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Thinking Smartly About Climate Change

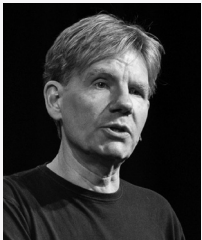
Bjorn Lomborg

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The following is adapted from a speech delivered at a Hillsdale College National Leadership Seminar on April 24, 2023, in Irving, Texas.

IN A recent survey of Organization for Economic Co-operation and Development countries—i.e., all the rich countries in the world—about 60 percent of respondents said they believe that global warming will likely or very likely lead to the end of mankind. This is the result of the fact that a lot of the conversation around global warming is vastly exaggerated.

Let me add at the outset that I am a social scientist focused on the economics of this issue, not a scientist. There is scientific dispute over the extent to which global warming is manmade. I will not weigh in on that controversy, except to concede that global warming is real, to some large extent manmade, and a serious problem.



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Panic Costs Us Trillions, Hurts the Poor, and Fails to Fix the Planet and most recently *Best Things First: The 12 Most Efficient Solutions for the World's Poorest and Our Global SDG Promises*.

The degree of seriousness is obviously important to address. If it is true that mankind is facing imminent destruction, we should do everything in our power to deal with it. If the world will end in twelve years if we don't address climate change, as U.S. Representative Alexandria Ocasio-Cortez claimed in 2019, she was then justified in demanding that we should spend whatever it takes to prevent that from happening.

If you think the world is ending—that climate change is the equivalent of a giant meteor hurtling towards Earth—political rhetoric of that sort makes sense. But I think it can be easily demonstrated that climate change, however serious, is not an incoming giant meteor.

U.N. Secretary General António Guterres and many Western leaders, including the current administration in the U.S., tend toward the end-of-the-world point of view: “The world is facing a grave climate emergency. . . . Every week brings new climate-related devastation. Floods. Drought. Heatwaves. Wildfires. Superstorms. . . . We are in a battle for our lives. . . . Climate change is the biggest threat to the global economy.” These claims are echoed endlessly in the media. But are they true?

Consider the supposed rise in “superstorms” such as stronger hurricanes. What do we actually know? The annual number of hurricanes that make landfall in the U.S. since 1900 is slightly declining, not increasing. The same

is true for major hurricanes (category three and above) hitting the U.S. We see the same thing if we look at world data for total hurricane energy in the satellite era, 1980-2022. In fact, 2022 was the second lowest recorded year. Did you hear that reported anywhere? No, because it doesn't fit the dominant narrative.

What about the supposed increase in wildfires due to climate change? A typical example was the media coverage of the forest fires in Australia in 2019 and 2020, which left readers and viewers with the impression that almost all of Australia was burning. Looking at the satellite imagery, however, it was clear that although there were a lot of fires close to where the news crews lived in Sydney and Melbourne, it was one of the lowest levels of burning due to fire on record for Australia as a whole.

As for the amount of burned area due to fire on a global level, satellite data shows a dramatic decline over the past 25 years. Journals like *Science* and *Nature* have covered this story, but it's not what you see on television or read in newspapers. Perhaps the implementation of a strong climate policy might reduce instances of fire, but even if we do nothing, the number of fires will almost certainly continue to decline. In other words, the world is not going to go up in flames, contrary to what you hear from politicians or read in *The New York Times*.

One of the reasons it is so difficult to have a sensible conversation about the climate is because we tend only to talk about what the climate will do, not what humans will do. Sticking with the example of fires, fires are declining because human beings are intelligent and actively try to suppress fires. Humans have a wonderful ability to adapt to circumstances, and we should include that fact in the climate conversation.

How many people die overall as a result of climate, i.e., because of floods,

Imprimis (im-pri-mis), [Latin]: in the first place

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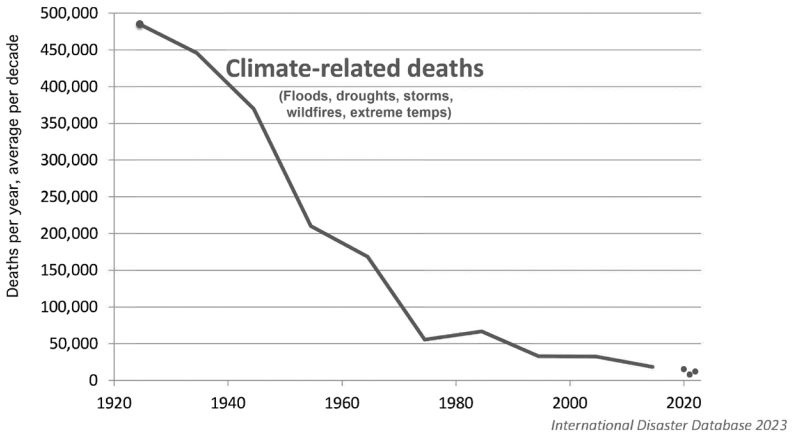
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Deaths from Climate, 1920-2022



droughts, storms, wildfires, and extreme temperatures? In the 1920s, about 500,000 people died each year, on average, due to climate. Looking at the averages in subsequent decades—the number fluctuates quite a bit from year to year—there has been a dramatic decline. In the 2010s, the average number of people dying each year as a result of climate was 18,000, and in 2022, that number dropped to about 11,000. This downward trend doesn't fit the alarmist narrative, so of course we never hear about it.

Why has this number dropped so dramatically? A big reason fewer people have been dying is that over the past century we have become wealthier. Because of that, we have the resources to develop better technology, which enables better predictive capabilities. This has nothing to do with climate and everything to do with human beings' ability to adapt. The lesson to be drawn from this is that if a country wants to reduce the number of its citizens dying as a result of climate, it should pursue economic and technological development.

Also as a result of human beings' ability to adapt, the global cost of climate damage as a percentage of GDP has been declining since 1990. The reason to measure this cost in terms of GDP is because, for example, if you have

twice as many houses in an area that floods, the damage is going to be twice as much. This is a consequence not of the climate but of the fact that the people living in that area are much richer.

Once we realize that human beings are quite smart in terms of their ability to adapt, we can begin to see why so many of the current climate policies are so ill-conceived.

Many people say they are very worried about sea levels rising. That would be a real outcome of global warming, given the fact that water expands as temperatures rise. So it is something we should be concerned about. It is also, however, a problem we know how to address. Humans are not going to stand around on beaches for 80 years watching the water rise until they drown. We will adapt to our changing circumstances, as we have in the past.

Take the example of Holland, which is below sea level and famous for its system of dikes that keep it from being flooded. Schiphol airport in Amsterdam, the 14th largest airport in the world, stands on dry land that was also once the site of a major naval battle, the Battle of Schiphol. In other words, the adaptive Dutch implemented a policy that worked.

There are lots of current policies, on the other hand, that *don't* work.

Many people today have a very unrealistic expectation regarding renewable energy. In 1800, it is estimated that renewable sources produced 94 percent of the world's energy. One exception to this was Britain, which was beginning its industrial revolution and was turning to coal for its energy. For the following two centuries, most countries transitioned away from renewables. Why? Because renewables are hard to predict, difficult to harness, and produce a relatively small amount of power.

TO BEGIN TO THINK SMARTLY ABOUT CLIMATE CHANGE, WE HAVE TO UNDERSTAND CLIMATE-RELATED ECONOMICS. THERE ARE COSTLY DAMAGES ASSOCIATED WITH CLIMATE CHANGE. BUT THERE ARE ALSO COSTLY DAMAGES ASSOCIATED WITH CLIMATE POLICIES. TOO MANY POLITICIANS AND THE MEDIA FOCUS ONLY ON THE FORMER. SINCE WE MUST BEAR THE COSTS OF THE POLICIES AS WELL AS THE COSTS OF CLIMATE CHANGE, WE AND OUR POLICYMAKERS SHOULD TAKE BOTH INTO ACCOUNT.

Around 1970, renewable energy production worldwide bottomed out at 13 or 14 percent, and it remained there until 2015 or so. Most of that 13-14 percent was located in poor countries that were still burning dung, cardboard, and wood to produce energy. And since then, despite all of the government action on climate change—including trillions of dollars in spending—renewable energy production only increased to nearly 16 percent in 2021. Even in the unlikely event that every nation joins in this effort—not just the U.S. and the countries of Western Europe, but China, India, and the countries of Africa—we will likely increase this number to at most 30 percent by 2050.

The claim is often made that it is possible to reach 100 percent or “net-zero” by 2050, but that's highly

unlikely, mainly because of the incredible cost and the economic damage it would do.

According to a recent study in *Nature*, to achieve a 20 percent emission reduction by 2050 would cost each American \$75 per person, per year—and the costs rise exponentially from there. A 40 percent reduction would cost about \$500 per person, per year; 60 percent would cost \$2,000 per person, per year; and 80 percent would cost \$5,000 per person, per year. Most people would be either unable or unwilling to spend that amount of

money—not to mention unlikely to vote for those who advocate these policies.

In fact, even the most draconian measures couldn't get us to net-zero by 2050, the purported aim of the Biden administration and many other Western governments. The most optimistic models suggest we

could get to 95 percent, but that would cost more than \$11,000 per person, per year.

To begin to think smartly about climate change, we have to understand climate-related economics. There are costly damages associated with climate change. But there are also costly damages associated with climate *policies*. Too many politicians and the media focus only on the former. They are constantly telling us that we have costly climate problems, and that is true. But they *don't* tell us about or report the fact that the policies we enact also have costs.

Since we must bear the costs of the policies as well as the costs of climate change, we and our policymakers

should take both into account. This is a point made by Yale University climate economist William Nordhaus. He argues that the higher the global temperature, the greater the negative economic impact as a percentage of global GDP. For example, a zero-degree Fahrenheit increase in temperature has a zero percent impact on global GDP. But if the temperature rises by 7.4 degrees Fahrenheit by the year 2100—which is the approximate worst-case scenario if we do nothing about climate change—there would be a four percent decline in global GDP.

I hasten to add that the UN, the OECD, the World Bank, and several other organizations predict that the average person in the world will be 450 percent as rich in 2100 than he or she is today. So if Nordhaus is correct about the cost of doing nothing about climate change, we will each still be 434 percent as rich by the end of the century—far from the end-of-the-world scenario predicted by climate alarmists.

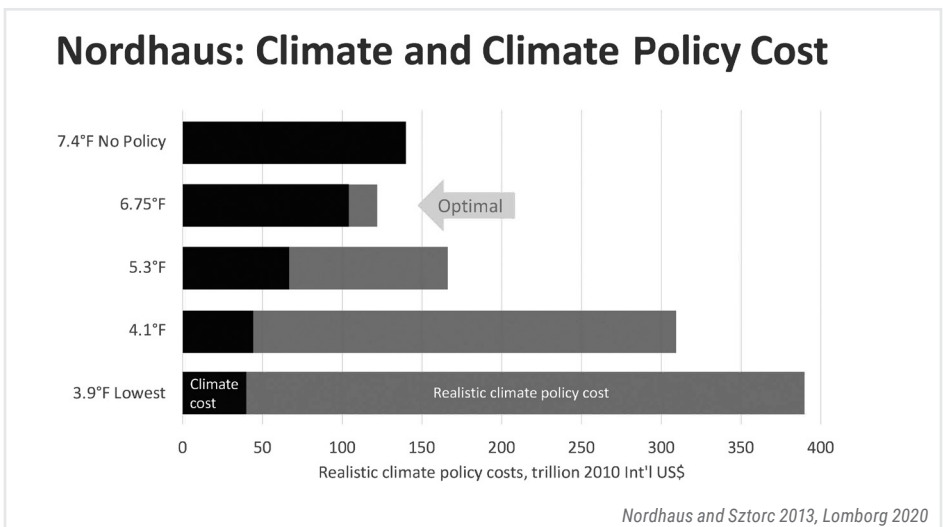
But returning to Nordhaus’s argument about the cost of global warming, he estimates that if we do nothing, the total cost of climate change between now and 2100 will be \$140 trillion. If we reduce the rise in temperature from 7.4 to 6.75 degrees Fahrenheit, the economic damages would be slightly

lower, only \$110 trillion. In other words, the more we reduce the temperature rise, the less cost we will have to bear.

That is the side of the story we hear constantly from the media: the warmer it gets, the worse off we are—so anything we can do to reduce warming is better.

But there is another side of the story—the economic cost of climate *policy*. The policy cost of no climate policy is of course zero. But what would be the cost of reducing the temperature rise from 7.4 to 6.75 degrees Fahrenheit? Even assuming that China, India, and Africa all participate, a very big assumption, the realistic cost is about \$20 trillion. To reduce it slightly more, to 5.3 degrees Fahrenheit, would cost five times that amount—about \$100 trillion. And so on: with every degree reduction in temperature, the costs scale up very rapidly.

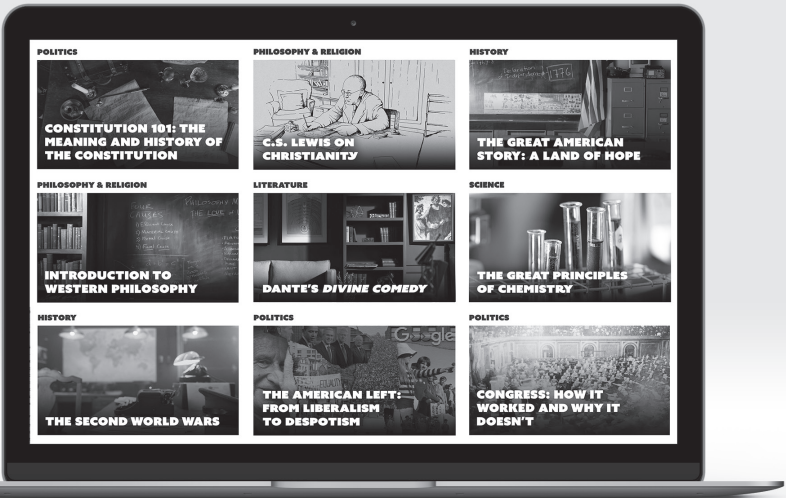
In 2018, Nordhaus received the Nobel Prize in economics for his studies showing we should shoot for the temperature change that minimizes the sum of the cost of climate change and the cost of climate policy, which is 6.75 degrees Fahrenheit (see chart below). Unfortunately, most politicians are not heeding this advice, instead pushing policies that aim at lowering temperatures as much as possible.



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Understanding this, what are the smart ways to tackle climate change?

At the Copenhagen Consensus Center, we assembled over 50 of the world's top climate economists, including three Nobel laureates, with the goal of trying to figure out how to get the best return on each dollar spent on the climate. Needless to say, we discovered that some of the typical solutions

Western countries have embraced have a very poor impact.

One of those was the European Union's 2020 policy, which included a goal to reduce CO₂ by 20 percent and increase the use of renewable energy to 20 percent of total energy consumption by 2020. That policy had a huge cost while failing to cut very much CO₂. The net economic result was that

every dollar the EU spent on climate led to a reduction of three cents in world-wide climate damages. If the EU would simply have given the dollar away, it could have done 97 cents more good.

Another example is the Paris Agreement, also known as the Paris Climate Accords. This agreement was slightly less dumb than the EU 2020 policy due to the fact that several less developed countries such as China and India signed on. But even so, and assuming that all parties to the Agreement do as they promised—again, an unlikely prospect—it will only deliver about eleven cents of climate benefit for every dollar spent. That’s a bad way to spend money.

Of course, climate economics cuts both ways. Many on the left won’t like that the Paris Agreement is shown to be bad. Many on the right won’t like that by the same economic methodology, a smartly-conceived carbon tax is shown capable of delivering as much as two dollars in climate change benefits for each dollar in climate policy costs. But note I said “smartly-conceived.” That means these taxes have to be affordable, have to be implemented across all emissions, within all countries, including China and India, and at the same time all other subsidies, like solar and wind, will have to go. This will be highly challenging, but certainly some sort of carbon tax is something to discuss. But by far the best investment governments can make is in something that is not new, but is in fact quite old: innovation. That’s how human beings have solved problems around the world throughout history.

In the 1850s, for instance, most residents of North America and Western Europe used oil derived from whale blubber to light their homes, and whales were being hunted almost to extinction.

What saved the whales was not a ban on the burning of whale oil, but the discovery of oil in Pennsylvania. It was a lot cheaper and easier to drill in Pennsylvania than to sail ships around the world killing whales.

OUR FOCUS SHOULD NOT BE ON POLICIES THAT COST A LOT, DELIVER LITTLE, AND IN THE END LIKELY DON'T EVEN WORK. RATHER, WE SHOULD FOCUS OUR EFFORTS ON DEVELOPING NEW TECHNOLOGY AND ENCOURAGING INNOVATION THAT WILL LEAD TO THE PRODUCTION OF AFFORDABLE AND DEPENDABLE GREEN ENERGY. IT IS POSSIBLE FOR US TO HAVE A SENSIBLE CLIMATE POLICY WITHOUT BREAKING THE BANK AND WITHOUT SACRIFICING THE AMAZING OPPORTUNITIES DELIVERED BY CHEAP AND ABUNDANT ENERGY.

More recently, consider the awful air pollution or smog that plagued Los Angeles in the 1950s. It was a result of the city’s peculiar topography combined with the large number of cars on the city’s streets and highways. The standard environmentalist response would be to tell the city’s residents to stop driving, which would have been neither realistic nor helpful. What *did* help was the invention of the catalytic converter, an inexpensive technology that removed most of the air pollution from car exhaust. In other words, technological innovation is the main reason why Los Angeles is not nearly as polluted today.

Likewise, when it comes to climate change, our focus should not be on policies that cost a lot, deliver little, and in the end likely don’t even work. Rather, we should focus our efforts on developing new technology and encouraging innovation that will lead to the production of affordable and dependable green energy. It is possible for us to have a sensible climate policy without breaking the bank and without sacrificing the amazing opportunities delivered by cheap and abundant energy. ■