

The Climate Collaboratorium:

A new forum brings experts together to combat global warming

“Imagine all the people sharing all the world”
—John Lennon

Thomas W. Malone is the founder and director of the MIT Center for Coordination Science, and is one of the two founding co-directors of the MIT Initiative on “Inventing the Organizations of the 21st Century.” Malone teaches classes on leadership and information technology, and his research focuses on how new organizations can be designed to take advantage of the possibilities provided by information technology.

In an article published in 1987, Malone predicted many of the major developments in electronic business over the last decade: electronic buying and selling, electronic markets for

many kinds of products, “outsourcing” of non-core functions in a firm, and the use of intelligent agents for commerce. The past two decades of Malone’s research are summarized in his book, *The Future of Work: How the New Order of Business Will Shape Your Organization, Your Management Style, and Your Life* (Harvard Business School Press, 2004). Malone is an inventor with 11 patents. He has also published more than 50 articles, research papers, and book chapters along with co-editing three books: *Coordination Theory and Collaboration Technology* (Erlbaum, 2001), *Inventing the Organizations of the 21st Century*

(MIT Press, 2003), and *Organizing Business Knowledge: The MIT Process Handbook* (MIT Press, 2003). Malone is a co-founder of three software companies, and has consulted and served as a board member for a number of other organizations. He speaks frequently for business audiences around the world and has been quoted in numerous publications, such as *FORTUNE*, the *New York Times*, and *Wired*. Before joining the MIT faculty in 1983, Malone was a research scientist at the Xerox Palo Alto Research Center (PARC), where his research involved designing educational software and office information systems.

When John Lennon released the song “Imagine,” some folks dismissed him as a wooly headed idealist.

But researchers affiliated with MIT’s Center for Collective Intelligence (CCI) think that the ex-Beatle had the right idea. Sharing, they say, can help to solve one of the world’s most intractable problems—global warming. Thus, the CCI is working to encourage scientists and others around the world to pool their expertise via an online forum called the Climate Collaboratorium.

“If we don’t solve global warming, many people would say nothing else will matter much,” says Professor Thomas W. Malone, the center’s founding director and an MIT management professor. “If ever there were a problem on which we should try to bring together the best human and computational intelligence that our species could muster, this would be it.”

A model approach to problem solving

The Climate Collaboratorium is like Wikipedia with a much grander ambition: to create an open-source computer model of the Earth’s atmosphere and the human systems whose carbon emissions affect it. Anyone with sufficient expertise will be able to add to, change, or critique the model—or rather, models. In reality, the Climate

Collaboratorium’s model will be a gateway to dozens of underlying models created by specialists in every discipline pertinent to the problem. The first one to be included, which focuses on the effects of carbon emissions on temperatures and sea level, was developed by Jay W. Forrester Professor of Management John Sterman and colleagues.

“There are so many different kinds of knowledge that are relevant—the physics of the upper atmosphere, the chemistry of the ocean, the economics of carbon taxes, and the psychology of consumer decisions to drive,” Malone explains. “There are people who know about each of those, but nobody knows about all of them together. We want to use computer modeling to bring together all of those kinds of expertise in a single place.”

Physicists will set the model’s parameters for carbon concentrations in the upper atmosphere. Oceanographers will determine the ones for carbon absorption by the world’s seas. And economists will tinker with the ones that show how carbon taxes change consumer conduct.

The Climate Collaboratorium, which is still in its infancy, will also include venues for online deliberation being developed by CCI researchers Mark Klein and Josh Introne. These venues—think of them as high-level chat rooms—will employ software tools that encourage constructive conversation as opposed to the “flame wars” that often pass for debate online.

“In listservs, people tend to shout back and forth: ‘Yes, it is,’ ‘No, it’s not,’” Malone says. “Here, we’ll have a structured way of representing the discussions. For each position, people might have to offer evidence. Somebody might say, ‘Look at this paper by Smith and Jones.’ And somebody else might say, ‘But there’s a more recent paper by Johnson.’ That way, you can have reasoned arguments.”

Opinions welcome

The deliberations won’t be limited to experts. While Malone envisions limits on who can modify the models—perhaps peer-review panels will decide—anyone will be able to run scenarios that will tell them how, say, a higher gasoline tax in the United States would change carbon emissions. Regular folks will be able to plug in numbers and save the results of their scenarios.

“If the parameters are there, lots of people could say, ‘Let’s increase the percentage of this and reduce that,’” Malone points out. “Some of those weird combinations, which maybe no expert would think of, could turn out to be promising possibilities.”

At the very least, non-experts will be able to vote on values questions like how much wealth they’d be willing to sacrifice to stem global warming. They may also be able to weigh in on sticky points like the credibility of the experts who create the climate model. Voters might, for example, say whether they trust the National Academies of Science more than an oil-industry trade association. Likewise, laypeople might be able to give their proxies on complicated questions to experts, allowing, for example, the Union of Concerned Scientists to vote on their behalf on questions relating to the science of global warming.

Malone likens the Climate Collaboratorium to the Manhattan Project, which developed the Allies’ atomic bombs during World War II. As with the Manhattan Project, this effort will have to enlist scientists from around the world to help solve a knotty problem.

“The difference between the Climate Collaboratorium and the Manhattan Project is that this is a problem that everyone in the world needs to solve,” Malone adds. “But because of new technologies like the Internet, it’s possible to enlist far more people than during World War II.” ● ● ●

