojick](#) says net zero is impossible because it would cost too much:

"(Electricity) storage at the scale needed to replace fossil fuels with wind and solar is impossibly expensive. Even assuming fantastic price reductions, analysis shows the cost of the required battery storage still nearly equals the \$23 trillion annual American GDP (gross domestic product). The likely cost would be many times GDP."

Wojick calls on regulators to reverse the trend toward wind and solar to avert disaster,

When it comes to sucking 1.6 trillion tons of carbon dioxide out of the air, as John Kerry says we must do, be ready to spend \$1 quadrillion. That is a million billion dollars.

We know not how many ice cubes it would take to quell Al Gore's boiling oceans. Probably at least a quadrillion.

As one commentator has said, the dividing line is no longer between right and left or conservative and liberal – but rather between normal and crazy. Just to be clear: I consider myself normal.

So, EPRI says shutting down all our coal and gas plants – and much else – won't rid us of carbon dioxide emissions and then adds: "This study does not include a detailed assessment of factors such as supply chain constraints [and] operational reliability and resiliency of a net-zero electricity grid."

Power grid

Oh yes, there is this little thing called the power grid. You know, the thousands of miles of high-voltage lines and thousands of pieces of equipment like transformers, switches, sensors and computers. That would be the technological wonder that make modern society possible.

In a [2022 report](#), the North American Electric Reliability Corp. raises numerous red flags about the injudicious removal of fossil-fuel plants from the grid. These retirements are putting the country at risk of power failures, especially during extreme weather.

In February of 2021, more than 200 people died in a Texas cold snap when an overreliance on wind turbines led to extended blackouts.

Last December, [Kentucky](#) had rolling blackouts when frozen equipment resulted in disruptions of natural gas supplies to power plants. During the same cold spell, PJM, the grid serving Pennsylvania and parts or all of 12 other states, came close to having similar blackouts when [mostly gas-fired plants failed to perform](#).

During a hearing on the Kentucky incident, legislators complained to utility executives that replacing coal plants with wind and solar had led to higher rates and less reliability. There is a move in that state to preserve remaining coal plants threatened by closures.

In Pennsylvania, alarm bells have been rung by both legislators and [PJM](#). PJM says it will address the risks of retiring fossil plants too quickly. Perhaps a much-needed seriousness is being brought to the issue of reliability. We can hope.

However, for quite some time, answers to questions about reliability have been circular. State government would point to grid operators as the experts. Grid operators would say they follow state policies such as requirements to institute some minimum amount of renewable generation.

In her book, "[Shorting the Grid](#)," Meredith Angwin, says politicians regularly ignore that the sun doesn't always shine and that the wind doesn't always blow as they make laws requiring greenness in grids. She writes:

"The laws of nature are not repealed by these renewable-mandate laws, and yet the laws are passed. Renewable-mandate laws have unrealistic plans for renewables (to put it mildly). They will not succeed in building grids that are 100 percent renewable. However, such laws will succeed in making the grid more fragile and more expensive."

Ms. Angwin suggests that decisions of grid operations are too often influenced by those who are more invested in their own interests than in the well-being of consumers. The interests of consumers, of course, reside mostly in affordability and reliability.

In February a [Commonwealth Foundation](#) survey found that voters overwhelmingly believe that Pennsylvania's most pressing energy issue is rising costs. Voters were about three times as likely to identify costs (59%) as they were to name environmental consequences (16%) when considering energy as an issue. More than two-thirds of the voters (69%) support building more local pipelines to transport natural gas to homes and businesses.

Last year, PJM's installed capacity by fuel source was approximately 48 percent gas, 25 percent coal and 17 percent nuclear. Solar and wind accounted for just one percent each. After decades of subsidies, governmental cheerleading and overpromising by the climate industrial complex, solar and wind stand in single-digit percentages for capacity.

Nonetheless, the push for wind and solar continues. PJM projects that it will lose [40 gigawatts of generating capacity by 2030](#) – 21 percent of the market's existing capacity. That's the equivalent of losing the electricity needed to power 30 million homes. Over the same period, PJM has only 31 GW of additions projected. While the losses will be primarily from coal plants

that can provide electricity continuously, the additions will be largely from intermittent wind and solar.

Again, this is all in the name of a net zero, decarbonated, green nirvana.

Few members of the public are being fooled. A poll by Heart & Mind Strategies of Reston, Virginia, found just 27 percent of Americans think net zero is possible. Nearly 40 percent think it's probably impossible, and a third just don't know.

By the way, the same poll by Heart & Mind reports that 73 percent of Americans agree that it is important for the U.S. to be energy independent. That is, since the U.S. has some of the largest reserves within our own borders, we should utilize and develop our resources, like natural gas and oil, to produce the energy we need so we are not dependent on imported energy sources.

Again, agreeing with that was 73 percent of all Americans, including 70 percent of Democrats and 81 percent of Republicans.

Challenging net zero with science

In February, the CO₂ Coalition published a [46-page paper](#) that found net zero to be scientifically invalid. And far from being a pathway to paradise, net zero is a threat to the lives of billions of people.

Two of the paper's authors – Drs. William Happer and Richard Lindzen are professors emeriti at Princeton University and Massachusetts Institute of Technology, respectively. They have spent decades researching the physics of Earth's atmosphere. The third is Gregory Wrightstone, a geologist of more than 40 years who has spent much of the last decade writing and speaking about the interplay of geology, history and climate.

Among the paper's findings are:

- Net zero proponents regularly report that extreme weather is more severe and frequent because of climate change while the evidence shows no increase – and, in some cases, a decrease – in such events.
- Computer models supporting governmental regulations and the trillions of dollars subsidizing renewables and electric vehicles, home heating, appliances and much more do not work. Of 102 such computer models, 101 fail to replicate observations in the real world.
- Scientific research and studies that do not support the “consensus” narrative of harmful man-made global warming are routinely censored and excluded from government reports such as those of the Intergovernmental Panel on Climate Change and the National Climate Assessment.
- The many benefits of modest warming and increasing carbon dioxide are routinely eliminated or minimized in governmental reports.
- Eliminating fossil fuels means doing away with nitrogen fertilizers and pesticides and leaving half the world's population without enough food. Many would starve.

In short, the intellectual basis for net zero violates the tenets of a scientific method that for more than 400 years – since the time of Isaac Newton – has underpinned the advancement of western civilization.

The greenest fuels

I will mention one more paper by the CO₂ Coalition. It is entitled "[Fossil Fuels Are the Greenest Energy Sources.](#)"

The author, Dr. Indur Goklany, holds degrees in electrical engineering from Michigan State University and the Indian Institute of Technology at Bombay. He is a 30-year veteran of the climate debate and the author of several books. He has worked in government and in the private sector, and he has been an expert reviewer for the Intergovernmental Panel on Climate Change.

Some of what Dr. Goklany reports is as follows:

- Satellite data show that 25-50 percent of Earth's vegetated areas became greener between 1982-2011. Researchers attribute 70 percent of the greening to CO₂ fertilization from the emissions of fossil fuel combustion and nine percent from the use of fertilizers derived from fossil fuels.
- At least 20 percent of land area has been saved from being converted to agricultural purposes because of increased agricultural productivity from the use of modern farm machinery, pesticides and fertilizers – all dependent on fossil fuels. The amount of land saved is 25 percent larger than North America.
- [Fossil fuel-dependent technologies have increased agricultural yields by at least 167 percent.](#) Consequently, the world sustains 10 times more people today than at the start of the Industrial Revolution while supporting more biomass. That's 8 billion people today versus fewer than 800 million in 1750.
- 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 International Energy Agency reports that solar and wind energy require more metals and minerals than plants powered by fossil fuels. For instance, a typical electric vehicle requires six times the minerals of a conventional car, an onshore wind turbine requires nine times more mineral resources than a natural gas-fired power plant, and an offshore wind turbine requires 15 times as much as natural gas.

Indeed, fossil fuels are the greenest energy sources. They are treasures to be valued. Their demonization is irrational and ruinous. Critics of fossil fuels routinely exaggerate, and sometimes outright fabricate, their negative effects while ignoring altogether their enormous benefits.

A pitch for western civilization

To address one final aspect of this subject, I going to speak for a minute about the music of an old movie and its score being played by the [Danish National Symphony](#).

The movie is the 1967 film, "The Good, the Bad and the Ugly." Consider that this is a film of a quintessentially American genre – the western – starring an iconic American actor, Clint Eastwood. It is written, directed, produced and scored by Italians. It was filmed partially in Spain. The landscapes representing the American Southwest are actually in southern Spain.

The Danish orchestra is conducted by a Japanese-American woman born in Tokyo and raised in Hawaii.

Some clever visuals in the performance are a mezzo soprano wearing six-shooter earrings and the image of a man hanging from a noose in the middle of a stunningly beautiful Copenhagen concert hall.

What you get from the performance, which I found on YouTube, is the beauty and incredible variety of western civilization. I think we can agree that art like that could not be made available to many millions of people – including to the likes of us – without the wealth and technologies of our carbon-based economy.

A point that I want to make has to do with the remarkable mix of talent and personal backgrounds that went into the film and the music. Spanning a period of 50 years, the work of a wide variety of people from all over the world culminated in that performance.

And that is the kind of globalism that I embrace. I enthusiastically embrace it. I think most of us do. Why would we not? The collaboration in the performance is the human spirit incarnate.

However, the globalism that would impose dangerous concepts like net zero is another thing entirely. It is an obnoxious tyranny that every lover of freedom and of modern life should resist.

To that end, I urge everybody in this room to stand vigorously – even fiercely – for our freedom to produce electricity and manufacture goods with the most affordable and reliable fuels available to us.

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 hydrocarbons.

Those who demonize these fuels and promote the absurd notion that a harmless gas will destroy the planet threaten our way of life and possibly our very lives.