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## Climate Change 101 for Landmen and Lawyers: Uninhabitable Earth or False Alarm? (Part 3)

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This is a continuation of a five part series reviewing *False Alarm: How Climate Panic Costs us Trillions, Hurts the Poor, and Fails to Fix the Planet* by Bjorn Lomborg.

### WHAT DO THE EXPERTS REALLY SAY?

Dr. Bjorn Lomborg, whom *Time Magazine* has selected as one of 100 Most Influential People in the World, heads a Danish think tank called the Copenhagen Consensus Center and is a visiting professor at the Copenhagen Business School and a visiting fellow at the Hoover Institute of Stanford University. Lomborg relies on two major sources for his book, *False Alarm*, being reports and findings from the UN Intergovernmental Panel on Climate Change (IPCC) and the National Climate Assessment (NCA) from the US government. As already mentioned in Part II of this series, he also relies on the work of Professor William Nordhaus of Yale University, who in 2018 was awarded what so far has been the only Nobel Prize given to a climate economist.

Both Wallace-Wells and Lomborg acknowledge that the IPCC assessment on climate change is the “gold standard,” and both claim that its conclusions should guide the world. The IPCC and the NCA have forecasted global temperatures in the 4°C to 5°C range above preindustrial times by the end of the 21<sup>st</sup> century, *assuming nothing is done to mitigate the increase*. That caveat, to Lomborg, is the kicker. Such higher temperature ranges are unlikely to occur, says Lomborg, because they only occur in scenarios of high, very unlikely, carbon emissions.

What the IPCC actually wrote in its 2018 report, says Lomborg, is that to have a good chance of limiting warming to 1.5°C from preindustrial times, global carbon emissions needed to decline dramatically. The report never said that the world would end, or civilization would collapse, if temperatures rose above 1.5°C of warming. The 1.5°C goal, as Lomborg reminds, was inserted into the Paris Climate Accord by politicians, not by scientists.

So what is happening today? As Lomborg point outs, carbon emissions are on the decline in the developed world. In the US, for example, carbon emissions from electricity generation have declined by an astonishing 27 percent between 2007 and 2018, primarily due to the

“Shale Revolution” and accompanying large-scale switches from coal to natural gas-fired power plants.

In the developing world, in contrast, carbon emissions are on the rise. Roughly half of the world’s population, almost four billion people, live in India, China, and Southeast Asia. Half of these countries’ energy sources come from coal. China, for example, is the world’s largest CO<sub>2</sub> emitter and, unlike the US, has tripled its carbon emissions since 2000, with its reliance on renewable energy decreasing by half in the same period. China and other developing countries in Asia continue to build dozens upon dozens of new coal-fired power plants each year to supply electricity to burgeoning populations.

This leads to one of the most important points that Lomborg makes in his book. “Without drastic climate policies, the expectation is that annual emissions will go up and up and up over the century.” The predicted annual temperature in this scenario is around 7.4°F, or 4°C. This is not Lomborg’s conclusion—it is the conclusion of UN researchers using computer models developed by the US Environmental Protection Agency. Under this model, even if all the rich countries in the world stopped all fossil fuel use in 2020 (which would grind their economies to a halt), temperatures at the end of the century would be just 0.8°F cooler. Since the US itself emits about 40 percent of rich country CO<sub>2</sub>, the effect of the US abandoning fossil fuels from 2020 forward would amount to a reduction in global temperatures of about 0.33°F in year 2100. So the US alone cannot save the planet from the ravages of climate change through self-imposed restrictions on carbon emissions—not by a long shot. This seems forgotten, at times, when passions in the US flair on the subject of climate change.

What does all this tell us? It does not, as some critics of Lomborg’s book assert, tell us that Lomborg thinks that climate change is inevitable or that 4°C of warming is “optimal.” Instead, it should tell us we need to put the full array of climate change weapons on the table. What if, as Lomborg asks, instead of burning half of the coal used in the world for power generation, China switched its power production to natural gas? Global CO<sub>2</sub> emissions cuts would be massive, dwarfing the cuts already made in the US.

Or what about increasing use of nuclear power, which emits zero carbon power? Or what about quadrupling research and development budgets, something that former President Obama proposed, so innovations such as nuclear fusion, fission, carbon capture, water splitting, geoscience engineering, or oil produced from ocean grown algae (also carbon neutral and a great way to mitigate ocean acidification) could be introduced? Or what about wind and solar energy?

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## WIND AND SOLAR

Few of the alternatives to wind and solar power mentioned above, and especially natural gas and nuclear power, are currently in vogue among most environmental progressives. Instead, in New York, California, and other progressive US states, and to a certain extent in Europe, natural gas and nuclear power plants are being shut down prematurely to be replaced by wind and solar facilities. I have written about the land use, inherent intermittency, and battery storage problems endemic to wind and solar power sources separately and will not revisit those subjects here. Lomborg's broader point is that, today, solar panels and wind turbines deliver about 1.1 percent of global energy. The International Energy Agency estimates that, by 2040, solar and wind will meet less than 5 percent of global energy needs. Though solar and wind are constantly trumpeted by the media as fast-growing energy sources (and statistically they are, which is to be expected on the front end when base usage levels are low), they are a long way from meeting current global power generation needs in 2040 and beyond. They are likely to remain so in 2050, when the world is expected to have two billion more people than the seven billion living on the planet today.

President Biden, on his first day in office in January 2021, recommitted the US to the Paris Climate Accord by executive order. So, given their low current and expected low future projected contributions to the world power grid, how will utilization of solar and wind power enable the world to meet the Paris Accord goals of holding climate change increases to 2°C? Wind and solar alone obviously cannot accomplish the goal of the Paris Accord except under one scenario. That scenario would be governments around the world collectively forcing citizens to eschew all usage of fossil fuels for wind and solar power sources, political consequence be damned. But how likely is that? Putting aside the other issues with wind and power sources, what are the chances politically that billions of people will embrace exclusive reliance on wind and solar power, or something close to it, over the next three decades and before Wallace-Wells's climate change deadline expires?

The chances are not great, says Lomborg. First, the cost of such policies will fall disproportionately upon poorer countries, though they are the ones least able to afford the leap to wind and solar. Lomborg reminds that approximately a billion people in the world rely on wood and dung for their primary energy supplies. A solar panel on a thatched roof might supply power for a light at night or a cell phone charger, but it cannot deliver enough power to replace a wood-burning stove or refrigerator. What poorer countries want and need, says Lomborg, are functioning power grids like wealthier countries have. Nuclear power is an emission-free option, but high start-up costs and safety concerns, justified or not, are chilling its expansion globally. Power grids relying on coal or natural gas as sources of fuel are currently much cheaper, more reliable, and more flexible when it comes to meeting peak demand than power grids relying primarily on wind and solar. Plus, battery

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storage technology has not advanced to the point where massive power grids relying exclusively on wind and solar are feasible from an engineering standpoint.

Even in a wealthy country like the US, polls indicate that the public, though it is concerned about climate change, is generally unwilling to pay the higher taxes and utility bills needed to convert the US power grid completely to wind and solar, even if it was technologically feasible. Lomborg says the estimated cost of such a total transformation of the US power grid is estimated to be in the \$23 trillion range, or roughly a \$1 trillion dollars higher than the US GNP in 2019. An Associated Press/University of Chicago poll conducted in 2018 indicated that 57 percent of Americans were unwilling to pay a \$1 more a month to combat climate change, that only 23 percent would pay \$40 a month, and only 16 percent would pay \$100 a month. Forty-three percent of the Americans polled were unwilling to pay anything extra a month to combat climate change. How ready then are Americans to embrace the astronomically higher utility bills that can be predicted by a premature national shift to exclusive wind and solar power generation?

So what is the solution, according to Lomborg? In three words (mine, not his), all of the above. We should not limit ourselves to solar and wind power sources. Natural gas can serve as a bridge to nuclear power and hasten the end of coal usage. Adaptation, which is perceived by many environmentalists as “throwing in the towel,” must be embraced, not scorned, as another arrow in our quiver in the battle against climate change. Most of all, and as President Obama proposed, massive commitments to research and development must be made to foster innovation. Who would have thought a COVID-19 vaccine could be developed as quickly as it was? Similar public/private partnerships are needed to come up with practical, economic solutions to the problem of climate change. And above all, we need a healthy, thriving global economy to create additional wealth that can simultaneously mitigate the worst effects of climate change while developing the solutions needed to eliminate it.

Another partial solution that Lomborg proposes is a worldwide carbon tax. Space does not permit a detailed discussion of his plan. Carbon taxes, generally, are favored by many economists, Al Gore, and some of the major oil companies including ExxonMobil, BP, and Shell, though most independent oil and gas producers have balked. Carbon taxes have been enacted in many foreign countries and by local jurisdictions in some US states, such as California and Colorado.

But higher taxes in any form are anathema to many Americans and the politicians who represent them. Carbon taxes would likely impact rural Americans disproportionately as mass transit options are limited outside of cities. Author and *Power Hungry* podcast host Robert Bryce has also questioned whether such taxes in the US at the federal could survive the ravages of Washington lobbyists seeking exceptions or, at an international level, loopholes in tariff laws. It would take a huge amount of both coordination and discipline for

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the international community to come together and then follow through with enforcement of a unified worldwide carbon tax. Again, how likely is that?

But would carbon taxes lead more people to purchase electric vehicles? Even if electric cars were more affordable, as Lomborg points out, they are not carbon neutral. The electricity that powers their batteries is still produced predominately in fossil fuel-powered electric plants. Carbon taxes would need to be assessed on emissions from those plants, which would be presumably passed on to consumers in higher utility bills.

Next time, Part IV of V: THE PARIS CLIMATE ACCORD AND CRITICS, ROUND ONE.