

No More “Business as Usual”

Addressing Climate Change Through Constructive Engagement

Should we panic yet? This was the question asked and answered (in the negative) by a recent *Proceedings of the National Academy of Sciences* editorial in response to new research indicating that “greenhouse gas emissions of the past have already loaded the Earth System sufficiently to bring about disastrous global warming” and therefore “the ultimate goal of climate protection policy, as stipulated by the United Nations Framework Convention on Climate Change appears to be delusional.” The editorialist, director of the Potsdam Institute for Climate Impact Research Hans Schellnhuber, concluded, “We are still left with a fair chance to [avoid disastrous warming], yet the race between climate dynamics and climate policy will be a close one. . . . This requires an industrial revolution for sustainability, starting now” (Schellnhuber, 2008, p. 14239). So don’t panic, or shout. Please move quickly to the nearest exit (of our current “business as usual” scenario) and start communicating constructively about climate change!

Indecision—the preferred federal policy in the United States thus far—is no longer an option. Starting “an industrial revolution for sustainability” requires immediate, effective initiatives to shape public policy (at the local, state or provincial, national, and international levels), to influence the practices of business, government, and nongovernmental organizations, and to influence population behavior in myriad ways (Maibach, Roser-Renouf, & Leiserowitz, 2008).

Moreover, as if the challenges associated with mitigating climate change were not sufficiently large, the nations of the world must also rise to the challenges inherent in protecting people from the harm that will be associated with current and inevitable future changes in our climate (Frumkin, McMichael, & Hess, 2008). These adaptation challenges span learning to deal effectively with more extreme weather events and vector- and water-borne diseases, to coping with rising sea levels, to learning how to better inform people’s decisions—and public policy—with regard to development in communities that are the most threatened by such changes. The growing

threat of intense hurricanes and rising sea levels renders New Orleans, now in the midst of rebuilding itself, an iconic example of this challenge.

What Roles Can Science Communication Play in Supporting Such Initiatives?

Fischhoff (2007) recently made the case that

creating scientifically sound communication requires recruiting and coordinating three kinds of experts: domain scientists, to represent the research about climate change and its effects; decision scientists, to identify the information critical to specific choices; and social scientists, to identify barriers to communicating that information and to create and evaluate attempts to overcome those barriers. It also requires designers, to implement communications in sustainable ways. (p. 5)

He provocatively termed this approach “nonpersuasive communication” to make the point that—despite their growing inclination to “start panicking”—climate scientists should not compromise their credibility by resorting to public advocacy, as it “runs the risk of winning battles over what science says, while losing the war over what science is” (p. 3). Instigating public discussion may be more important than engineering public opinion. Yet scientists are going to have a hard time staying out of the fray. Gone are the days when science could pretend to operate independent of social policy or in a realm miraculously devoid of politics (Dunlap & McCright, 2008).

To further explore the relevance of science communication theory and research to the challenges inherent in climate change, in 2008 we issued a call for papers on “action strategies for communicating climate change.” This special issue of *Science Communication* is a result of that call for papers. We wish to thank the generous efforts of our many peer reviewers—and of guest editors Katherine Rowan and Tarla Rai Peterson—in producing this special issue.

There is considerable theoretical and methodological diversity and depth to the articles in this volume. As such, these articles are rich with implications for both science communication theory and research methods. For current purposes, however, our comments are focused on the practical implications of this work for enhancing public engagement in the complex issue of climate change. These comments embrace Lorenzoni, Nicholson-Cole, and Whitmarsh’s (2007) definition of climate change issue engagement as having three key components: cognitive (including knowledge and

understanding), affective (including interest and concern), and behavioral (including personal actions and participation in decision making about collective societal actions).

Ockwell, Whitmarsh, and O'Neill open the issue with a trenchant analysis of the conundrum we face in choosing between the two primary strategies currently available through which to promote "decarbonization": individual behavior change initiatives and regulation. Individual behavior change initiatives, even if highly successful (which they often are not), will not be sufficient. In theory, regulation is more promising, except for the fact that in most nations of the world (and specifically in the United Kingdom, which is the focus of this article) politicians have been reluctant to embrace carbon regulation because the associated long-term benefits to the climate are outweighed by the short-term political costs to them and their parties. Ockwell and colleagues argue that, currently, the highest and best use of communication is to create public engagement in the issue for the purpose of creating citizen "demand" for carbon regulation (i.e., using a bottom-up approach to facilitating a top-down solution). Indeed, as we went to press on this special issue during the week of the global climate change summit in Poznan, Poland, Ed Miliband, UK's environmental secretary, told the *Guardian* newspaper that people around the globe must put more pressure on their governments to tackle climate change: "We need a mass movement - like Make Poverty History." (<http://www.guardian.co.uk/politics/audio/2008/dec/07/ed-miliband-poznan-climate-change>).

In the following article, Nisbet and Kotcher make the case that there is a largely invisible and dormant, but exceedingly powerful resource in every community that can be harnessed to promote climate change mitigation and adaptation goals: opinion leaders. If activated, popular opinion leaders—not necessarily famous media figures such as Oprah Winfrey but rather the person down the block, the person many of us in the neighborhood turn to for advice when making the right decision really counts—are a potentially important asset in accelerating individual behavior change and fostering citizen demand for carbon regulation. Nisbet and Kotcher argue that this critical target audience should become a priority for public engagement efforts. They draw from current thinking in social marketing to suggest new ways of thinking about opinion leadership as a resource for information dissemination—and persuasion.

O'Neill and Nicholson-Cole next directly address a long-standing concern among some social scientists working on climate change: Climate change is scary stuff, but fear appeals may be ineffective or, worse, actually counterproductive in engaging the public. Treating this concern as an

important question worthy of empirical investigation, the authors merge the results of their individual programs of research to conclude that climate change fear appeals are, in fact, a double-edged sword whose downside (the tendency to impede personal issue engagement) may outweigh its upsides (the ability to gain people's attention and convey the importance of the issue). Going forward, they recommend that climate campaigners use fear appeals in limited and selective ways that are appropriately balanced with other kinds of representations—approaches that take account of individuals' personal points of reference (e.g., based on an understanding and appreciation of their values, attitudes, beliefs, local environments, and experiences)—to avoid causing the denial, apathy, and avoidance often associated with overemphasizing fear and underemphasizing our collective ability to act.

Finally, Kahlor and Rosenthal close the special issue with a detailed examination of global warming knowledge and its antecedents. They find, in short, that if people seek information about global warming, they do indeed learn, and people who use more diverse information sources tend to learn more. The impact of this learning on enhanced issue engagement, however, is complex and not yet entirely clear. The complexity of their findings makes clear the need for additional research that examines the influence of cognitive elements of climate change engagement (including knowledge) on the affective and behavioral elements of climate change engagement. Their results also imply that we should not over-rely on one medium or channel over another but recognize that the best informed are those motivated to seek information broadly. There is no one media "magic bullet" for informing the public. This work also helps remind us that we should not be tempted to depend on cognitive knowledge as the straightest route to active engagement; motivation may be a more crucial key.

Kahlor and Rosenthal's findings also indirectly highlight two important "best practices" for public engagement action strategies. First, their findings are consistent with Hornik's (2002) contention that "big messy programs"—that is, communication initiatives with many communication activities, by many sources, delivered through many channels—are most likely to be successful. The Kahlor and Rosenthal study suggests that, to the extent possible, climate change communication efforts should explicitly engage a plurality of information channels. Second, bringing us full circle back to Fischhoff's (2007) exhortation, careful attention must be paid to determining what information is most important for people to learn (i.e., what information is most worth knowing). In any topic as complex as climate change, not all knowledge has equal value in informing the important decisions that people face. Because of the inherent limits of communication in improving people's knowledge of any complex issue, communication

planners must make every possible effort to identify the information most worth knowing and focus their communication outreach accordingly. Having less knowledge, if what is known is more worth knowing, can have greater individual and societal value than having more knowledge that is less worth knowing.

Although the four articles in this special issue focus on increasing public engagement with climate change, a mission we fully embrace, we also seek to encourage communication scholars to engage themselves. Although it may be trite, it is not hyperbolic to say that never before have our skills and insights been more desperately needed. The science communication knowledge base, if broadly applied, can accelerate public engagement, decision making, and policy formulation. It is contingent on us, however, to step forward and make the case for our relevance. Those of us who do so will find important opportunities to use our skills in ways relevant to one of the most serious challenges ever to face human civilization.

We also need to collectively make the case for basic and applied climate change communication research funding. A recent National Research Council (2007) review of the U.S. Climate Change Science Program (CCSP; the federal office that coordinates all climate change research funded by the U.S. government) concluded, among other findings, that “discovery science and understanding of the climate system are proceeding well, but use of that knowledge to support decision-making and to manage risks and opportunities of climate change is proceeding slowly” (p. 4). The report went further to state,

Progress in communicating CCSP results and engaging stakeholders is inadequate. . . . Only a small fraction of CCSP budget is devoted to decision-support services and communication. However, if the program is to achieve its vision of producing information that can be used to formulate strategies for preventing, mitigating and adapting to climate change, adjustments will have to be made in the balance between (earth) science and applications. (p.[5])

We read this as an invitation to make our case. New professional disciplines and novel interdisciplinary approaches will soon be “let into the tent”; for everyone’s sake, communication researchers should be among them.

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