

## SCIENCE POLICY

# Clinton's R&D Achievements Tilt Toward Technology

In an unprecedented three speeches and a roundtable discussion with the media, Vice President Al Gore last week outlined the Administration's accomplishments for the past 3 years in science and technology. Then he joined President Bill Clinton to launch a \$2 billion initiative to link every classroom to the Internet. "We've fielded such a strong scientific team," Gore says. "And it has delivered results."

But what exactly are those results? Working from a list of nine accomplishments that Gore offered during his 12 February speech\* at the annual meeting of the American Association for the Advancement of Science (which publishes *Science*) in Baltimore, *Science* asked experts in each area to rate the

Administration's performance to date. Their conclusion: The Administration has been very vocal in its support of high technology—often in the face of fierce Republican opposition—but has made few radical departures from the policies and programs of its predecessors. At the same time, it has seen eye-to-eye with Congress in most areas of academic research, although budget growth has been stunted by efforts to reduce the deficit.

What follows are the items Gore singled out, and a brief analysis of each:

■ **Extended R&D tax credit.** It is true, as Gore says, that the Administration lobbied Congress in 1993 to extend the R&D tax credit after it had expired. But the credit, introduced in 1981, lapsed again in June 1995, and the Administration has not pushed Congress for another extension, says Roseanne Cutrone, a tax lawyer with the Washington firm of Skadden Arps. In fact, Clinton ve-

toed the congressional reconciliation bill last year that included an extension until December 1996, although the veto was based on other factors. The credit enjoys bipartisan support, but it has never been made permanent because it reduces tax revenues by an average of nearly \$1 billion a year. "We're still waiting for it to be extended," one industry manager says. "This on-again, off-again approach has destroyed its incentive."

■ **Lowered capital gains taxes for R&D investments.** Clinton signed legislation in 1993 that provides benefits for investments in start-up companies that have raised \$50 million or less. "The goal is to drive down the cost of capital for smaller, growing companies," particularly those involved in high-tech ventures, says Kenneth Glueck, vice president for financial and regulatory affairs at the American Electronics Association. He adds, however, that the change was championed by Senate Democrats. "The Administration just responded to the political reality," says Glueck.

■ **Reduced antitrust barriers to joint R&D ventures.** A 1984 law allowed companies to cooperate in joint research ventures without invoking antitrust regulations. Additional legislation to allow joint production ven-

\* Full text available through the World Wide Web at URL: <http://www.aaas.org/spp/dspp/rd/rdwwwpg.htm>



## Science and the Balanced Budget

Now that President Clinton and the Republican Congress are both promising to cut taxes and balance the budget in 7 years, federal spending is headed for a nose dive. Will it take the science budget with it? Not according to Vice President Al Gore. In a brief roundtable with reporters 13 February, Gore said the Clinton Administration's 7-year balanced budget contains "generous amounts" for science and technology programs in comparison with Republican proposals. "President Clinton and I are determined to do everything we can to help" protect research from congressional cuts, Gore said. That promise followed a science-boosting speech at the annual meeting of the American Association for the Advancement of Science last week (*Science*, 16 February, p. 903).

But before scientists break out the champagne, political insiders are warning them to take the vice president's message with a grain of salt. The long-term outlook for science, they say, is at best uncertain.

"The thing that is a little weasily in the vice president's speech is his insistence that the president's budget is so much better than the Republicans'," says one Senate Democratic staffer. In reality, says the aide, mounting pressure from politically powerful lobbyists to fund veterans' needs, highway construction, and law enforcement is certain to take its toll on R&D programs. "Science is on the margins," he notes.

Asked if Gore might get burned by promising too much, an Administration official paused before replying. "Yes ... I would be trying to lower expectations instead of raising them." Besides, the source added, "you're never going to meet the scientific community's expectations."

The vice president won't say exactly how much is set aside for federal R&D between 1997 and 2002, although he was briefed last week on the outlines of the detailed budget that the White House will send to Congress next month. During the media roundtable, Gore said only that "we have a very sensible plan that is adequate to meet our needs." At the same time, he acknowledged that fierce Republican opposition to efforts like the Commerce Department's Advanced Technology Program has forced the Administration to scale back the projected growth for some research programs and industry-government partnerships. "Where it's abundantly obvious that the Congress is not willing to countenance a particular effort, we will necessarily adjust our expectations," he said.

One Administration source says the 1997 request will likely include a 1% to 2% boost in overall civilian science and technology spending, only a slight real decrease given inflation. But other officials caution that final decisions have yet to be made.

It is the longer term that worries many Democrats. For example, Clinton has agreed to make deeper cuts than originally planned over the next 7 years in domestic discretionary funding—which includes almost all civilian R&D spending—in order to shore up Medicare and Medicaid. And that means increased competition for a shrinking pot for money.

Officially, Administration officials say that Clinton sees science as an important element in his investment strategy and that he hopes to shelter it from drastic cuts. "You are not going to see a steep drop in science and technology" through 2002, insists one Administration aide. But others are not convinced. They are wondering whether the vice president's statements last week are evidence of his success in staving off the budget knives, or simply words to reassure an anxious scientific community.

—A.L.



tures built on the fruits of that research was supported by industry and the Bush Administration, but it wasn't passed until shortly after Clinton took office. "We did the work," says William Morin, director of technology policy for the National Association of Manufacturing. "But they brought it to closure, so let them take credit."

■ **Greater patent protection.** Inventors working for small and large companies will benefit from the General Agreement on Tariffs and Trade (GATT) and the North American Free Trade Agreement, which set international standards for patent protection, say patent lawyers and industry representatives. Although negotiations on both agreements were well under way when Clinton took office, his Administration strengthened provisions relating to intellectual property rights. "They have been very aggressive on this front," says Glueck. But some lawmakers argue that GATT provisions will hurt independent inventors, and some House Republicans want to repeal the measures.

■ **More money for research.** This is an area of long-standing bipartisan agreement. The budgets of the National Institutes of Health (NIH) and the National Science Foundation (NSF) have grown since 1993, a continuation of a trend from the Bush and Reagan Administrations, although NSF's growth curve has flattened. There is little disagreement between Republicans and Democrats on the need to protect these two organizations—particularly NIH—from major reductions. "Health research has been a priority for us and for Congress," Gore acknowledged.

■ **Educational technology initiative.** Clinton and Gore last week proposed spending \$2 billion over 5 years to give all teachers and students access to the Internet. Individual states must come up with specific strategies, with money from the Department of Education. The proposal is an expanded version of an initiative proposed last year that has met with skepticism from the Republican Congress.

■ **The National Science and Technology Council.** This new interagency group, chaired by Clinton, is intended to put R&D issues on a par with national security and economic matters. White House officials say it has proved helpful in coordinating a host of science and technology issues, from an interagency lab review to a survey of national security technology. But critics say its many subcommittees produce little but paper, adding that the council offers little real

direction and lacks the clout to limit turf battles among agencies.

■ **Enhanced global environmental research.** Gore is a longtime supporter of environmental research and in particular climate change studies. Most of the programs and budgets that fund such research were put in place while Bush was president and backed by then-Senator Gore, but they have been under fire in the Republican Congress. Although a House Democratic staffer says Gore has shown "an absence of leadership" in protecting the program in this new environment, scientists in the field give the Administration high marks. "I think they've proven their support," says Edward Frieman, a physicist at the Scripps Institution of Oceanography. In particular, he gives the Administration high marks for defending the Earth Observing System, a program to orbit environmental satellites.



■ **Revamped environmental regulations.** The Administration has revamped the way industry meets standards set by the Environmental Protection Agency (EPA) by giving companies more flexibility in choosing what method they want to use to reduce pollution. EPA is also pushing for international environmental management standards through the Geneva-based International Organization for Standardization. These moves do not require congressional approval and have widespread industry support.

Although Gore's list is heavy on helping high-tech industry, say policy analysts, his minimal mention of basic research may actually be a blessing for academia. "By elevating technology, they made it a lightning rod [for attacks by Republicans]," says Morin. Or as one Democratic staffer puts it, "Every program Clinton and Gore like, the Republicans dislike."

—Andrew Lawler

Next week: Health and Human Services Secretary Donna Shalala discusses the Administration's record on biomedicine in an exclusive interview with *Science*.

## ACADEMIC POLITICS

# MIT Torn by Bitter Dispute Over Missile

The Patriot batteries that chased Iraqi Scuds across the desert during the Gulf War have been silent for 5 years now, but there has been no peace for scientists engaged in skirmishes over this anti-missile weapon. The continuing academic battle has focused on the U.S. Army's claim that the Patriots shot down most of the Scuds they targeted. That claim was challenged most directly by Massachusetts Institute of Technology (MIT) physicist Theodore Postol, an authority on ballistic missile defense. In 1992 and 1993 he co-authored analyses suggesting Patriot was a near-total failure in knocking out Scuds.

Postol's work provoked a counterstrike from Patriot's manufacturer, Raytheon Corp. of Lexington, Massachusetts, followed by a series of bitter accusations and investigations within the MIT community that continue to reverberate around campus. Early in the dispute, Raytheon issued a videotape suggesting that Postol had doctored evidence in his study of Patriot's performance. Postol's security clearance was also challenged at one point on the grounds that he may have violated classification rules; after successfully reversing those charges, he began a campaign to clear his name.

In 1994, Postol accused Shaoul Ezekiel, director of MIT's Center for Advanced Engineering Studies, of allowing Raytheon to claim falsely that Ezekiel was critical of Postol's Patriot analysis. And when Ezekiel would not publicly disavow Raytheon's comments, Postol demanded a formal misconduct inquiry. The dispute has dragged on at MIT for 2 years, but this month a faculty investigation produced a final report exonerating Ezekiel of misconduct, while praising Postol's "service to the nation in documenting the ineffectiveness of the Patriot in the Gulf War."

Postol, however, is not letting the matter rest there. He contends that the affair still raises delicate questions about a professor's responsibilities while consulting for industry and about the process by which MIT investigates misconduct charges. Postol also says that these issues are all the more important because any misrepresentations could lead to an inaccurate assessment of a weapons system designed to protect lives on the battlefield.

**Going ballistic.** The clash between Postol and the Patriot's champions erupted