



David Szymanski

Final Report

After spending the last year working in the office of Senator Jon Tester (D-Mont.), my fellowship has come to an end. Over the last month, in a bittersweet departure from Capitol Hill and Washington, D.C., I made the transition to academia, taking a position in the Department of Natural and Applied Sciences at Bentley University, a business school located just outside of Boston in Waltham, Massachusetts. Working in Congress for a year—and specifically the opportunities afforded me by Senator Tester and his staff—was unquestionably the best professional experience of my career. Seeing the legislative process from the inside had its ups and downs, but the experience fueled my passion for teaching science to non-scientists.

Folks in our line of work often say “science isn’t done in a vacuum.” We use the phrase to stress the importance of communicating with colleagues (and far less frequently, the public) about the significance of our work. We also say it to remind one another that our research is subject to the same personal biases and social norms as anything else in life. To department chairs and supervisors, it’s also a euphemism for “I need money to attend a conference.” In any case, the statement rightly implies that science extends beyond the walls of our offices, labs, and classrooms. Everything we do is connected, because the real world is not subject to the artificial boundaries of scientific disciplines.

It’s not surprising, then, that we don’t use the same kind of language when we talk about policy. For Americans in general, it seems that legislation is done in a vacuum. After spending a year on the Hill, it’s clear to me that no other institution triggers such an instinctive love-hate reaction in folks as does the U.S. Congress. We tend to have a healthy respect for the system, at least in theory. As Winston Churchill eloquently summarized, “It has been said that democracy is the worst form of government except all those other forms that have been tried from time to time.” At the same time, the legislative process appears persistently bogged down by an insular Congress, mired in

partisanship, election cycles, parochial interests, and, yes, money.

For many earth scientists, climate change legislation in Congress serves as a premier example of legislating in a vacuum. Although most scientists can remain dispassionate about the data, most are also passionate advocates for using scientific data well. As a whole, earth scientists agree that anthropogenic contribution of greenhouse gases to the atmosphere is the primary driver of recent climate change. In fact, at the time of this writing (Sept. 2009), GSA is in the process of revising its own position statement on climate change. The current draft succinctly outlines the strengthening basis for concluding that humans are causing climate change and explicitly recommends “public policy that includes effective strategies for the reduction of greenhouse-gas emissions.”

After fits and starts in previous sessions of Congress, the election and inauguration of President Obama seemed to be a watershed moment for advocates of legislation to cap domestic CO₂ emissions. In June, with leadership from the White House, the House of Representatives narrowly passed H.R.2454, the American Clean Energy and Security (ACES) Act of 2009, by a margin of 219–212. Although significant disagreement remains as to whether the bill takes the right tack for reducing emissions, its passage was unprecedented recognition of the link between energy and climate, and more importantly, the relevance of climate and earth science.

By mid-summer, however, it was clear that the Senate was focused on healthcare reform (or “health insurance reform,” if you monitor the ebb and flow of political language). By mid-September, Majority Leader Harry Reid (D-Nev.) had signaled that the Senate would not likely take up climate legislation in 2009, given the packed Senate calendar for the rest of the session. This brings us to 2010 and mid-term elections: a tough time for tough votes. As a result, many climate advocates—especially those looking toward international negotiations at the United Nations Climate Change Conference in Copenhagen, Denmark, later this year—see the delay as a major

failure in leadership, if not a potentially critical failure in reducing CO₂ emissions in a timely or meaningful way.

Is the delay in Senate action on climate change an example of legislating in a vacuum? It depends. Some laws, such as those dealing with civil rights, attempt to directly remediate what is viewed as a moral or social injustice. So, in some cases, civil rights laws can be passed even in the face of strong opposition because of an equally strong appeal to the conscience of elected leaders. In the case of climate legislation, it is impossible to directly remediate the problem, and therefore a single path forward is unclear, even in the face of dwindling opposition. An August 2009 poll by Zogby International (www.zogby.com) reported that an astounding 71% of likely voters favored the ACES bill passed by the House, but when presented with arguments for and against the specific plan, 41% thought the Senate should wait on action because of perceived economic consequences of putting a price on CO₂. A majority (54%) still favored Senate action after hearing the arguments, but the split indicates a lack of understanding about the immediacy of the problem.

Mitigating anthropogenic climate change is undoubtedly one of the most difficult challenges humans have ever faced. The complexity of the global carbon cycle—the trouble people have in appropriately weighing the risks of action vs. inaction, combined with the economic and diplomatic hurdles to even slow the rate of global CO₂ emissions—is staggering. Earth scientists may agree that the United States needs public policy to reduce emissions, but none of us has a legitimate claim on the best way to do it.

I don’t think the delay on climate legislation is the result of doing policy in a vacuum; I think the number of variables in the problem overwhelms the legislative process. The evidence is that a majority of the public supports action on climate but consistently ranks climate change very low or dead last on a list of imminent problems facing the U.S. And so the problem gets kicked down the road.

What to do? The solution is certainly not to give up on creating good policy based on good science. As my predecessors and I have discussed in these pages, there are numerous ways for earth scientists to take part directly in policy development—and they do. But policy alone is not enough. Systems for reducing CO₂ emissions that have been discussed or introduced in Congress have been almost exclusively based on putting a price on carbon (cap-and-trade, carbon tax, etc.). It has been

alternately argued that the price signal in such a system will be too small to change consumer behavior or too large to make timely and targeted cuts economically feasible. In any case, consumers and businesses will ultimately be responsible for the reductions.

In addition to helping create policy in the short-term, earth scientists must also do a better job educating consumers and non-science professionals about the complexity of systems rather than framing "climate change" as a discrete problem. (Even connecting climate change to the increased frequency or intensity of natural disasters seems to be inadequate for assigning appropriate weight to risks.) There is no single best way to do this either, but in the long-term, systems thinking is an indispensable tool for making personal and corporate decisions about energy use and sustainability. In moving to Bentley University, my goal is to help the next generation of business leaders integrate science-based systems thinking into their professional lives and, in turn, move toward more sustainable decisions in the use of resources.

In a final note, I want to express my sincerest gratitude to GSA members and leadership and the U.S. Geological Survey for the opportunity to spend a year working and learning in Congress. I am often asked if spending a year in D.C. improved or tarnished my views on our system for making laws. Of course, after having a year to polish my political skills, I always respond "both." In reality, my views have not changed. I had my share of frustrations, but for all its flaws, it really is a good system. As in any institution, it's up to the participants to make it work. Fortunately, we are all participants.

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