

Altering the Earth's Climate

Some acts of a powerful nation affect people somewhere in the world very directly, like starting a war. Sometimes a lack of action has a deplorable effect, such as not stopping genocide. Slowly unfolding and irreversible impacts, often unintentional, are also devastating, as with the gradual loss of cultural diversity. And at times there's a head-in-the-sand ignorance or neglect of a visible problem, such as the first decade or so of responses to the HIV/AIDS epidemic.

Rarely do all four of these phenomena combine noticeably into one. But with climate change, the United States has managed almost single-handedly to be the cause, the obstacle to remedial action, a chronic ignoramus, and an aggressive denier of its monumental culpability.

No other issue on the global table today affects the well-being of everything on the planet as much as the dumping of greenhouse gases into the atmosphere, and, along with it, the oceans. It will cause incalculable human suffering and economic costs. It will touch everyone and everything except perhaps the very rich, but even they will likely be adversely affected. It is preventable—or at least can be mitigated—but we ignore it. Understanding why speaks volumes about how America acts in the world today.

Let's begin with a few facts. The relevant changes in the earth's climate, including the warming of the atmosphere, are caused by emissions of carbon dioxide from industrial plants, automobiles, and other technologies created by humans. As the earth warms, the ice caps melt and the seas rise. The weather is likely to change—not only warmer, but more volatile, more droughts and forest fires. Higher levels of carbon dioxide in the air also can affect crops, livestock, and the transmission of diseases. Carbon dioxide in the air is absorbed by the oceans, as is fresh-water runoff from melting, and this (which has been carefully measured already) is likely to alter ocean temperatures, currents, and the viability of marine life. The oceans, in fact, which control much of what happens climatically above the water line, may be the key: when ocean current circulation was disrupted by glacier melting 12,000 years ago, it ushered in the last Ice Age.

The consequences of these changes are difficult to know, not only because the pace of change is unpredictable, but because of the scale of the systems. Ecosystems are dynamic: they interact with each other in millions of measurable and immeasurable ways. For example, as the permafrost melts, it not only adds to sea levels, but reduces the amounts of sunlight reflected back into outer space, sunlight instead absorbed into the waters to produce more warming in a continuous feedback loop. A similar dynamic is visible in microbes in the soil: longer growing seasons due to warming enable them to produce and release more methane into the atmosphere, which altogether is an amazing quantity.

Because the systems are so large, the visible impacts are seen only gradually; in fact, there is a “thermal inertia” at work, meaning that the effects will manifest gradually and continue for centuries, even if we halted the growth of greenhouse gases immediately.

Within that conservative range of estimates, however, the effects are certain to be enormous. The loss of biological diversity, the costly transformations in agriculture, the potential extinction of 10 percent or more of all species, the wholesale adjustments of living and working in the coastal cities, the freezing effects on northern Europe resulting from the loss of the gulf stream, the growth in new virulent diseases due to rising temperatures—all of these effects are now considered to be probable, not merely imaginable, over the coming decades.

The science is definitive. There is no major dispute among the climatologists, oceanographers, and others studying climate change, a field of work that is now well developed. The scientific deniers are skeptics about the potential scale of destruction, not the fact that it’s occurring.

The main culprit in all this is the industrial age itself, the use of fossil fuels in particular—coal and petroleum—to run the factories, cars, and electric power plants of the world. Since the entire world has been industrializing for more than two centuries, one could say the whole of humanity is to blame. But the United States holds a special place in this pantheon of pollution.

America is the largest polluter in the world, and no one really comes in a close second. We produce more greenhouse gases—the carbon dioxide from burning fossil fuels that produce the “greenhouse effect” of global warming—than any other country. Our four percent of the world’s population produces 25 percent of all carbon dioxide emissions. We produce as much as the rest of the industrial world combined, several times more per person than Britain or Japan. And the United States will continue to be, on current trends, the largest contributor to the problem for many years to come.

To their credit, the United Nations and most countries in the world have made attempts to deal with this looming catastrophe. The major effort of this kind was the Kyoto Protocol, which was a modest constraint, asking for nations to reduce, by 2012, greenhouse emissions to slightly below 1990 levels. The treaty finalized in 1997 and by the end of 2005 had been signed and ratified by 157 countries, including all of the European Community, Russia, Canada, and Japan. That is every country in the G-8, the largest industrial countries, except one: the United State of America. Why?

Given how widely supported the issue is among Americans—clear majorities support the Kyoto treaty and more stringent limits on carbon emissions—the absence of action by President Bush (and the weak leadership shown by President

Clinton) is puzzling. But strong economic forces are arrayed against action, and since 9/11 the public has been distracted by the threat of terrorism, a problem that is miniscule compared with climate change.

The strategy of the deniers, with corporate backers, has been to cast doubt on the scientific consensus that has taken shape and to overstate the short-term costs of immediate action. It has created phony front organizations that issue “studies” and generate news that is reported on equal footing with the major scientific institutions. By sowing doubt among the public about the scientific consensus and the immediate urgency of the problem, the corporate lobby has diminished the saliency of the issue.

President Bush has reflected this strategy, among others. He has said that “I oppose the Kyoto protocol because it would cause serious harm to the economy,” he said in a letter in 2001. Just prior to the G-8 summit in 2005, he said that “The Kyoto treaty would have wrecked our economy,” while admitting that human activity was “to some extent” to blame for climate change. He has proposed to reduce by 18 percent the *increase* in American contributions to greenhouse gases, which themselves will have gone up by one-third between 1990 and 2012. And we will not budge before China and India are included, shifting the blame for emissions to these two populous and rapidly industrializing countries. They will become problems eventually, but America remains the most carbon-intensive country for the near term. And getting China and India to invest now to reduce greenhouse emissions will only be achieved if the United States takes the lead.

Bush says that the development of new technologies is the key to dealing with the problem, an old “technical fix” mentality that would have to include a vast expansion of doubtful technologies like nuclear power plants. When other countries improve efficiency and reduce emissions, they will leap ahead on a range of performance measures that will greatly enhance their productivity and their economies, while the United States remains wedded to petroleum-based fuels that are both insecure and polluting. We can see how serious congress and successive presidents have been about technical fixes by their attitude toward automobile fuel efficiency: it could be increased threefold overnight but is blocked by the friends of the auto and oil industries, including Mr. Bush.

At least he hasn't said yet, as Ronald Reagan did, that “trees cause more pollution than automobiles do.” What is just as interesting as the denial of scientific consensus on the issue is the role reversal of “conservatives.” The putative philosophy of conservatism is, like the name implies, to conserve society and its institutions, to oppose radical change, to be wary of human actions that will upset the heritage we have been given. Nothing will more powerfully alter society and institutions and the natural heritage human civilizations have been bequeathed than climate change. To *not* act to conserve is what is reckless. Taking responsibility for our actions would also seem to fit into this mix. But this

philosophy of profits above all else is what now distinguishes today's American right wing from the conservative philosophies of the 18th and 19th centuries that are supposedly their forebears.

It would cost little to act prudently to reduce greenhouse gases. New products and services would be created, and along with them, new "green" jobs. Where there are more costly measures to be taken, we keep in mind that they are discounted compared with dealing with problems later on. This is already a well-established fact of environmental economics. So investments in efficiency would be good for all kinds of reasons, as they almost always are. And this would be the "conservative" approach.

Once global warming and climate change became known nearly twenty years ago, we should have acted. We were producing the most greenhouse emissions. As the world's industrial giant, as the defender of human rights, as the avatar of science and technology, America would have been the logical leader. As the Cold War ended, it would have been the perfect cause for a new American globalism: challenging ourselves and others to create a sustainable and equitable economy worldwide.

But no. We've gone backwards, and continue to slide downhill, and our irresponsibility affects everyone on the planet. The costs, dangers, and suffering will far surpass any other problem before us today.

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