

Highlights

President Obama's proposed budget for fiscal year (FY) 2011 continues to propose large increases for the three science agencies in the President's Plan for Science and Innovation, increases for basic research and space research and development (R&D), and the largest increase for the National Institutes of Health (NIH) since their budget doubling. The overall federal investment in research and development (R&D) would decrease slightly, consistent with the three-year freeze on non-security discretionary spending announced during the State of the Union address, but there are significant funding shifts within the federal R&D investment.

– **The proposed federal R&D portfolio in FY 2011 is \$148.1 billion, a slight decrease of 0.3 percent or \$429 million over this year** (see Chapter 1 and Table II-1). Defense R&D spending would decrease by \$4.1 billion or 4.8 percent, but this would be offset by a \$3.7 billion, 5.9 percent, increase in nondefense spending. Agencies with the biggest increases in R&D investment are the National Aeronautics and Space Administration (NASA; \$1.7 billion to \$11.0 billion), the National Institutes of Health (NIH; \$956 million to \$31.4 billion), the Department of Energy (DOE; \$526 million to \$11.2 billion), and the National Science Foundation (NSF; \$479 million to \$5.5 billion).

– **The American Recovery and Reinvestment Act (ARRA) infused \$18.7 billion, a 12.9 percent addition over initial FY 2009 funding, into the federal R&D budget.** Two agencies saw over 50 percent of additional R&D funding above their FY 2009 appropriations; the National Science Foundation (NSF) received \$2.8 billion (58.3 percent additional) in R&D funds and the National Institute of Standards and Technology (NIST) received \$410 million (74.1 percent additional) in R&D funds. NIH (\$10.4 billion in R&D funds), DOE (\$3.0 billion in R&D funds), and NASA (\$790 million in R&D funds) also fared well. ARRA R&D investments will be obligated the end of FY 2010.

– **Total federal support of research (basic and applied) would increase 3.2 percent to \$62.0 billion** (see Table II-1). However, in real terms, this is still down 3.8 percent from the peak in 2004 (see Chapter 2).

- **Federal development spending, however, would decrease 2.9 percent to \$72.7 billion** (see Table II-1). This decrease is largely due to the decrease in defense R&D investment which is largely development spending.
- **The three President’s Plan for Science and Innovation agencies would stay on track to have their budgets double between 2006 and 2017.** NSF would receive a total budget increase of 8.0 percent to \$7.4 billion (see Table II-7 and Chapter 6), National Institute of Standards and Technology (NIST) laboratories (Science and Technology Research and Services; STRS) would see a total budget increase of 12.9 percent to \$584 million (see Table II-14 and Chapter 12), and DOE’s Office of Science total budget would increase 4.4 percent to \$5.1 billion (see Table II-11 and Chapter 8).
- **NASA would undergo a significant reorganization with the retirement of the Space Shuttle and cancellation of the Constellation program,** which includes the Ares rocket and the Orion crew vehicle missions (see Chapter 9). Resources from these programs would be redirected to numerous R&D investments including commercial human spaceflight vehicles (\$6 billion over 5 years), the International Space Station (\$2 billion increase over 4 years), heavy lift and propulsion (\$559 million in FY 2011), and a new Space Technology program (\$572 million in FY 2011).
- **The Department of Defense (DOD) would receive a huge decrease in their S&T (“6.1”-“6.3” & medical) budget request of 16.3 percent (\$2.4 billion) over FY 2010** (see Table II-2 and Chapter 5). Medical research in particular would drop 60.9 percent or \$780 million from FY 2010 to \$500 million. However, basic research and DARPA funding would increase by 6.7 percent and 3.7 percent respectively.
- **The U.S. Department of Agriculture’s (USDA) Agriculture and Food Research Initiative (AFRI) would see their total budget increase 63.4 percent to \$429 million.** AFRI is the leading agricultural research program and USDA awards grants on a competitive basis.
- **R&D investment at the Department of Housing and Urban Development (HUD) would more than double to \$221 million.** This follows an increase of 86.2 percent in FY 2010.