RESEARCH PRIORITIES

Healy attacks US budgeting system

Washington

THE director of the US National Institutes of Health (NIH) thinks that the federal government, including her political bosses in the White House, should find a better way of deciding how to spend its money on science. Her comments add to the growing debate about allocating scarce resources among increasingly expensive research projects.

Testifying last week before the Committee on Science, Space and Technology of the US House of Representatives, Bernadine Healy complained that "I don't think that we have a mechanism within the executive branch that looks at science priorities". She said that the heads of the dozen or so agencies that pay for most federally funded research never have the chance "to sit around a table and let it all hang out", and that the relative merits of major scientific projects in different fields are never examined.

"Should science have the equivalent of military base closings?" she asked rhetorically. The current system is not designed to ask that sort of question, she replied.

Healy was especially critical of the government's chief tool for that purpose, the Federal Coordinating Council on Science and Technology (FCCSET). "FCCSET is not a policy-setting group. Its members don't have enough clout." And she said that NIH are "left out of most of the high-level debate on science policy" despite the fact that her agency funds half of all the academic research supported by the federal government.

Last week's hearing was the first in a series that the subcommittee plans to hold this spring on setting priorities for the federal funding of science. The end of the Cold War has generated pressure to shift the government's $70,000 million investment in science and technology, now weighted toward defence, to the civilian side. The scientific community is also debating the impact of such costly projects as the space station and the Superconducting Supercollider (SSC) on maintaining an adequate level of support for individual investigators. Those tensions have already spawned reports by foundations, professional societies and government agencies on ways to improve the current budgeting process.

Sitting next to Healy at the witness table was Walter Massey, director of the National Science Foundation (NSF). It was the first time that the heads of the government's two leading agencies for funding basic science has appeared together before the science subcommittee and the first time Healy had been asked to testify before it. But their proximity did not lead them to speak with one voice.

Massey toed the administration's line, saying that FCCSET does a good job of bringing together policy-makers from the various research agencies. "You don't need to create another mechanism", he told Representative Rick Boucher (Democrat, Virginia), chairman of the subcommittee. He suggested that Healy's frustration with the process stems in part from the fact that her agency is represented within FCCSET by its parent, the Department of Health and Human Services (HHS).

But Healy was not finished. She criticized the White House's Office of Science and Technology Policy (OSTP), which oversees the various FCCSET panels, for traditionally "ignoring" NIH and the life sciences. Part of the problem, she said, is that NIH's mission to improve the public health through research means that it "isn't seen as a science agency".

Massey reminded the subcommittee that it was a waste of time to talk about priorities in science without including the Office of Management and Budget, which reviews (and usually reduces) the budget requests of every federal agency. That process pits NIH against the rest of the HHS budget, including such popular social service programmes as Head Start, a pre-school programme for disadvantaged children. "We are not compared with NASA or NSF or the SSC" Healy explained. Asked later if she would prefer to compete against those projects, she replied, "Sure, if it was a fair test".

Jeffrey Mervis

INDUSTRIAL RESEARCH

Report calls UK approach simplistic

London

THE reliance of the UK government on a pipe-line approach to funding civil research is based on a discredited model of innovation, according to a report from the University of Cambridge.

During the 1980s, the government progressively withdrew from funding what it saw as near-market research in industry, on the theory that market forces could best dictate research priorities. Instead, the government concentrated its resources on pre-competitive research, altering the mechanisms by which policy was decided so that it had more control over what work was done.

The result, says the report, is a government policy that is out of touch with reality in both the research laboratory and the shop floor. "It is ironic," says Elizabeth Garnsey, one of the authors of the report, "that the government sees basic science as more predictable than innovation carried out by industry."

According to the report, the government misunderstands how industry react to incentives to invest in research. Although normally only large, established companies have the resources to engage in long-term research, they do not necessarily benefit from the disruption to established markets that innovation invariably causes. To protect their interests, market leaders stifle the flow of ideas by engaging in such practices as pre-emptive patenting.

By the same token, the small companies that were fittest to innovate and stand to gain the most from disrupted markets do not have the funds for long-term research. Not only has the government's approach deprived them of direct funding for near-market research, but administrative complexity has excluded them from more recent collaborative programmes. In addition, many publicly funded research institutes have been privatized, reducing the amount of research in the public domain.

The pipe-line approach to innovation assumes that ideas from basic research flow into industry, which then adapts them for the market. Conventional wisdom among science policy researchers prefers a spiral to a linear model: "All the empirical evidence indicates that innovation is an interactive and iterative process, and one which is frequently user-led. The interactions occur between those initiating technological ideas, those with opportunities for new technological applications and those with user needs", the report says.

Recent adjustments to the LINK programme for industrial/academic collaboration in the United Kingdom, and the launch of the £32 million (US$55 million) SPUR scheme (see *Nature* **349**, 556; 1991) to fund near-market research, indicate that the Government recognizes some of the inadequacies of its approach. However, these changes fall short of what the report feels is necessary.

In a separate document, the group recommends that the government's highly successful SMART award scheme, which funds near-market research in small companies, should be expanded so that it makes awards twice a year, rather than just annually, and rewards all worthy applicants.

Starting with £29 million in 1989 to cover the four-year scheme, the programme has received more money each year as the number of applicants increases. Expanding the scheme as the Cambridge report suggests would mean a dramatic increase in funding.

Ian Mundell