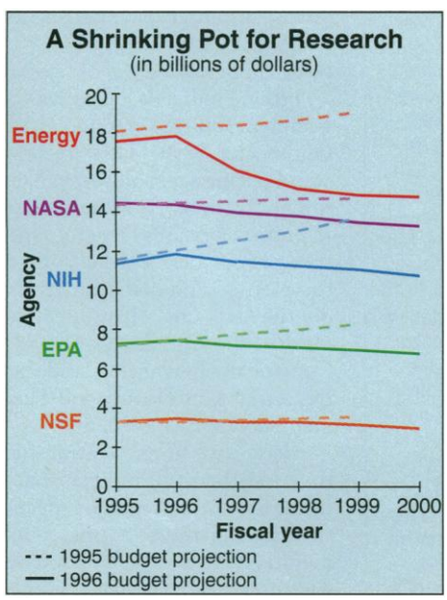
OSTP: A Mixed Midterm Report

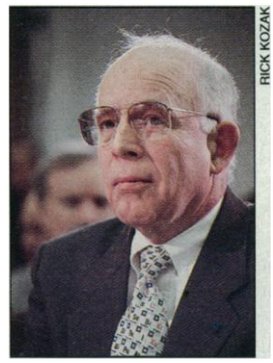
After more than 2 years on the job, science adviser Jack Gibbons gets points for following the vice president's lead, but critics say he's not doing enough to strengthen science

With his genial smile, homespun manner, and long experience serving legislators as head of the congressional Office of Technology Assessment (OTA), science adviser Jack Gibbons rarely receives rough treatment on Capitol Hill. So it was quite a shock when Senator Barbara Mikulski (D–MD) lit into him at a 10 March appropriations hearing. Implying that he was out of the loop when White House officials decided in January to trim billions of dollars from the space program, she bellowed at Gibbons: "Were you in the room when the $5 billion cut was made?" Gibbons responded cautiously, saying he is closely involved with Administration efforts to reduce spending over the next 5 years at the National Aeronautics and Space Administration (NASA)—and that there was more than one meeting. Mikulski persisted: "That's not what I understood from Mr. Goldin [NASA Administrator Daniel Goldin], who told me there were no science people in the room." At that point, Gibbons declined to argue further. "Maybe we're talking about different meetings," he demurred.

Mikulski's unexpected attack reflects growing tensions among advocates of science in a time of tightly constrained budgets. It also reflects frustration that Gibbons and the Office of Science and Technology Policy (OSTP), which he heads, do not appear to have the clout that advocates had hoped for. The personal choice of Vice President Al Gore, Gibbons was part of the first group of White House appointments. He also runs a new panel, the National Science and Technology Council chaired by the president, that gives him unprecedented power to coordinate the science activities of 22 departments and agencies (see box on p. 193).



Diminishing expectations. OMB projections show science budgets declining.



RICK KOZAK

Tough job. Gibbons says his critics should "face the facts" on the budget.

But more than 2 years after Gibbons moved into the Old Executive Office Building, across an alley from the White House, there is widespread dissatisfaction on Capitol Hill with the results. "They're just not producing," says Representative George Brown (D–CA), ranking minority member of the House Science Committee. "And a lot of what they are doing is disconnected from reality." In fact, Representative Robert Walker (R–PA), the chair of the committee, wants to dismantle OSTP entirely and replace it with a more powerful Department of Science, headed by a Cabinet secretary (*Science*, 31 March, p. 1900).

Going by the numbers

These lawmakers are not the only ones who are frustrated. Gibbons himself is angry that his critics—particularly those in the scientific community who are expecting him to produce big increases for basic research—seem out of touch with the new reality of declining government expenditures. "People have got to face the facts," he says with uncharacteristic passion. "And if the science community can't learn arithmetic, who the hell else will?"

So far, he insists, science hasn't fared too badly in that environment. The $72 billion that Gibbons nominally oversees is a most inviting target—making up almost 15% of the so-called discretionary programs in the federal budget. Yet, although overall federal R&D spending remained level in this year's budget request by President Clinton, basic research would rise by 3.5%. Gibbons sees the figures as a major accomplishment; when asked to cite the Administration's R&D achievements, he told *Science*: "Look at the bottom line."

But critics, most of whom declined to speak on the record, say OSTP has at best a mixed record of protecting agencies from cuts. They cite as examples the president's decision to cancel plans by the Department of Energy (DOE) for a $2.7 billion Advanced Neutron Source and the continued shrinkage of NASA's space science program. Notes one senior university scientist, "The numbers are going down, and they are just not being effective."

There is also widespread fear that the fiscal squeeze is going to tighten dramatically in the next few years. The January meetings cited by Mikulski involved decisions by the White House to impose incremental across-the-board reductions, beginning with a 3% cut next year, that rise to 9% by 2000. These figures are supposed to provide a framework for agencies to put together their budgets for fiscal year 1997, which begins 1 October 1996, and beyond. There were exceptions—NASA's space station, for example, as well as the departments of Labor and Justice were declared off-limits—but OSTP failed to win exemptions for the National Science Foundation (NSF) and the National Institutes of Health (NIH).

Administration officials note, however, that the January projections were a nasty surprise, coming just weeks before the 1996 budget was submitted to Congress. And they say it was unfair for Mikulski to blame Gibbons for failing to head off something that affected almost every federal agency. Indeed, Alice Rivlin, director of the Office of Management and Budget (OMB), notes that "very few things were exempted," adding that "those numbers are a first cut, not the final word."

But that is exactly the point Mikulski and Brown are trying to make: They insist that OSTP is not sufficiently influential in important decisions affecting science. Brown and others also accuse Gibbons of raising false hopes for growth in funding by issuing a presidential report last August, "Science in the National Interest," that says "a reasonable long-term goal" for the United States would be to devote 3% of its gross domestic product to research. Achieving that figure, which would boost the nation's R&D spending by $25 billion, would require the federal government to contribute $10 billion to maintain its share of the overall research dollar.

Committee, Anyone?

When President Clinton created the National Science and Technology Council (NSTC) in November 1993, he promised it would "streamline" science policy in the White House and "establish clear goals" for the government's $70 billion R&D investment. With a status equal to the powerful National Security Council it would, on paper, be the most influential body ever established to plan and coordinate R&D programs across the federal government. Science adviser John Gibbons, who staffs the council, calls it a "virtual department" of science and technology.

Instead, what has evolved so far is something far less grandiose: a nearly indecipherable proliferation of panels—nine committees, 37 subcommittees, 21 working groups, and assorted other assemblies, some with more than 40 members—and an ever-growing list of research priorities. "It represents a government council dealing with government matters, and decisions about programs of government, reached by government, after discussions within government," noted Frank Rhodes, president of Cornell University, in a recent speech at the Massachusetts Institute of Technology. Rhodes, who chairs the National Science Board, which oversees the National Science Foundation (NSF), is no novice in the ways of Washington, but he confessed total ignorance about how NSTC functions. "Does it have staff?" he wondered. "Is it open to advice from the scientific community? I have been told it has met once. I find that inconceivable."

Rhodes is correct that the entire science council has met only once, last June. But that hasn't stopped the NSTC's panels from holding numerous gatherings: Each of the nine committees meets at least quarterly, and its subcommittees much more often. "We meet each month and have a nice discussion, but like a lot of committees, it's still looking for a mission," says one official who sits on an NSTC subcommittee. Several committees have also sponsored national forums, for which hundreds of leading figures write brief position papers that are digested by OSTP and turned into Administration policy documents. And the panels are anything but exclusive: One, a subcommittee on environmental technologies, has 58 members.

This churning of paper and people has produced a bewildering array of R&D priorities. Last month, OSTP's biennial report to Congress identified nine priority areas that correlate almost exactly with the names of the council's nine committees. In the same week, each one of those committees issued a strategic planning document that spells out priorities in dozens of areas. The president's 1996 budget request contained a list of six science and technology goals, and last summer a report based on an earlier NSTC forum spelled out five more.

Indeed, there are so many priorities that the Administration seems to have difficulty prioritizing them. For example, one of the seven NSTC initiatives highlighted in the president's budget is a new, $170 million effort on construction and building research. "It's our highest priority," asserts Mary Good, undersecretary for commerce and chair of the NSTC panel overseeing the activity. "The industry of construction represents one eighth of our economy, but there's almost no money being spent on research." However, Tim Newell, an aide to Gibbons, says that although the initiative is important, he doesn't see it as a priority. Rather, he calls it "illustrative" of activities common to all NSTC efforts in that they require interagency cooperation, meet a social goal, and involve public-private partnerships.

Definitions also hinder NSTC's attempt to get a better picture of what kinds of research the federal government buys with its $70 billion. Each year, the Office of Management and Budget asks each agency how much basic and applied research it funds, and this year it added a category for merit-reviewed research. But the Committee on Fundamental Science, co-chaired by NSF's Neal Lane and the National Institutes of Health's Harold Varmus, wanted a number that corresponds to its name. So it took the basic research number—$13.8 billion in fiscal year 1995—added a pinch of applied research (which totals $13.9 billion this year) and some funds for major equipment and facilities, and came up with a new figure—$20 billion—for a category that neither it, nor anyone else in government, can quite define. "We want to make things clearer, not muddier," Lane explains, "but we need to go further."

In spite of such difficulties, Gibbons has high hopes for NSTC. "It's already providing more coherent ways of getting at our science agenda," he says. Then he adds, in his characteristically folksy manner, "It's only 14 months old. That is hardly the gestation period of a horse."

–Jeffrey Mervis

Gibbons defends the number as "a very appropriate goal to talk about." But others see it as an example of how OSTP makes general statements that clash with budget realities. "I question why they put out a paper so wildly divergent from what they're doing in the budget," says Brown.

Power politics

Gibbons's power over federal R&D stems largely from his access to Gore—whom he has known since he worked as a physicist at Oak Ridge National Laboratory in Tennessee, Gore's home state. With a staff of 43 and a budget of only $5 million, Gibbons has no direct control over specific programs. But as part of the executive office of the president he has a bully pulpit to shape the direction of U.S. science and technology policy.

The first science advisers, serving in the midst of the Cold War, spent most of their time working on defense-related issues. But, starting with Yale University physicist Allan Bromley, who served President Bush, the job has increasingly focused on civilian issues. On biomedical research, OSTP has traditionally deferred to the Department of Health and Human Services, in particular the assistant secretary for health. "Jack's not an expert in this area, but his interest is sincere," says NIH Director Harold Varmus, adding that Gibbons has delegated everyday responsibility to biologist M.R.C. Greenwood, associate director for science, who is returning to academia at the end of the month.

That leaves energy, space, basic science, and the environment as the primary focus for OSTP. Space-related matters dominated Gibbons's first year, and his most visible success was deflecting an attack on the space station by Leon Panetta, then OMB director and now Clinton's chief of staff. Gibbons was a loyal soldier in a fight led by Gore and his domestic policy adviser, Greg Simon. OSTP joined with NASA to develop a plan that lopped billions of dollars off the cost of the space station, and Gibbons briefed Clinton on the plan hours before the decisive meeting in February 1993 in the Roosevelt Room. "Jack, I've done my homework," Clinton declared upon entering the room, waving a thick sheaf of papers that outlined the plan he eventually endorsed.

The space station fight set the standard for OSTP's role in White House debates: Gore provides the direction, and Gibbons looks after the details. Close associates say this is the style of management he used at OTA, providing technical advice while avoiding any hint of politics. Gore's interest in global change research, cars that get better mileage and emit less pollution, and sustainable development are, not *coincidentally*,

SOMETHING FOR EVERYONE: THE PRESIDENT'S R&D PRIORITIES

The Clinton Administration has listed various priorities in science and technology. Here are three recent samples:

Science in the National Interest†	National Science and Technology Council Initiatives ††	Federal Priorities in Science and Technology †††
■ Maintain leadership across the frontiers of science	■ Technology and Learning Challenge	■ Health
■ Enhance connections between fundamental research and national goals	■ Partnership for a New Generation of Vehicles	■ Environmental quality
■ Stimulate partnerships that promote investments in fundamental science	■ Construction and Building	■ Economic growth and job creation
■ Produce finest scientists and engineers	■ Physical Infrastructure for Transportation	■ Education and training
■ Raise scientific and technological literacy of all Americans	■ Environmental and Natural Resources (includes Global Change program)	■ Information technology
	■ High-Performance Computing and Communications	■ National security
		■ International science and technology cooperation
		■ World leadership and cooperation in science
		■ Space and aeronautics

SOURCES: † Report issued in August 1994 †† From 1996 Budget Request, February 1995 ††† Science and Technology, March 1995 report to Congress

also areas of great concern to OSTP.

Asked about his accomplishments at a recent and rare press conference, Gibbons cited OSTP's role in brokering the merger of civilian and defense meteorological satellite systems run by the National Oceanic and Atmospheric Administration and the Pentagon and his success at persuading the Defense and Commerce departments to share responsibility for the Landsat remote sensing system. In both cases, Gibbons used Gore's backing to make the deal stick.

There have been failures, too, such as the vote by Congress in 1993 to cancel the $11 billion Superconducting Super Collider. Gibbons had questioned the wisdom of the investment while at OTA and, as the crucial votes loomed, Gore and his staff decided not to make an all-out lobbying effort to save the program in the face of growing cost overruns and managerial problems. However, Gibbons says that the Administration since then has improved morale among high-energy physicists by securing funds to upgrade the Fermi National Accelerator Laboratory's Tevatron and other U.S.-based facilities and by rallying support for Europe's Large Hadron Collider (see p. 195). "We basically have made a silk purse out of a sow's ear," Gibbons says proudly.

The record on other budget battles is mixed. Rivlin, herself a strong supporter of research, overruled an attempt last fall by Gibbons and Greenwood to boost funding for academic facilities. Gibbons argued for $250 million for NSF (the amount Congress had appropriated in 1995 on the stipulation that NSF would match that level in its 1996 request) but backed off when Rivlin asked him what research programs he would cut from NSF's budget to pay for it. Instead, the Administration has requested $100 million.

But OMB and OSTP did work together to add $100 million to DOE's 1996 request for increased use of its big-science facilities. And at the urging of Lionel (Skip) Johns, OSTP associate director for technology, OMB agreed to include funding for a new NASA rocket project. Space scientists also recall with gratitude OSTP's success in 1993 in saving NASA's Cassini mission to Saturn after Jane Wales, OSTP associate director for national security and international affairs, argued that killing the program would damage relations with Europe, which is contributing to the mission.

Getting Gored

In each case, the budget decisions were made after intense, private talks among Gibbons, his staff, and OMB. But OSTP watchers say that the pace has slackened in the past several months, a lull they attribute to Gore's involvement in reinventing government and the White House's attempt to regain the initiative after the Republican takeover of Congress. "It is clear that [Gibbons] has a strong voice in the office of the vice president, but Gore has many other things to do," says Kumar Patel, president of the American Physical Society. "And OSTP is hobbled by that. The vice president is interested in science but doesn't have the time; Gibbons knows a lot about science but doesn't have quite the stature the science adviser should have in the community."

While Gibbons remains on good terms with Gore, his access to Clinton is limited. Scientists fumed when the president's only mention of science in this year's lengthy State of the Union address was to cite a study on plant stress as an example of government waste. Gibbons admitted later that he had not seen a final draft of the speech, but Bromley is unforgiving. "There's no excuse for that," he scolds.

Within the Administration, some officials complain that OSTP schedules too many meetings and demands too much paperwork. And they single out the new science council for special criticism. "It's an OTA [Office of Technology Assessment] approach," says one agency official. "You produce all these white papers and hold workshops, then you put it all together in a big database." In the absence of clear direction from Gore, Gibbons's staff is also blamed for identifying too many priorities (see chart above). "He is a nice man who never says no—and he has an organization that is a bit out of control," says one Administration official.

Gibbons defends his staff, explaining that the president's promise to "reinvent government" forces them to cover a lot of ground. "We're re-examining everything in the portfolio," he says. "This may seem directionless and lacking clear priorities; in fact, it's a way of engaging the NSTC participants in helping us set the priorities."

Being science adviser has never been easy, of course, even when budgets were rising. "The world of science tends to be a weak and disorganized political constituency as well as rather parochial," says William Graham, science adviser to President Reagan. "When the scientific community in the U.S. is challenged, the old joke is that they circle the wagons and shoot inward." Gibbons hopes to reduce the number of casualties inside the executive branch by encouraging agencies to accommodate rather than fight the changes under way, and he points to NASA and DOE as models of responsible downsizing.

In the end, Gibbons believes that he can do more for science by being a team player rather than "an advocate for some special interest group known as the science community." But congressional critics and others are worried that a more forceful approach may be needed to preserve the country's science base. A colleague who has worked closely with Gibbons puts the problem this way: "Pushy people thrive in this environment. And Jack is not a pushy person."

–Andrew Lawler