SCIENCE POLICY

Grim Budgets Spur Call to Action

Researchers, university administrators, and policy wonks converged in Washington last week to discuss federal support for R&D and argue about future funding for science and technology programs. Yet amid the fiscal uncertainty, participants at two events—the annual policy colloquium held by the American Association for the Advancement of Science (AAAS, which publishes *Science*) and the President's Council of Advisors on Science and Technology (PCAST)—did come up with a consensus of sorts on two points: R&D spending is almost certain to decline in the next few years, and science advocates must make their cause more visible if they hope to protect their programs.

RICK KOZAK

United front. Despite differences on the budget, Domenici and Gibbons agree that science needs a higher profile.

The problem is that unless the government is willing to clamp down on entitlement programs, the effort to eliminate the deficit will take a big bite out of domestic discretionary programs, which includes all civilian science. "That [domestic] pie is shrinking dramatically," says Senator Pete Domenici (R–NM), who chairs the Senate Budget Committee. "So even if we wanted to do more major science projects, we would have to free up money" from that shrinking account to pay for them. The president's science adviser paints an equally sober picture. "We face some real hard arithmetic," says Jack Gibbons. "The [budgetary] slope is going to be a negative on lots of R&D trends."

Policy-makers therefore are working overtime on ways to maintain federal support for science and technology. At last week's AAAS gathering, Domenici recommended regular meetings between senators and members of the R&D community to discuss the issue, while Gibbons endorsed a national summit on R&D funding. Senator Mark Hatfield (R–OR), the retiring chair of the Senate Appropriations Committee, has said he favors a special legislative panel for key senators involved in science and technology funding decisions. In recent months, studies on the future of U.S. R&D by the National Academy of Sciences and the Council on Competitiveness have proposed ways to raise the political profile of science and technology (*Science*, 1 December 1995, p. 1430; and 5 April, p. 25).

But there remains strong partisan disagreement over how to carve up the existing R&D pie. Gibbons and Domenici used part of their AAAS speeches to take aim at the other side's budget projections for R&D spending through 2002 while downplaying their own proposed cuts. Domenici noted that Republicans last year boosted civilian basic research by almost 3%, and added that he expects another boost in 1997. He accused President Bill Clinton of proposing a 1-year increase for science as a way to bolster his re-election bid while downplaying future R&D budget cuts that would be steeper than those proposed by Republicans. Gibbons, meanwhile, warned his audience that Congress "may be set to follow last year's drastic slashing of federal R&D funding." The first signs, he predicted, will appear in the House budget resolution now being drawn up.

While the rhetoric comes easily, measuring the extent of those cuts is a much more difficult task. A new AAAS analysis of the president's budget plan through 2002 finds that it projects a drop in civilian R&D of almost 12% after adjusting for inflation; the reduction actually reaches 18% in 2000 before rebounding in the final 2 years. Last year a widely cited AAAS analysis pegged proposed Republican cuts over the same period at 33%. Those two numbers are not comparable, however, says AAAS's Kei Koizumi, because many of the 1996 cuts were not enacted. In addition, he notes that the projected rate of inflation over the same period has changed.

Indeed, both sides agree that long-term budget projections have limited value. Gibbons, who in recent weeks has been upbeat about future science budgets, says the analyses border on "the meaningless in the realpolitik of day-to-day budget negotiations," and Domenici recommends taking the projections "with a grain of salt." But ignoring the future is not an option for institutions that depend heavily on federal funding, Charles Vest, a member of PCAST and president of the Massachusetts Institute of Technology, told *Science*. "With either the Administration or congressional viewpoint," he says, "you lose."

–Andrew Lawler

DATA SHARING

Genome Researchers Take the Pledge

When six U.S. genetics labs won multimillion-dollar grants this month to sequence the human genome on grand scale, they agreed to some novel conditions. The sequencers signed on to a set of rules drafted by the donor—the National Center for Human Genome Research (NCHGR) at the National Institutes of Health (NIH)—that will set a high standard of altruism, requiring almost immediate sharing of raw data. *Science* has learned, however, that some of them have qualms about the policy, regarding it as technically too ambitious. NCHGR is therefore likely to encounter further debate and perhaps resistance as it negotiates the policy's details with its grantees.

Francis Collins, NCHGR's director, sketched out the principles when he announced the grants (*Science*, 12 April, p. 188) and provided more specifics in a written statement last week. The 9 April document says that the new standards reflect "the spirit and philosophy of the Human Genome Project," based on recommendations from two panels in 1988—an NIH advisory committee and a National Academy of Sciences panel. These groups concluded that human DNA data should be made available to the public quickly, without legal strings attached. NCHGR also based its policy on a private meeting of top genome researchers and funding bodies, held in Bermuda in February. According to NCHGR, the Bermuda meeting, which was sponsored by the Wellcome Trust, a British philanthropy, "passed a unanimous resolution that 'all human genomic DNA sequence information generated by centers funded for large-scale human sequencing should be freely available and in the public domain in order to encourage research and development. ...'"

In that spirit, NCHGR is asking grantees to release new DNA information "as rapidly as possible." It also wants them to refrain from patenting preliminary data, because this might discourage companies from investing in "subsequent inventions resulting from real creative effort." NIH lacks legal authority to enforce a patenting ban because federal law currently allows grantees to seek patents as they see fit. But NCHGR is requiring grantees to notify NIH soon after they inform their own institutions of a discovery that may be patentable. This will allow NCHGR to "monitor grantee activity in this area to learn whether or not attempts are being made to patent large blocks of primary human genomic DNA sequence." And NCHGR may seek to "restrict or eliminate" the patent rights of any who do.

Although the six sequencing centers have all accepted this new policy in principle—indeed, the investigators all participated in the Bermuda meeting—some researchers concede they have doubts about it, especially the desirability of daily or weekly data release. Some say they're not geared up to hit that stride; others, that such a pace wouldn't leave time for qual-