

**U. S. House of Representatives
Science Committee
Hearing on Science and Technology Advice to Congress**

Testimony of Representative Rush Holt

July 25, 2006

Mr. Chairman and members of the committee, I thank you for the opportunity to explore the state of science and technology advice and assessment for Congress. You each know my passion for this subject, and I appreciate the opportunity to speak with you on this matter today. I look forward to working with you on this critical topic in the future.

To use a cliché, but to set the stage properly, our world is changing at an accelerated rate brought on by technology. The invention of the transistor in 1947 led to the development of the computer. DARPA, our own military R & D facility, invented the internet, and in 1989, a scientist at the Center for European Research in Nuclear Physics in Switzerland, invented the World Wide Web to meet the demand for automatic information sharing between scientists working at different locations around the world. Nothing has been the same since these advances; we all depend on our Blackberries and cell phones to keep apprised of the happenings of the world. However, technological advancements extend beyond communications into healthcare, education, transportation, intelligence and military activities, agriculture, environmental protection, as well as the very process of government from voting to judicial punishments, to agency record keeping. We see the effect of technological advances reverberate around the globe. The gap between industrialized nations and developing nations grows for some. Others nip at our heels to gain the world lead in one technology or another. Human interaction across the globe will never be the same, and it is hard to know where it is going. Yet, that is our job as Members of the United States House of Representatives. We were sent here by our constituents to lead our nation into the future, securing the livelihoods of each person we represent as well as protecting and maintaining the competitive edge of our nation in the emerging global knowledge economy.

None of us in Congress have time to analyze scientific and technological advances and make reasoned, logical determinations of their direction and impact on industry, nations, and

education, but we vote on decisions about topics on a regular basis that include technical or scientific components. The connections to science and technology are not always obvious, especially to Members who avoid science and technology, which are most Members. We cannot do this alone.

Congress used to have an in-house professional office dedicated to providing technological assessment services. Congress received regular reports in a legislatively relevant form on such subjects as agriculture technology, alternative fuels, arms control, banking, business and industry, communications, climate change, computer security & technology, defense technology, economic development, education, energy efficiency, the fishing industry, health and health technology, international relations and technology transfer, natural disasters, nuclear energy, nuclear war & nuclear weapons, oceans and oceanography, oil, gas, and mineral resources, transportation, and waste management. Congress decided in 1995 that we did not need an in-house body dedicated to technological assessment.

The technical assessment could come, we told ourselves (before my time here), through committee hearings, CRS reports, experts in our district, think tanks, and the National Academy of Sciences. Now, you and I each know that Members of Congress have a low comfort level with technology and are generally unable to probe beyond our personal understanding or the briefing books crafted by our staffers. In the ten years since we said these various groups would provide the technical advice we need, we have not gotten what we need in order to do the people's work. We should acknowledge that.

The Congressional Research Service does a good job of gathering the current information from a myriad of sources and presents the issues clearly in its reports. The GAO has taken upon itself to do some technical assessments. Some of us represent districts rich in scientific and technological expertise, in business, academia, or national laboratories and we informally or formally draw on the knowledge of our constituents. The National Academy of Sciences has the National Research Council, which completes studies for the federal government including recommendations of actions to be taken by the agency or branch of government. Some professional societies have started to reach out to Congress, and you will hear from the American

Association for the Advancement of Science and the American Chemical Society today about what they do for Congress as far as technical or scientific advice or assessments.

We do not suffer from a lack of information here on Capitol Hill, but from a lack of ability to glean the knowledge and to gauge the validity, credibility, and usefulness of the large amounts of information and advice received on a daily basis. Although we would like to believe that the scientific and technical advice and assessment provided from outside remains politically neutral, this is not necessarily the case. In general, groups tend to be slow in responding to real-time needs of Members of Congress or their staffers in terms of science and technology assessment or advice, they often do not know what is happening in the halls of Congress, and have their own agendas.

There are real gaps in what Congress gets.

We are not getting what we need.

We need unbiased technical and scientific assessments in a Congressional time-frame by those who are familiar with the functions, the language, and the workings of Congress. We had this for twenty-three years through the Office of Technology Assessment, commonly referred to as the OTA. Although the OTA had its detractors, the OTA was a part of the Legislative Branch of the U.S. Government and existed to serve the Congress in one manner: scientific and technical advice for Congress. The OTA was able to elaborate on the broader context of an issue and inform the policy debate with assiduous and objective analysis of the policy consequences of alternative courses of action. The OTA expounded on the various outcomes given particular policy choices, at times extending beyond a mere technical analysis. In 1995 Congress defunded the OTA, and no group or combination of groups has been able to assume OTA's place as the provider of scientific and technical assessment and advice to Congress. To give you an idea, at a rapid glance at the list of the 703 reports produced by the OTA, there are dozens that are still relevant today. "Potential Environmental Impacts of Bioenergy Crop Production", "Innovation and Commercialization of Emerging Technologies", "Retiring Old Cars: Programs to Save

Gasoline and Reduce Emissions”, “Renewing Our Energy Future”, and “Testing in America’s Schools: Asking the Right Questions”, would all be OTA reports of use today.

Why is this of such importance to Congress? Why do we need specialized, in-house scientific and technical assessments and advice? I can think of three compelling reasons: science and technology pervade almost all issues before us, including many that are not recognized explicitly as technology issues; the language and technologies are specialized and complex, and require translation for Members and their staff; and Members think science and technology are for scientists and technologists, thus avoiding science and technology themselves. Every Member is aware of the social, economic, moral, and political aspects of each of the issues before us. Not so with scientific and technological aspects of the issues before us. Members duck those aspects of the issues, flee them, ignore them, and, perhaps most often, march off oblivious to them.

Decisions made about fisheries, biofuels, agricultural technologies, educational technologies, intellectual property rights, technology transfer, foreign aid, the health care system, and broadband communications, will determine the course of our nation. On the floor we recently have dealt with such issues as voting, missile defense, and net neutrality, each of which has technological components. This week we will vote on the “U.S.-India Nuclear Cooperation Promotion Act”, the “Pension Protection Act”, and the “Carl D. Perkins Career and Technical Education Improvement Act”, each with a technical component – some larger, some smaller, some obvious to Members, many not obvious. In the last few weeks, various committees have held hearings on subjects which contain scientific and technical components. The committees sometimes seem unaware that the subjects contain scientific and technological components. The Science Committee is of least concern; most Members recognize the technological aspects of the issues and get the help necessary. However, this may not be so true for other committees, all of which handle topics with scientific and technical components. For example, the Agriculture Committee recently held a hearing on “Reviewing the Federal Farm Policy”; The Appropriations Committee held a hearing on “the Census”; The Education and the Workforce Committee held a hearing on “NCLB: Can Growth Models Ensure Improved Education for all Students”; The Energy and Commerce Committee held a hearing on “Expanding the Emergency Alert System”; the Homeland Security Committee held a hearing asking “Is Our Nation Prepared for a Public

Health Disaster?"; the Small Business Committee held a hearing on "The Effects of the High Cost of Natural Gas on Small Business and Future Energy Technologies" and the House Administration Committee held a hearing on "Voting System Standards". We lack the scientific and technological analysis of each topic. OTA could have provided this.

We, each day when we cast our vote, are deciding the future of our nation; we are deciding the future for our children, our grandchildren, and our great-grandchildren. We are creating a legacy for which history will hold us accountable. We failed to assimilate some of the culture and knowledge of the Native Americans into our own working schemas when we spread into their lands. I am told that when the Iroquois made decisions for their nation, they were looking ahead to make sure that every decision related to the welfare and well-being of the seventh generation to come, and that was the basis by which decisions were made. They asked themselves "Will this be a benefit to the seventh generation?"

In our technologically advanced, short-focused society, we have lost long-term vision. Investment and decisions concerning science and technology require an understanding of the scientific and technological development process, a sense of responsibility to understand the potential policy outcomes of our decisions, and the understanding that the pay-offs might not come until the next generation.

We need to fill the gaps in our science and technology advice. Technology has been studied extensively by scholars, and the lessons are clear. If we are honest with ourselves, we don't need scholars to tell us we need help. We know it. We need a dedicated, in-house, permanently staffed organization. Each Member of Congress should be able to request a study. The management structure should be designed to deal adequately with the needs of Congress. Political neutrality must be protected. It should also be physically close to Congress. Studies must be useful to the Members of Congress and in time and in language to make them relevant.

Jack Gibbons, referring to the need for an in-house technology assessment organ, sometimes quotes poet Edna St. Vincent Millay:

“Wisdom enough to leech us of our ill
Is daily spun, but there exists no loom
To weave it into fabric...”

There is no shortage of information and no shortage of wisdom. We are swamped with experts.
We need help in weaving it into policy-relevant fabric.