

Technology, Not Talks will Save the Planet

There are smarter alternatives to fighting climate change than cutting CO₂ emissions

Bjørn Lomborg

DIRE predictions about melting ice caps and rising sea levels still strike fear in our hearts. But increasingly, people are ignoring the ominous warnings that are filling the media landscape in the run-up to the United Nations climate change conference in Copenhagen in December 2009. Public support for environmental issues in key countries has taken a beating. Only one-third of Americans now think that humans are responsible for climate change. The number of Australians who deem global warming a “serious and pressing problem” has dropped sharply. And fewer than one-fifth of Britons believe climate change will have an impact on their children.

These recent poll findings provoked British Foreign Secretary David Miliband to complain that the public “lacks a sense of urgency.” But in the wake of the global economic crisis, it is completely understandable that people everywhere have become more skeptical about policies that stand to cost them a fortune—while doing little to save the planet.

Repeated efforts—including terrifying advertisements and exaggerated claims that global warming will be worse than scientists expect—have failed to convince people of the need to accept expensive, ineffective carbon cuts. Surely, rather than “fixing the public,” we should now try to engineer a better, more effective response to this challenge.

Unfortunately, this December, we will see politicians and negotiators engaged in a cynical act of political theater that is unlikely to sway minds, when they meet for two weeks to try to agree on a successor treaty to the Kyoto Protocol, which expires in 2012. It has been obvious for some time that decision makers are unlikely to sign a significant global deal in Copenhagen, let alone solve many of the divisive political challenges certain to beset such talks. They will, however, congratulate themselves for working so hard to save the planet.

Drastic carbon cuts now are not the answer

After this hollow, stage-managed declaration of victory is over, we can hope that politicians will engage in some soul-searching about why Copenhagen failed before it even began. The reasons? Reducing carbon dioxide (CO₂) emis-

sions quickly is immensely complicated, politically divisive, and hugely expensive. Moreover, it is an extremely poor way to help the planet.

First, many of the promises made by politicians are essentially fantasies. Consider Japan. In June 2009, it committed to cutting greenhouse gas levels by 8 percent from 1990 levels by 2020. As Professor Roger Pielke, Jr., has noted, this would require building nine new nuclear power plants, constructing more than 1 million new wind turbines, installing solar panels on nearly 3

million homes, doubling the percentage of new homes that meet rigorous insulation standards, and increasing sales of green vehicles from 4 to 50 percent (Pielke, 2009).

Living up to this commitment would be a Herculean effort for any country, let alone one that already leads the world when it comes to energy efficiency. Yet Japan’s new prime minister recently promised an even stronger reduction, 25 percent, without any obvious way to deliver on his promise.

The only possible outcome of committing to such drastic targets is that countries will fail to deliver, just as they failed to deliver on carbon-emission-reduction promises made in Rio de Janeiro in 1992 and in Kyoto in 1997.

Second, there is the massive technological challenge. Global energy demand will double by 2050, and use of fossil fuels—much maligned by some—remains vital not only to our prosperity but to our very survival. Alternative energy sources have been hyped by corporate lobbyists and credulous media as far more ready for widespread use than they really are.



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Economists Chris Green and Isabel Galiana (Green and Galiana, 2009) recently examined non-carbon-based energy today—nuclear, wind, solar, and geothermal—and found that, taken together, alternative energy sources would get us less than halfway toward stable carbon emissions by 2050. We need many times more non-carbon-based energy than is currently being produced.

Third, the current approach has created a division between rich and developing nations. China and India are enjoying swift growth that is lifting millions of people out of poverty. Indian Prime Minister Manmohan Singh recently declared, “Developing countries cannot and will not compromise on development.” Chinese Premier Wen Jiabao has said, “It’s difficult for China to take quantified emission reduction quotas at the Copenhagen conference, because this country is still at an early stage of development.”

Even if all these points could be set aside, immediate carbon cuts have a final, fatal flaw: they will cost much more than the expected damage of global warming.

In July, leaders of the world’s major industrialized nations—the Group of Eight—agreed that they would strive to make carbon emission cuts to limit global warming to no more than 2°C above preindustrial levels. This would be the most costly public policy ever enacted. Climate economist Professor Richard Tol—a contributing, lead, principal, and convening author for the Intergovernmental Panel on Climate Change—showed that a high global CO₂ tax starting at \$68 a ton (designed to limit temperature rises to less than 2°C) could reduce world gross domestic product by a staggering 12.9 percent in 2100—the equivalent of \$40 trillion a year—costing 50 times the expected damage of global warming (Tol, 2009).

Tol’s figures are based on projections using models from the Stanford Energy Modeling Forum. About half the models found it impossible to keep temperature rises lower than 2°C with carbon cuts, so the \$40 trillion price tag comes from the models that could. This optimistic cost estimate assumes that politicians everywhere in the world would, at all times, make the best choices possible to reduce carbon emissions, wasting no money whatsoever. Dump that far-fetched assumption, and the cost could easily be 10 or 100 times higher.

To put this in the starkest terms: drastic carbon cuts would hurt much more than climate change. Cutting carbon is expensive, especially in the short term, because alternatives to fossil fuels are few and costly. Without feasible carbon alternatives, we will just hurt growth.

The promise of new technologies

There are smarter alternatives. This year, the Copenhagen Consensus Center (of which I am the director) commissioned climate economists to look *closely* at the pros and cons of *different* responses to global warming. We then asked Nobel laureate economists to examine and rank the different solutions.

The panel ranked carbon taxes as the least attractive option. One of the most effective responses, the panel found, would be dramatically higher public funding of research and development (R&D) of non-carbon-based energy, on

the order of \$100 billion a year. That is fiftyfold what governments spend now, but a fraction of the cost of proposed carbon cuts.

We cannot rely on private enterprise alone. As with medical research, many early, innovative breakthroughs will not reap significant financial rewards, so there is no strong incentive for private investment today. Given that every dollar spent on R&D could avert 11 dollars’ worth of climate damage, public money would be well spent. Carbon taxes could play an important role in funding R&D.

Our current approach to solving global warming—focusing primarily on cutting carbon through taxes rather than through technology—puts the cart before the horse. Policymakers should abandon fraught carbon reduction negotiations and agree instead to invest in R&D to get technology to where it needs to be. This would be more likely to tackle climate change and have a much greater chance of political success.

In the short term, we should invest a small amount—less than \$1 billion a year—in researching climate engineering technology called “marine cloud whitening,” which shows great promise in delaying many effects of global warming, helping us buy time to shift away from fossil fuels. If this works—and we still need to ensure that it will—it could prevent *all* 21st century global warming at a total cost of just \$9 billion, thousands of times cheaper than other proposals. In terms of averted warming, this equates to about \$2,000 worth of good for every dollar spent.

This approach would complement investment in technology, because climate engineering has the advantage of speed. There is a significant delay between carbon cuts and a drop in temperature—even halving global emissions by mid-century would barely be measurable by the end of the century. And making green energy cheap and prevalent will take a long time. After all, electrification of the global economy is still incomplete, even after more than a century of effort. Climate engineering technology could help us buy time to achieve a sustainable, efficient shift away from reliance on fossil fuels.

We have no more time to waste on a foolhardy, flawed response to global warming. Growing disillusionment with carbon cuts is not a sign of failure on the public’s part, but of the vast challenges inherent in trying to cut carbon emissions in the short term. The greatest hope for Copenhagen is that politicians will come away with the realization that we need to solve global warming in a more sensible, enlightened way. ■

References:

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