

Science Advisor to the Next President

Richard C. Atkinson and William A. Blanpied

The position of Presidential Science Advisor was created by President Dwight D. Eisenhower in November 1957, a month after the Soviet Union stunned the United States and the world by launching Sputnik I, the world's first artificial satellite. Except for a hiatus between January 1973 and August 1976, every president has nominated a science advisor, all of whom the US Senate has routinely confirmed. Yet today, relatively few US citizens even know that such a position exists, let alone the name or qualifications of the person in the job.

Unfortunately, the presidential advisory system has reached its nadir during the current administration. The incumbent, John Marburger III, a physicist from the Brookhaven National Laboratory, is a decent and well-qualified individual who has had little influence on policy issues. Unlike his immediate predecessors in the first Bush and Clinton administrations, Marburger was appointed late in 2001 after several critical decisions had already been made by the administration without sound scientific input: withdrawal from the Kyoto Protocol on Global Change, cancellation of the anti-ballistic missile treaty with Russia, and the imposition of severe limitations on federal support for embryonic stem cell research. Moreover, the Bush administration's stubborn refusal to take action to mitigate the human contributions to global climate change suggests either that Marburger is unaware of the evidence, or that he has been denied an opportunity to explain the evidence clearly to the president. Unlike his predecessors, Marburger does not hold the official title of Assistant to the President for Science and Technology, nor does he even have an office in the White House complex.

If the presidential science advisory system has hit a low point under President George W. Bush, its decline in public visibility has been evident for some period of time. The reason may well be that the science advisory system, created during the Cold War, retains much of the aura of that long-vanished era. A majority of science advisors, starting with the Eisenhower administration, have been scientists who could readily summon expertise on the scientific aspects of national defense and space. But now the nation faces challenges in more varied fields, such as the environment, biosciences, and climate change, which require a broader range of scientific expertise. In today's world, the next science advisor will need to counsel with the best scientific minds and be able to integrate their views to inform public policy.

One of the functions of the science advisor must be to communicate effectively to the president, the Congress and the public, the long-term consequences of permitting US capabilities in science and technology to erode. Data presented in the latest edition of the National Science Board's biennial *Science and Engineering Indicators* show that although the United States retains its preeminence in science, technology and innovation, other nations—particularly China—are rapidly closing the gap. One key to the continuing vitality of the US science and technology system has been the unique partnership between US universities and the federal government forged in the aftermath

of World War II. Since the late 1970s, this partnership has been extended to constitute a three-way partnership with industry. The US is unique in that research universities play a key role in the three-way partnership; they are the principal generators of basic research, which in turn drives the science and technology system.

Moreover, federal support for university research remains crucial to the vitality of US science and technology. Yet that support has been eroding. The annual budget analyses of the American Association for the Advancement of Science indicate that since the mid-1990s, federal support for virtually all university disciplines in science and engineering has remained essentially flat, when measured in inflation-adjusted dollars.

While the success and continued vitality of the US science and technology system is rooted in an effective university-industry-government partnership, trends towards globalization in many areas require us to form new science and technology partnerships with other nations. For example, there is considerable potential for expansion in what has been mutually beneficial scientific cooperation with China. The same is true for other nations committed to scientific progress, such as India.

The next presidential science advisor should be identified between the November elections and the inauguration of the president on January 20, 2009. He or she should be able to communicate effectively to the president and Congress, the crucial role that science must play in helping resolve the multiple challenges faced by the nation. This federal official should be able to communicate the importance of maintaining the unique three-way partnership connecting universities, industry and government. Finally, the next science advisor will need to understand the contribution international scientific partnerships can make to the strength and vitality of the United States, and to the harmony and prosperity of the world.

Richard C. Atkinson is president emeritus of the University of California and a former director of the National Science Foundation.

William A. Blanpied is a former analyst at the National Science Foundation and is on the faculty at George Mason University.