

The politics of climate fixes

November 6 2009, by David Chandler



Graphic: Christine Daniloff

In the middle of a day filled with a stream of information-packed PowerPoint displays and alarming projections of what the future holds for our planet and our civilization, Judith Layzer's talk was something of an anomaly.

Layzer, an assistant professor of environmental policy in MIT's Department of Urban Studies and Planning, was among the speakers at last Friday's daylong symposium on "Engineering a Cooler Earth." She immediately changed the tone of the day's presentations by dispensing with graphs and charts and speaking only with the aid of her quite expressive gestures.

The symposium was a detailed exploration of a subject that has long been nearly taboo even for polite discussion: that instead of, or in addition to, the emissions-reduction strategies usually looked at as a way to stave off the dangers of global [climate change](#), there might be other ways of solving or at least reducing some of the effects faster, more inexpensively or both, through grand schemes collectively known as geo-engineering. These include two major approaches: pulling [carbon dioxide](#) right out of the air, or blocking some percentage of incoming sunlight to reduce temperatures.

Drawing upon colorful anecdotes and historical references, Layzer described the uphill battle the world faces in dealing with the social and political realities of trying to change deeply entrenched habits, systems and interests.

She began by talking about the new bestseller, “SuperFreakonomics,” which ends with a chapter about geo-engineering and has attracted a storm of controversy for its suggestion of a possible cheap, easy fix. “[The authors] begin by saying that catastrophic climate change is unlikely,” Layzer explained, and then go on to suggest that any efforts to curb emissions, though worth pursuing, are likely to be “too little, too late,” but that instead the geo-engineering approach offers an “easy fix.”

The chapter focuses on one particular approach to reducing sunlight: injecting massive amounts of sulfur into the upper atmosphere to mimic the cooling effect observed after the eruption of Mt. Pinatubo in 1991. “There’s a fundamental disagreement,” she suggested, “over whether the risks of geo-engineering exceed the risks of climate change.”

The risks, as several symposium speakers described in detail, include the fact that such an approach would require an essentially permanent commitment to a massive project — injecting two Pinatubo’s-worth of sulfur into the stratosphere every year — that, if stopped at any time,

could lead to an even more rapid rise in global temperatures than would happen with no intervention. And the fact that, with increased concentrations of carbon dioxide, oceans would continue to grow more acidic and thwart the growth of any marine shellfish and coral.

Virtually all of the symposium's presenters agreed that the methods based on reducing sunlight, as with the sulfur injections, are too uncertain and prone to side effects to be serious candidates for solving the problem. Carbon-removal schemes, however, might have some promise and are worth at least researching. These ideas include enhancements to natural biological processes that remove carbon from the air, or the development of technological substitutes such as "artificial trees" that could have the same effect.

Layzer, like most of the symposium's speakers, framed geo-engineering approaches as something that might turn out to be necessary if other measures fail to take hold, or if the rate of climate change turns out to be worse than expected. In short, something that should be studied just in case.

At its core, the intense [controversy](#) over global warming, and over concepts for ameliorating its effects through geo-engineering, is not so much about the science or the technology, she suggested. "The debate is and will continue to be driven by political considerations."

She said she sees some hope for a common-sense path that may bypass the very different world views of the often-acrimonious sides in debates over global-warming policy. Increasingly, she said, big businesses that for many years were pressuring political leaders to delay any action on controlling carbon emissions now see a new clean-energy future as an opportunity. Helped along by President Barack Obama's framing of the issue, she said, they have increasingly "changed the image from sacrifice to business gains."

Nobody thinks the road to mitigating climate change will be easy. Any such efforts involve “going up against the biggest industry in the history of mankind,” Layzer points out. Still, “the political momentum does seem to be real,” she said, “and the collapse of coalitions that have opposed it is the best evidence of that.”

The main focus, she and most of the other symposium speakers emphasized, should remain on curbing greenhouse gas emissions. But with a problem so fraught with uncertainties and political complexities, it makes sense to hedge our bets.

And that’s a point that’s clear enough, without the need for a chart or a graph.

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