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Mr. Gore, Your Solution to Global Warming Is Wrong

The plan we are most likely to adopt to address climate change will cost far too much and do next to nothing. The fight over the science of warming is over, yes. But the debate over the solution to global warming hasn't even begun.

By: Bjørn Lomborg



I. A False Choice

On a family visit to Kenya long before he became president of the United States, Barack Obama declared that he wanted to go on safari. His Kenyan half sister, Auma, chided him for being a neocolonialist.

"Why should all that land be set aside for tourists," she asked, "when it could be used for farming? These *wazungu* care more about one dead elephant than they do for a hundred black

children." Obama had no answer to her question, he would later write in *Dreams from My Father*. Why are rich countries more concerned about poor nations' nature reserves than about farms that would ward off starvation?

The safari story calls to mind the current preoccupation with global warming in the Western world. The financial crisis notwithstanding, many people — including President Obama — believe that global warming is among the most urgent issues of our time, and that cutting CO2 emissions is the most virtuous thing we can do about it. In fact, many say that doing so is perhaps the greatest moral obligation of the current inhabitants of planet earth. And they frame any discussion on warming by telling us that if we don't radically alter the way we live, the worst problems of humanity — chiefly disease and hunger — will become devastatingly worse. Before long, they say — perhaps a decade if we do not act immediately — it will be too late for us.

These apocalyptic visions are not at all supported by the available evidence. And to me, the solutions prescribed by those leading the charge are akin to building more safari parks instead of farms to feed the hungry. Campaigners in rich countries are pushing politicians to spend a great fortune on an ineffective solution to climate change instead of tackling the real problems of today — or looking for better responses to warming.

President Obama and other world leaders face a clear choice. They can continue on their current path — what we might call the "Gore solution" to climate change, given that the former vice-president is the fiercest advocate of cutting CO2 emissions, whether through a carbon tax or a cap-and-trade scheme.

Or, here's the truth: There are better, more cost-effective ways to fight global warming. And if we want to fight the problems that will be made worse by global warming, the solutions have very little to do with cutting CO2 emissions.

II. The Real Moral Imperative

The effort to cut carbon emissions is generally cast as a moral imperative necessary to avert the human consequences of warming. In reality, however, it does very little at very high cost. It is also politically complicated, because it requires every nation on earth to agree to reduction targets and then reach them. Even if this were somehow achievable, the plan's meager effects on global temperatures are simply not worth all the pain: **If we spent \$800 billion over the next ninety years solely on the Gore solution of mitigating carbon emissions, we would rein in temperature increases by just 0.3 degrees by the end of this century.** That was the finding reached recently by some of the world's top climate economists at a gathering called the Copenhagen Consensus, where the ramifications of this response to climate change were calculated.

In addition to calculating the effect on temperature of reducing carbon emissions, these economists calculated the environmental and humanitarian benefits that would accrue from this reduction in the rate of warming. Through models, they have estimated the benefits of a wide range of effects, from fewer heat deaths and less malaria to fewer floods and more preserved wetlands. Converting all these benefits into monetary terms — i.e., What would societies be willing to pay for such benefits? — means that we don't have to guess; we can actually compare the costs of climate policies with the benefits.

And, simply put, when we count up all the expected benefits from this ever-so-slight reduction in temperature, they are significantly less than the costs. In fact, it turns out that — at best — each dollar spent on the Gore solution would achieve just ninety cents' worth of good. And this assumes that every cent of the \$800 billion is maximized. If we factor in more realistic expectations — allowing, say, for some of the money to be used in less efficient ways, as is the case with the EU's new climate policies — every dollar of the hypothetical \$800 billion spent on the Gore solution to global warming could achieve as little as four cents of good.

Worse than that, it means there's much less money available to respond to the big problems facing developing countries today.

There is another way to respond to climate change. Instead of putting arbitrary, expensive caps on carbon emissions, we can and should immediately spend more money on researching and developing alternative energy. This means renewable sources of energy like wind, solar, geothermal, and wave. These are all promising but in their current forms are incredibly inefficient compared with fossil fuels. It also means developing second-generation biofuel from biomass. It also means investing in energy efficiency, fission and fusion, and carbon capture and storage. Unless we make a much bigger investment in these areas right now, fossil fuels are going to maintain their stranglehold on all the economies of the world.

Spending more on research will mean that we can shift away from carbon-heavy energy much faster. It gives us the possibility of a low-carbon, high-wealth future — something the Gore solution rules out because of its primary focus on trying to make fossil fuels more expensive. We will never succeed in making fossil fuels so expensive that they become unappealing by following the Gore approach — but we *can* succeed if we focus on making alternative energy sources so cheap that they become competitive.

When we calculate the costs and benefits of this alternative solution, we discover that each time we invest a dollar, we create benefits worth sixteen dollars — at least eighteen times and possibly four hundred times better than the Gore approach. This is because the money spent on research and development will make alternatives to fossil fuels cheaper sooner, and make for a genuine transition to a low-carbon future, with all its benefits accruing sooner and at lower costs.

So where does President Obama stand on the choice between these two paths? He has promised to spend \$150 billion over the next decade on clean technology. This could do a lot of good, *if* he uses it primarily to invest in creating *new* technologies, rather than simply subsidizing existing ones (which is much easier politically). Investing in current-day solar panels costs a lot for little benefit. Germany is the leading consumer of solar panels and will end up spending about \$150 billion on them, yet the effect will be to delay global warming by one hour by the end of the century. However, investing in the creation of an entirely *new* way to harness the energy of the sun that can become competitive with fossil fuels will mean that everyone, including China and India, can shift to a low-carbon economy sooner rather than later.

Unfortunately, it looks like much of the \$150 billion proposed by the president will be going to the existing technologies with the loudest lobbyists. Likewise, the Obama administration seems more inclined to go for the Gore-like solution of fixing climate change through an ambitious cap-and-trade policy. This will do little for the climate, and it will cost Americans dearly.

It is a very good thing that President Obama accepts that global warming is real and man-made; his predecessor's reluctance or inability to recognize the issue was an embarrassment. However, making rational decisions on global warming has become incredibly difficult. Discussion has been warped by politics and by a polarizing, irrelevant debate between those who believe that the problem is not real and those who believe that it is the worst problem humanity has ever faced. So we must both ignore the blithe deniers of science *and* overthrow the regime of hysterical solutions on the other side — and consider this simple truth: For once, the sensible approach and the most moral approach are one and the same.

III. A Matter of Simple Economics

Malaria will claim more than one million lives this year. It undermines entire societies, making them less productive and even poorer. The economic toll runs to tens of billions of dollars.

Campaigners for drastic CO2 emission cuts will tell President Obama and other world leaders that the Gore solution is especially critical because global warming will mean more malaria. In warmer, wetter conditions, mosquitoes can expand their range. Models reveal that global warming will put 3 percent more of the earth's population at risk of catching malaria by the end of the century.

But this is a perfect demonstration of the problem with the Gore solution. Even if we continued with worldwide Kyoto Protocol — style CO2 emission cuts for the rest of this century, with its inconsequential 0.3 degree reduction in temperatures by the year 2100, we would cut the malaria risk by only 0.2 percent. On the other hand, for \$3 billion — 2 percent of the annual cost of the Kyoto Protocol — we could invest in mosquito nets and medicine today and cut malaria cases by half within one decade.

Put another way: Every time the Gore solution of CO2 reduction saves one person from dying from malaria in the future, the same money could save thirty-six thousand people today.

Tell me, which approach makes the most sense?

Of course, an increase in malaria is not the only result of global warming. Malnutrition is another issue that has prompted calls for drastic CO2 emission cuts. In isolation, global warming will probably cause the number of malnourished people to increase by twenty-eight million by the end of the century. Yet the much more important point is that there are more than nine hundred million malnourished people on earth right now.

Tackling hunger through climate-change policy would be amazingly inefficient. For \$180 billion each year, Kyoto Protocol — style CO2 emission cuts would reduce the number of hungry people globally by two million by the end of the century. Alternatively, just \$10 billion spent on direct malnutrition-reduction programs would save 229 million people now.

President Obama has a stark choice to make. Whatever is spent on climate policies to save one person from hunger in one hundred years could instead save five thousand people today.

Often I hear the argument that if so little is achieved by cutting CO2, then obviously we just need to make bigger cuts. Unfortunately, this would only transform an implausible solution into a ridiculous one. Even Kyoto was overly ambitious; by 2010, the world will probably end up implementing less than 5 percent of the originally envisioned cuts. If we decided to increase the size of the reductions tenfold, the costs would increase much more than ten times, whereas the benefits would increase much less. This is because we do not have cost-effective replacements for burning carbon. Using carbon, particularly coal, is helping lift millions of people from poverty in India and China. Massive carbon cuts just now are not a smart solution, and not at all plausible. And that is not a matter of political opinion; it is a matter of simple economics.

IV. Sometimes, We Need to Burn *More* Fossil Fuels

I did not always look at the world this way. There was a time when I would have eagerly climbed onto the bandwagon calling for CO2 emission cuts.

Twenty years ago, I took it for granted that the world was in a terrible environmental state. I supported Greenpeace and lobbied my friends on environmental issues. I am from Denmark, and was particularly upset during the 1980s when our government allowed ocean die-off zones to expand because of agricultural runoff. I thought that political leaders were criminal for not prioritizing longer-term environmental concerns. Later, when I was a university lecturer, my students and I set out to counter what we believed were far-fetched arguments that global environmental conditions were actually improving.

My thinking started to change when I analyzed the data. It was clear that many things were indeed getting better, not worse. It is obvious, for instance, that air pollution in most developed countries is much better than it was thirty or forty years ago.

Another important lesson I learned was that when poor countries battle to raise their living standards, they give very little priority to environmental concerns. In these circumstances, pollution rises. But **once a country achieves a certain standard of living, with their kids healthy and educated, citizens invariably begin to shift their focus toward the environment, and pollution starts to fall.**

This effect is called the Kuznets curve, named after the Nobel-prize-winning economist who developed it, and it tells us that one of the pivotal things we can do to help the environment is to help poor countries get richer.

And so it is a paradox that today rich countries care more about global warming than about virtually any other global problem, whereas in the developing world, the biggest environmental challenge is simply the pollution caused by too many people trying to survive in one small space. There is a lack of public awareness of sustainable agricultural practices. There is illegal logging, soil erosion, habitat loss for animals and plants, and disruption of water flow.

When we look across poor nations, the biggest environmental issue is actually indoor air pollution. In developing countries, 2.5 billion people rely on biomass such as wood, waste, and dung to cook and keep warm. Each year, indoor air pollution kills about 1.3 million people, most of them women and children. In this case, a switch from biomass to fossil fuels would dramatically improve the lives of almost half the world's population.

There are plenty of other major global problems that have reasonably cheap solutions. One billion people lack clean drinking water. Two billion lack sanitation. Three billion lack basic micronutrients. One quarter of all deaths each year are caused by infectious diseases that we could easily combat.

The Gore solution will do nothing to reduce those stunning numbers. In fact, the Global Fund to Fight AIDS, Tuberculosis and Malaria has acknowledged that billions of dollars could potentially be redirected to global warming at the expense of diseases that are the biggest killers in poor countries.

V. The Debate Starts Now

The Copenhagen Consensus Center, which we started in 2004, put my conclusion about the Gore solution to the severest test. First, we commissioned independent research on solutions to ten of the planet's biggest challenges: problems like hunger, conflict, global warming, and barriers to education. World experts were asked to identify the best ways to spend \$50 billion in their field. The findings, published in academic papers, were reviewed by a second team of specialists.

The point of the project wasn't simply to identify good ways to spend money — it was to promote prioritization between competing options. We gathered a team of the best economists in the world, including several Nobel laureates. We asked this group to consider, test, and debate all the research and identify the best and worst ways that a limited pool of money could be spent.

Economists are experts in prioritization. The massive media hype about certain problems is irrelevant to them; they focus simply on where limited funds could achieve the most good.

In 2004 — and again last year, when we repeated the global project — the world's top minds did not

select CO2 emission cuts as the best use of money. In fact, both times, CO2 emission reductions came out at the bottom of their lists. In 2008, the top priority the Nobel-laureate economists identified was providing micronutrients to developing countries.

Three billion people — about half the world's population — lack one or more micronutrients, such as vitamin A, iron, iodine, or zinc. About two billion — or almost one third of the world's population — lack iron, a deficiency that causes physical and mental impairment. On average, a person with iron deficiency is 17 percent weaker and loses 8 IQ points.

We could so easily right this wrong. At a cost of less than \$400 million a year, we could permanently help almost half the world get stronger and smarter. In monetary terms, for every dollar we spend, we could do more than twenty dollars' worth of good in the world.

Interestingly, also in 2008, the assembled experts heard from a lead author for the Intergovernmental Panel on Climate Change, the very group that shared the Nobel Peace Prize with Al Gore, that the Gore approach of spending even \$800 billion on carbon cuts would slow the pace of global warming — and this bears repeating — by just *0.3 degrees* over the next ninety years.

It is vital that decision makers pay heed to these facts, so that better responses to global warming can be more seriously considered immediately. But the atmosphere has become one in which the "good guys" fight for more money for global warming against foes real and imagined. And this polarization stops us from seeing that we need to tackle climate change the same way that we tackle most public-policy problems — by weighing benefits and costs.

Let me offer this analogy: Just as we know that global warming is real and serious, we also know that speed kills. Globally, 1.2 million people die in traffic accidents and 50 million are injured every year. By 2020, the World Health Organization estimates that traffic deaths will be the second-biggest killer in the world. About 90 percent of traffic deaths occur in Third World countries. Politicians could instantly save all these lives and eliminate \$500 billion worth of damage by simply lowering global speed limits to five miles per hour. Of course, that won't happen, because the benefits from driving moderately fast vastly outweigh the costs. Traffic interconnects our societies, brings people together, and delivers goods at competitive prices to wherever we happen to live. A world trudging along at five miles per hour is a world gone medieval.

Just like traffic fatalities, global warming is caused by man. Just like traffic fatalities, we have the technology to effectively eliminate the problem — in this case by making massive cuts in CO2 emissions. But this is not sensible. The benefits from moderate use of fossil fuels vastly outweigh the costs. Fossil fuels give us low-cost light, heat, food, communication, and travel. We can eat fruits and vegetables year-round, and air-conditioning means that people in the United States no longer die in droves during heat waves. Communication and cheap flights give ever more people the opportunity to experience other cultures and forge global friendships. Carbon has powered growth in China and India, allowing millions of workers to escape poverty.

To stretch the traffic analogy slightly further: We don't ignore the impact of speed, nor should we disregard global warming. Countries set speed limits at a sensible level. We should do the same thing with taxes on CO2 emissions. When it comes to reducing carbon emissions, President Obama should talk realistically about setting a price on carbon that reflects its damage. Economic estimates show that the cost is about seven dollars per ton of CO2 — or about six cents on the gallon of gas. Yet, though such a tax can be used to raise funds to tackle global warming smartly, we should not have any illusions that it will in itself reduce global warming. As we have shown above, it will have virtually no impact, even a hundred years from now.

Underlying these economic arguments is a basic moral one: With limited resources, carbon cuts shouldn't be our top priority. I hope that President Obama will not be swayed by the loud, well-meaning, but mistaken appeals from climate-change activists, and instead identify the obvious areas that need more urgent attention. It would be grossly immoral to knowingly squander colossal sums of money achieving almost nothing, while comparatively tiny sums could save millions of lives right now.


But the United States should not go it alone. Every country should agree to spend 0.05 percent of its GDP on low-carbon energy R&D. The total global cost would be ten times greater than current spending on this research, yet ten times less than the cost of the Kyoto Protocol. Such an agreement could be the new Kyoto treaty for the world — only this protocol would actually make a difference.

President Obama stands at the juncture of two very different paths. One would be enormously expensive and is destined to end in failure. The other would recapture a vision that has become lost amid pessimistic, alarmist rhetoric: that of a world that is both low-carbon and high-income. Debate about the science is over.

But the debate over a sensible solution starts now.

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