

January 16, 2012

Climate Proposal Puts Practicality Ahead of Sacrifice

By JOHN TIERNEY

The current issue of the journal *Science* contains a [proposal](#) to slow [global warming](#) that is extraordinary for a couple of reasons:

1. In theory, it would help people living in poor countries now, instead of mainly benefiting their descendants.
2. In practice, it might actually work.

This proposal comes from an international team of researchers — in climate modeling, atmospheric chemistry, economics, agriculture and public health — who started off with a question that borders on heresy in some green circles: Could something be done about global warming besides forcing everyone around the world to use less fossil fuel?

Ever since the [Kyoto Protocol](#) imposed restrictions in industrial countries, the first priority of environmentalists has been to further limit the emission of carbon dioxide. Burning fewer fossil fuels is the most obvious way to counteract the greenhouse effect, and the notion has always had a wonderfully virtuous political appeal — as long as it's being done by someone else.

But as soon as people are asked to do it themselves, they follow a principle identified by Roger Pielke Jr. in his book "[The Climate Fix](#)." Dr. Pielke, a political scientist at the University of Colorado, calls it iron law of climate policy: When there's a conflict between policies promoting economic growth and policies restricting carbon dioxide, economic growth wins every time.

The law holds even in the most ecologically correct countries of Europe, as Dr. Pielke found by looking at carbon reductions from 1990 until 2010.

The Kyoto Protocol was supposed to put Europe on a new energy path, but it contained so many loopholes that the rate of "decarbonization" in Europe did not improve in the years after 1998, when the protocol was signed, or after 2002, when it was ratified. In fact, Europe's economy became more carbon-intensive in 2010, he says — a trend that seems likely to continue as nuclear power plants are shut down in Germany and replaced by coal-burning ones.

“People will make trade-offs, but the one thing that won’t be traded off is keeping the lights on at reasonable cost,” he says. Given the reluctance of affluent Europeans to make sacrifices, what are the odds of persuading billions of people in poorer countries to pay more for energy today in return for a cooler climate at the end of the century?

But suppose they were offered a deal with immediate benefits, like the one proposed in Science by researchers in the United States, Britain, Italy, Austria, Thailand and Kenya. The team looked at ways to slow global warming while also reducing the soot and smog that are damaging agriculture and health.

Black carbon, the technical term for the soot spewed from diesel engines and traditional cookstoves and kilns, has been blamed for a significant portion of the recent warming in the Arctic and for shrinking glaciers in the Himalayas. Snow ordinarily reflects the sun’s rays, but when the white landscape is covered with soot, the darker surface absorbs heat instead.

Methane, which is released from farms, landfills, coal mines and petroleum operations, contributes to ground-level ozone associated with smog and poorer yields from crops. It’s also a greenhouse gas that, pound for pound, is far more powerful than carbon dioxide at trapping the sun’s heat.

After looking at hundreds of ways to control these pollutants, the researchers determined the 14 most effective measures for reducing climate change, like encouraging a switch to cleaner diesel engines and cookstoves, building more efficient kilns and coke ovens, capturing methane at landfills and oil wells, and reducing methane emissions from rice paddies by draining them more often.

If these strategies became widespread, the researchers calculate, the amount of global warming in 2050 would be reduced by about one degree Fahrenheit, roughly a third of the warming projected if nothing is done. This impact on temperatures in 2050 would be significantly larger than the projected impact of the commonly proposed measures for reducing carbon dioxide emissions.

Not incidentally, the researchers calculate, these reductions in low-level ozone and black carbon would yield lots of benefits long before 2050. Because people would be breathing cleaner air, 700,000 to 4.7 million premature deaths would be avoided each year. Thanks to improved crop yields, farmers would produce at least 30 million more metric tons of food annually.

“The beauty of these pollution-control measures is that over five to 10 years they pay for themselves in the developing world,” says Drew Shindell, the lead author of the proposal, who is a climate scientist at the NASA Goddard Institute for Space Studies and at Columbia University. “They slow global warming, but there are local benefits, too. If you make black carbon reductions in China or India, you get most of the benefits in China or India.”

These ideas already have a few fans, including Ted Nordhaus, a founder of the [Breakthrough Institute](#), which has endorsed similar measures in a report called “[Climate Pragmatism](#).” Mr. Nordhaus sees the Science paper as a model for the future.

“This is what the post-Kyoto world will look like,” he says. “We’ll increasingly be managing ecological problems like global warming, not solving them. We may make some headway in limiting our emissions, but if we do so it will be through innovating better energy technologies and implementing them at the national and regional level, not through top-down international limits.”

These pollution-control policies aren’t especially controversial — even Republicans hostile to environmentalists have supported research into black carbon — but neither have they been especially popular. Mainstream environmental groups haven’t put them on the agenda. One reason is the lack of glamour: Encouraging villagers to use diesel engine filters and drain their rice paddies is less newsworthy than negotiating a global treaty on carbon at a United Nations conference.

Another reason is the fear of distracting people from the campaign against carbon dioxide, the gas with the most long-term impact. Because it lingers in the atmosphere much longer than soot or methane, some scientists argue that limiting it must be the first step. Dr. Shindell says he agrees with the need to limit carbon dioxide and sympathizes with those who worry about losing focus.

“But I also worry that carbon dioxide will go up even if we do focus on it,” he says. “We’re at a complete deadlock on carbon dioxide. Dealing with the short-lived pollutants might really be a way to bridge some of the differences, both between the two sides in the United States and between the developed and the developing world.”

No matter what people think about global warming, there aren’t a lot of fans of dirty snow, poor crops and diseased lungs.



MORE IN SCIENCE (4 OF 42 ARTICLES)

OPEN

Books on Science: Penguins, Hockey and Serious Stuff Too: Scott’s Polar Chronicles

[Read More »](#)