

# FORUM

## The Language of Science and Communication With Congress

"There are in fact two things, science and opinion; the former begets knowledge, the latter, ignorance." So stated Hippocrates back in 400 C.E. Today we find ourselves in a tug of war between science and opinion as we try to fashion a path forward on many important societal issues, including the use of science in addressing the water, energy, and climate change issues that are growing in importance. Our job in Congress is making sure we use the knowledge gained from asking questions and apply the responses properly in the decision- and policy-making processes. While that all sounds good in theory, the application is at best cumbersome, often leaving us with more questions than answers.

As an elected member of Congress in Washington, D. C., I find myself constantly in the midst of a continuous and often contentious debate over the use of science and its application in the public policy environment. Today we are in the middle of a serious challenge regarding the use and management of our nation's water resources, fossil and renewable energy, the nexus between water and energy, environmental water requirements, aging water infrastructure, and jobs. This is all overlain by severe budget constraints and an uncertain climate future. Have we entered a period of a "new normal" in how we address water and energy issues? Have the assumptions about water and energy that we used in the past changed? Has the complexity of the scientific and policy issues increased beyond our analytical capability? These are all questions

that we need scientific support and cooperation in answering.

Lately, discussions in Congress are less related to the science and more associated with establishment of a specific perspective or political agenda and not always cognizant of reality. Scientists are often asked to testify at hearings to explain the relationship between their work and the issue being debated. Frequently, however, we find that a scientist's message gets lost in the dialogue of the moment and is constrained by the 5-minute testimony limit. It is not that scientific information is not important; it is more that the scientific language being used, while clear, is often muddled by the time it gets pushed and compressed through the testimony filter. Congress and scientists need to work together to develop a better way to present scientific information in a form that policy makers and legislators can use. I understand that scientists often get frustrated when they feel that their message is not being heard, that they are being forced to interpret their data beyond its boundaries, or that policy makers are not asking the right questions. All that may be true, but that is the nature of the beast and the process of taking science into the policy and legislative arena.

The climate, water, and energy nexus is a clear example. The majority of legislators in Congress understand that climate change is occurring. The issue becomes more focused on what we can do about it and what is realistic within the context of today's political climate and budget constraints. Collectively,

we have to develop a dialogue in which science is communicated effectively in layperson's terms and the information presented directly relates to issues that affect people.

Let me put communication with Congress in context. We do not know what you are focusing on unless you tell us. You are plugged into the science world daily and discussing it continuously in your own terminology. We jump from issue to issue and are lucky if we get to focus on any particular issue for more than 30 minutes at a time. We depend on overloaded staff to keep us informed and to identify key elements. Equally important, scientists think and process information differently than public policy people do. Scientists are taught to develop hypotheses and then work to disprove them. In Congress we are typically trying to mesh your scientific knowledge into a broader policy or regulation issue or question.

Here are several suggestions on how to develop a better dialogue for science in Congress:

1. *Learn to tell a story.* Provide clear, real-life examples of the potential implications of your science. Explain to us the relevance of your science within a context to which an average person can relate. Is your science important for interpreting a policy issue? Are you supporting or debunking known facts? Talk to us in terms we can understand and can interpret easily. Otherwise, we get detoured by the acronyms and phrases and miss the bigger story you are trying to tell.

2. *Talk to and educate congressional staff.* Our personal and committee staffs do the majority of inquiry work for Congress. They explore the issues, gather the facts, talk to appropriate people, assemble the background documents, organize and develop the first cuts of the congressional statements, and assist the members in developing the questions asked at briefings and in follow-up discussions. An uneducated staff will lead to your specific information not

being understood or utilized to its full potential. Keep the congressional staff informed via agency contacts (congressional liaisons), professional organizations (like AGU), and your academic institutions when they visit Washington. Finally, reach out through social media such as video conferences and webinars. In a world of reduced dollars for travel, our staff are not getting out to visit with you, so we have to find ways to improve the information flow.

3. *Talk in positive rather than negative language.* Instead of answering questions in the negative (e.g., saying "we cannot positively say that this is climate related"), reframe the discussion by saying that "a warming climate will allow more precipitation to be held in the atmosphere, leading to more extreme rainfall events and more variable water flows in our rivers and watersheds." The point here is that the first thing out of your mouth is what is heard, not the follow-up context. Put your most important point out first, and then provide the scientific context.

Hippocrates was right. Science begets knowledge while opinion begets ignorance. We want science and the scientific process, not opinion generated by national paid media consultants or the loudest pundit, to help guide us in Congress. The problem is that in today's world, science often gets overlooked or, more likely, overrun by the semi-trailer of rhetoric and opinion. If you want your science to have relevance in the public policy debates, you have to be willing to work with us to ensure that your knowledge gets transferred in a timely and appropriate manner. We look forward to working with you on this important issue of communicating science.

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