Delusion

In The Greenhouse Effect, a 1988 internal report by Shell scientists, the authors warned that “by the time the global warming becomes detectable it could be too late to take effective countermeasures to reduce the effects or even to stabilise the situation”. [Shell]

This is the same as James Hansen’s 1988 Congressional Testimony.

Tony Noerpel

If one examines the scientific reality of climate change and the sixth extinction, one realizes that humanity can no longer avoid a disaster. Global warming has been easily detectable for several decades now and the effects can no longer be reduced and in fact will continue to grow as the Earth surface warms. It is no longer possible to hold the temperature increase to much less than 2 degrees let alone the Paris Accord goal of 1.5 degrees. A two-degree world is a disaster according to the science reviewed by the 2018 IPCC SR15 report and the 2019 IPBES report on biodiversity. It is a world without tropical coral reefs and a world where food crises and pandemics are routine. They are not frequent enough that humanity cannot prepare for them and manage through them if we are so inclined. But in a four-degree world they become constant enough that civilization will more than likely collapse as will the biosphere. Our choice therefore is between a manageable disaster and collapse. I don’t know where that transition happens in the space between two and four degrees.

The science of climate change was robust enough to convince President Lyndon Johnson, a politician from an oil-producing state, to address congress in 1965, “This generation has altered the composition of the atmosphere on a global scale … through steady increase in carbon dioxide from the burning of fossil fuels.” Plans for carbon taxes and carbon markets were developed, proposed and discussed in congress in the late 60s and early 70s. While congress did not act on the threat at the time preferring a “wait and see” strategy, both congress and President Nixon passed a series of the most remarkable environmental legislation in our country’s history with strong bipartisan support: Clean Air Act, Clean Water Act, Environmental Protection Agency, Endangered Species Act and the Marine Mammal Protection Act.

While both the Johnson and Nixon presidencies were flawed in many respects, when they heeded political-economic ideology offered up by an assortment of pundits, fools and economists, both men heeded scientific expert opinion on reality. Alas, Science does not shed its light into every corner of the human enterprise to expose corrupting dogma. Since that time, we went from a healthy respect for science to a rejection of science and the embrace of religious and economic foolishness couched as an assortment of conspiracy theories, racism, bigotry, greed and incompetence. We flew into the embrace of a psychopathic Donald Trump. On Dec. 30, 2015, Trump told the crowd at a rally in Hilton Head, S.C., "Obama's talking about all of this with the global warming and … a lot of it's a hoax. It's a hoax. I mean, it's a money-making industry, okay? It's a hoax, a lot of it." This is from an incompetent elitist clown who made his money by inheritance, gambling, corruption and strategic bankruptcy.

Optimism in today’s America is unjustified. One friend emailed me: “that I am more of an optimist and still think that a disaster can be averted if we get the right people in power worldwide...” Another “I’m much more of an optimist than you. Come on! Cheer up. [With] our carbon fee and dividend … the price of pollution will go up and consumption of dirty fuel will go down … increasing consumption of energy efficient technologies, solar panels, electric cars, bikes, buses, boats, planes, trains. Nirvana.” Another wit writes sarcastically: “there’s no hope. Let’s party till the lights go out.” Of course, we are so screwed because that’s what we’ve been doing. What each of my friends miss is that this is not about optimism or pessimism which are emotional feelings at best. It is about scientific rigor. The possible reality we deny is often the one that happens because we refused to consider it, something we’ve been doing for more than 50 years now. Expecting to be able to fly in a two-degree world is not being optimistic. It is insane. The thought that a carbon tax and dividend, which by the way would be regressive, is going to transform the entire energy sector like a magic elixir or an invisible hand is bullshit. There is no evidence that a market-friendly approach can possibly salvage the human condition. It is Lumpkin thinking, or not thinking at all. As the historian Yuval Harari reminds us “markets do what’s best for markets; not what’s best for humanity.” Market ideology turns being ignorant into a virtue. That’s why politicians love markets.

In his 1926 book “Wealth, Virtual Wealth and Debt” the Nobel prize winning physical chemist Fredrick Soddy predicted World War II. People preferred optimism. Had they taken him seriously, maybe the war could have been avoided. We will never know because we only get to run reality once. There are no Mulligans.

We all suffer from optimism bias, otherwise we wouldn’t get out of bed in the morning. But optimism which denies facts is a pathology. There is no difference between the attitude of my three friends and climate science deniers. All are denying scientific reality so that they can feel good and keep on partying.

On May 6th Newsweek published a story [Murdock] titled: “America's Renewable Energy Sources Have Produced More Electricity Than Coal Every Day for 40 Days Straight.” Let’s look at the data. Total energy consumption worldwide was down 17% due to the coronavirus quarantine during the 40-day period in question. In the United States old coal fired power plants are being retired and replaced by natural gas, not by renewables. I like to use British Petroleum’s annual statistical review of energy [BP] but energy data for 2019 will not be available until June. This is the most comprehensive reporting on energy by a team of experts who know how to do this kind of research. Being lazy, I would prefer to wait for their report to comment on 2019. However, I submit we can learn a lot by looking at energy consumption in the years 2017 and 2018, summarized in the table.

In 2018, US emissions of carbon went up 131 million tons. Coal consumption went down 14.3 million tons of oil equivalent energy while the use of natural gas increased 66.8 Mtoe and oil increased 17.7 Mtoe. Solar and wind added a mere 9 Mtoe. Fossil fuel consumption increased 8 times more than wind and solar and emissions went up. That was not a good year at all but the foolish are celebrating.

Nuclear, hydro, wind and solar once installed and operating do not require fuel so if demand drops 17% a power company is not likely to reduce those sources. Natural gas is the fuel of choice of any power engineer especially valuable when trying to balance supply with demand using intermittent sources without batteries. The most likely source to cut is coal. Assuming the economy makes a V or U-shaped recovery, the coal will be back. What else is there? This is not a good news story. What makes it worse is that there are so many true believers who think it is. “See Tony, I’m an optimist. We can continue to party down and I don’t have to actually do anything. Why worry?” Well, so long as we can count on the odd pandemic or a hearty depression.

Even the journal Science goes goofy sometimes. In a May 8 article “Without fossil fuels reactors churn out chemicals” we are told that researchers in a lab are turning carbon dioxide into ethanol [Service]. All it takes is energy and some chemical magic. Researchers are making progress on the magic but they haven’t figured out how to circumvent the second law of thermodynamics. Where does all the energy come from? The article doesn’t say and I’m not surprised. It is all just happy talk to avoid stopping the party. The conversion of fossil fuels into carbon dioxide is an irreversible process with losses and the conversion of carbon dioxide back into ethanol is an irreversible process with losses. When I talk to researchers about these schemes, they tell me “but I was thinking we would use solar for that.” What bloody solar are the talking about? The solar that is supposed to be driving our cars, growing and cooking our food, heating our homes and running our industry? It’s like the stock market, stuff is brought and sold which doesn’t exist. A carbon tax and dividend plan is not a solution to humanity’s problems. It is just another excuse to party.

What all these people share is optimism bias. That is hardwired by evolution and has nothing to do with evidence.

To all of my friends: take the party hat off, put the drink down, stop blowing on your noisemaker and look at the numbers. In 2018 each of us Americans used 8 billion joules more energy than we did in 2017 and most of that was fossil fuels, not wind and solar. We are going in the wrong direction and we have an incompetent, clueless, self-absorbed fool for a president. I get up in the morning, not because of irrational exuberance but because I’m curious how it is all going to turn out and because I have 5 grandchildren whom I’m willing to go to bat for even if it’s hopeless. And life is more interesting if we care.

[BP] <https://www.bp.com/en/global/corporate/energy-economics/statistical-review-of-world-energy.html>

[Murdock] Jason Murdock, May 6, 2020, <https://www.newsweek.com/america-renewable-energy-electricity-generation-tops-coal-plants-april-2020-40-days-1501967>

[Service] Robert F. Service, Without fossil fuels, reactors churn out chemicals, May 8th, 2020, Science Vol. 368, No. 6491, <http://doi.org/10.1126/science.368.6491.566-b>

[Shell] <https://www.independent.co.uk/news/business/news/shell-predicted-climate-change-fossil-fuel-industry-1980s-global-warming-oil-a8294636.html>

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| Table 1: US energy consumption and CO2 emissions | | | |
| Energy (Mtoe) | 2017 | 2018 | D Mtoe |
| oil | 902.0 | **919.7** | 17.7 |
| gas | 635.8 | **702.6** | 66.8 |
| coal | 331.3 | **317.0** | (14.3) |
| nuclear | 191.7 | **192.2** | 0.5 |
| hydro | 67.2 | **65.3** | (1.8) |
| solar | 17.7 | **22.0** | 4.3 |
| wind | 58.1 | **62.8** | 4.7 |
| geo/biomass/other | 18.7 | **18.9** | 0.2 |
| total US | 2222.5 | 2300.6 | 78.2 |
| Emissions (MtCO2) |  |  | D MtCO2 |
| CO2 emissions | 5014.4 | **5145.2** | 130.8 |
| Per capita energy |  |  | D Gjoules |
| energy/cap Gjoules | 286.8 | **294.8** | 8.0 |