

WASHINGTON NEWS

NIH and NSF Budget Increases Tempered by Proposed Cuts in Other Science, Technology Programs

The Clinton Administration's proposed science and technology budget takes a major step toward balancing federal support among various research fields, but it could generate adverse consequences for some, according to a report from a committee of the National Academies of Sciences and Engineering and the Institute of Medicine. The report analyzes the Administration's budget request for fiscal year 2001 now under consideration by Congress.

The proposed budget would increase the overall federal investment in the creation of new scientific knowledge and technology by \$674 million, up 1.3% from last year, to a total of \$52.6 billion. However, minus the notable increases of 17.5% for the National Science Foundation (NSF) and 3.7% for the National Institutes of Health (NIH), spending would actually drop 1.4% from last year due to the large cut of 13.9% for the Department of Defense.

"The proposed budget gives a valuable boost to basic research investments

through NSF, whose mission is to promote the progress of science and technology across all fields of research," said James J. Duderstadt, chair of the committee that wrote the report, and president emeritus and university professor of science and engineering, Millennium Project, University of Michigan, Ann Arbor. "However, the abrupt reductions anticipated for the Defense Department could curtail important advances in physics, chemistry, engineering, and many allied fields."

The Defense Department has been a major sponsor of academic research in the physical sciences and engineering. The Administration proposes to cut the department's efforts in advanced technology development by 18.5% and applied research by 9.6%. According to the report, *Observations on the President's Fiscal Year 2001 Federal Science and Technology Budget*, in addition to potentially eroding U.S. global leadership in science and engineering, these decreases in funding levels could undermine the country's capacity to recruit and train the next generation of scientists and engineers in certain fields.

The committee said that the 21st Century Research Fund is an important

step in the Administration's strategy to emphasize basic research and long-term investments that lead to the creation of new knowledge. The Administration proposes to spend \$42.9 billion—an increase of 5% over its recommendation last year—on the fund. Its major benefit is a set of interagency initiatives that include efforts in nanotechnology, information technology, clean energy, and climate change.

The federal research and development (R&D) budget equals only a fraction of the private sector's current R&D investments, which is a reversal of roles in the last 20 years. Since 1987, industry R&D has increased 196%, and the federal share of total U.S. R&D has dropped from 46% to 27%. The report values the growth in industry spending in this area, but cautions that this trend should not lull observers into thinking the federal research budget can consequently be reduced. Public funding supports long-term basic research, which is typically not pursued by private industry in its bid to generate new applications and, ultimately, profits. Nevertheless, industry's investment in applied R&D depends on the continued flow of basic research findings

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and the associated training of scientists and engineers.

Copies of the report are available from the National Academy Press, 2101 Constitution Ave., NW, Washington, DC 20055; 202-334-3313 or 1-800-624-6242.

OSTP Releases Report on ST&E Workforce in the 21st Century

In April, the Office of Science and Technology Policy released a report from the National Science and Technology Council entitled, *Ensuring a Strong U.S. Scientific, Technical, and Engineering Workforce in the 21st Century*. Neal Lane, assistant to the President for science and technology, said, “[The report] reaches two fundamental conclusions about our science, technology, and engineering workforce. First, these workers are essential to both the private and public sectors. In the private sector, they help propel the economy and provide valuable services. In the public sector, scientific, technical,

and engineering workers support important Federal missions.

“Second, it is in the national interest to vigorously pursue the development of domestic science, technology, and engineering workers from all ethnic and gender groups.”

Lane said that unemployment is generally low in science and engineering occupations. However, the report shows concern about the make-up of the science, technology, and engineering (ST&E) workforce in the 21st century. According to the report, non-Hispanic white males have made up a large portion of the ST&E workforce. This population is projected to decrease in the 21st century, the report said, while the population of minority groups, such as Hispanics and African-Americans—which form a much smaller part of the high-tech workforce—are expected to increase markedly in the next 50 years. The report cautions that the number of ST&E workers may decline as a fraction of the total workforce if the relative

participation of these respective groups remains unchanged.

Lane said, “If we want a strong high-tech workforce...high-tech careers will have to become more attractive to everyone in our society—women and men from all backgrounds and all parts of the country.”

The report recommends that federal agencies continue to support research on barriers to full participation of under-represented ethnic and gender groups, emphasize recruitment and retention of qualified individuals from these groups, expand or add programs that effectively overcome barriers such as the transition from one educational level to the next and that address student requirements for financial resources, and establish an Internet site that provides information on ST&E workforce-related programs.

A copy of the report can be accessed at www.whitehouse.gov/WH/EOP/OSTP/html/workforcertpt.pdf (pdf version) and www.whitehouse.gov/WH/EOP/OSTP/html/workforcertpt.html (html version). □

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