

budget is expected in early April. But major changes are not expected in the broad outlines of Bush's blueprint.

"I am hoping we can improve the initial figures for research. They're not cast in stone yet," says Congressman Vernon Ehlers (R-MI), one of two physicists in the House of Representatives. "NSF is not adequate, and I am worried about DOE. I will put in a lot of time and effort to make sure we get equitable funding across science. In past years, in spite of a sometimes dismal early outlook, it's come out pretty well."

Even before the blueprint was available, various consortia of science groups wrote to the president urging, for example, that funding for DOE's Office of Science and NSF go up by 15% each. And in an op-ed column in *The New York Times* on 9 March, D. Allan Bromley, a nuclear physicist at Yale University who served as President George H. W. Bush's science adviser, summed up: "Congress must increase the federal investment in science. No science, no surplus. It's that simple."

But with the president's clear priorities—education, the military, health, and the tax cut—and no science adviser yet in place, says Bromley, "this year, more than most years, I have the feeling the budget will look like the administration's proposal." Last year's 9% across-the-board increase to science was an anomaly, he adds. "This year we are talking about at most an inflationary increase. . . . Nobody is against science and technology. They just don't realize how closely it is linked to the major thrusts of the new administration. We need to point that out." It may well be that scientific societies and others will find it difficult to make significant changes for 2002, Bromley adds. "We'll have to really focus on 2003."

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ITER Gets Boost from European Commission

For decades, the promise of fusion energy has had a bad rap for hovering perpetually 20 or more years down the road. That's a reputation supporters may soon get a chance to change if cash comes through for the International Thermonuclear Experimental Reactor. In late February, the European Commission included 200 million euros (roughly \$187 million) toward the \$4 billion tokamak in its draft Sixth Framework Programme, the European R&D budget

for 2003–06.

The inclusion of ITER, which is intended to show the feasibility of fusion energy, came after Europe's research ministers gave the project the nod. At an informal gathering in January, they discussed four scenarios: wiping out fusion research, cutting back to a US-style science-only fusion program, proceeding with an ITER that would be constructed abroad, or supporting ITER at a level such that it could be built in Europe. The research ministers favored pursuing the last two options simultaneously, according to observers.

"It's a big step toward proceeding with ITER," says Karl Lackner, who heads the European Fusion Development Agreement from Garching, Germany. "It comes in the wake of other steps, such as the proposal to consider Cadarache [the French nuclear research center] as a site. This sequence builds momentum."

Europe's ITER partners are Japan and Russia, the US having dropped out in 1998. Since then, the plans for ITER have been scaled down in size and cost (see *PHYSICS TODAY*, March 2000, page 65, and September 2000, page 56). At the soonest, construction could start around 2004, with operations beginning eight or so years later.

But fusion researchers' pleasure at the prospect of starting to build ITER is tempered by an overall cut in fusion funding. When the total Sixth Framework Programme had to be trimmed by 300 million euros to 17.5 billion euros, fusion took the brunt, losing 100 million euros. That cut is widely seen as being politically motivated, since Budget Commissioner Michael Schreyer is a member of Germany's Green Party, which opposes fusion energy.

Despite the cut to the fusion budget, Research Commissioner Philippe Busquin pumped up the amount earmarked for ITER, from 120 million to 200 million euros. Asked why by members of the European Parliament, Busquin said, "I think we have to think about this issue. We cannot postpone a decision [on ITER] any longer."

As it stands, the draft Sixth Framework Programme allots 700 million euros for fusion, including the ITER money, falling shy of the 788 million euros in the present budget, which runs through 2002. The European money covers about 40% of Europe's fusion research, with the rest coming from national budgets.

The shortfall is likely to pit ITER against other fusion projects, such as the Joint European Torus in the UK and the Wendelstein 7-X stellarator in

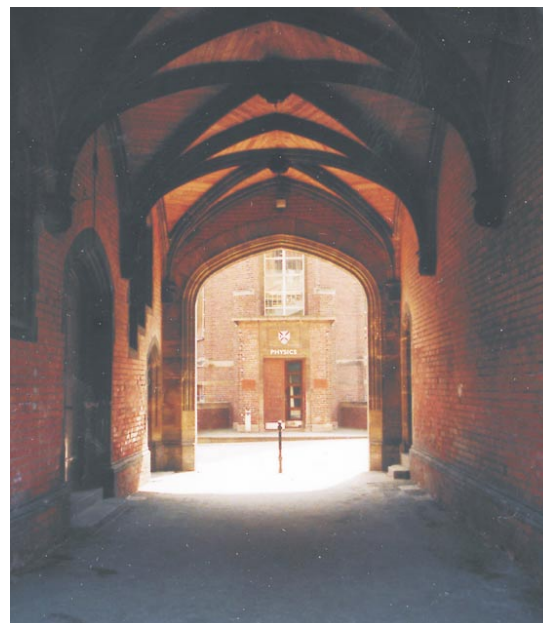
Germany. "It poses a real dilemma," says Lackner. "But the fact that ITER is specifically mentioned means we should use this budget to start something new."

There's a "fighting chance" that fusion funding will be upped, Lackner adds. The Sixth Framework Programme—whose main areas are genomics and biotechnology, information technology, nanotechnology, aeronautics and space, food safety and health risks, sustainable development and global change, and citizens and governance in European society—still has to wind its way through both the European Council, which includes strong proponents of fusion, and the European Parliament, which appears to be divided on this issue. Changes in both the amounts and areas of funding are likely.

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Belfast Boasts New Physics Center

Queen's University in Belfast is setting up a new physics center with £10 million (\$14.4 million) that it recently netted in competitive bidding by Northern Ireland's two universities. Funding for the International Research Centre for Experimental Physics (IRCEP) comes out of a £40 million initiative called SPUR (support for university research), financed equally by the region's Department of Higher and Further Education, Training, and Employment, and by university and private donors.



QUEEN'S UNIVERSITY physics is about to expand.