



Budget Review FY 2003

DOE

University of California • Office of Federal Governmental Relations

Partners: The University of California & The Department of Energy

As one of the country's major federal science agencies, the Department of Energy is the largest sponsor of research in the physical sciences and is responsible for a significant portion of federal R&D funding for scientists, researchers and students. DOE supports large and very specialized research at facilities in our national laboratories and universities. This research is focused on finding innovative solutions to enhance the Department's mission areas of national security, energy supply and environmental management. Research is supported both by intramural programs carried out by the DOE laboratories and extramural programs carried out by university and industrial laboratories. The University of California has an interest in both because it manages three DOE laboratories and competes successfully for a large number of extramural awards for research conducted on nine UC campuses.

The University of California works in close partnership with the DOE to manage a multi-program laboratory, the Lawrence Berkeley National Laboratory (LBNL), and two national security laboratories, the Lawrence Livermore National Laboratory (LLNL) and the Los Alamos National Laboratory (LANL). These laboratories have combined annual budgets of over \$3.4 billion, and all three address national priorities through their extensive multi-disciplinary scientific capabilities.

Specific to the campuses, the University of California received 207 awards for a total of \$76.8 million in FY 2001. The largest awards UC receives from DOE are in the areas of energy, environment and health. Examples include the National Institute for Global Climate Change (NIGEC) at UC Davis, the Structural Biology and Molecular Medicine program at UCLA, the Neutrino Physics, Cosmic Rays & Elementary Particles Research Program at UC Irvine, the Institute for Particle Physics at UC Santa Cruz, the Particle Physics Experiment at UC Santa Barbara and a high energy physics program at UC Riverside.

FY 2003 Budget Highlights

The Administration's budget request for the DOE totals \$21.9 billion, the largest request ever, and some \$582 million over the FY 2002 budget.

The FY 2003 request for the Office of Science is \$3.285, a slight increase over FY 2002 (\$3.230 billion). The Office of Science is comprised of six areas of research: High Energy Physics, Nuclear Physics, Advanced Scientific Computing, Fusion Energy Science, Biological and Environmental Research (BER) and Basic Energy Sciences (BES). Each of these areas, with the exception of BER, receives a modest increase in funding for FY 2003. The request includes increased funding for operations and instrumentation at user facilities such as the Advanced Light Source at the Berkeley Lab, which are used by over 18,000 university, industry and government researchers. Finally, the request includes increases in research areas such as nanoscience, climate change, supercomputing, fusion and genome – areas in which the University of California campuses and laboratories play leadership roles.

In the area of National Security, the request for \$8 billion is \$433 million (5.7%) above FY 2002 appropriations. For Weapons Activities, the request is \$5.9 billion, an increase of over \$300 million to support our stockpile

stewardship program, a comprehensive weapons certification program and a robust infrastructure. This level of funding will maintain a skilled workforce and develop and implement tools required to ensure the safety and reliability of the country's nuclear deterrent without performing nuclear tests. The request for nonproliferation and related activities is \$1.2 billion – the highest amount ever – for nonproliferation and related activities, including \$800 million to support nonproliferation programs with Russia.

FY 2003 Budget Request (\$ in millions)	FY 2002	FY 2003 Request	% Change FY02 to 2003
Science			
Biological & Environmental Research	570.3	504.2	-11.59%
Science Laboratory Infrastructure	37.1	42.7	15.00%
Basic Energy Sciences	999.6	1,019.6	2.00%
Energy Research Analysis	995.0	1,020.0	3.00%
Facilities and Infrastructure	157.4	169.6	7.75%
Fusion Energy Sciences Program	247.5	257.3	4.00%
Advanced Scientific Computing Research			
High Energy Physics	713.2	725.0	1.66%
Nuclear Physics	359.0	382.4	6.52%
Weapons and Other Defense Activities			
Directed Stockpile Work	1,044.2	1,234.5	18.22%
Readiness in Technical Base and Facilities	1,534.9	1,688.2	9.99%
Campaigns	2,100.1	2,067.8	-1.54%
Secure Transportation Asset	161.5	155.4	-3.78%
Facilities and Infrastructure Recapitalization	196.8	242.5	23.22%
Safeguards and Security	554.9	509.9	-8.11%
Energy Supply			
Renewable Energy Resources	386.4	407.7	5.51%
Nuclear Energy	294.7	250.7	-14.93%

Key DOE Initiatives

Investment in scientific strength – the request supports greater researcher use of DOE's unique scientific facilities. The funding provided will support over 6,500 of the nation's graduate students and postdoctoral researchers who will be the next generation of scientists. The large, scientific-user facilities are designed, built and operated by the Office of Science and are used each year by over 17,000 researchers, half of whom are from universities. The budget increases operation time by about 15% over FY 2002.

Nanotechnology – The fields of nanoscience and nanoengineering (the ability to characterize, manipulate and move matter atom by atom) are leading to unprecedented understanding and control over the fundamental building blocks of all physical things. In FY 2003 the focus will be on fundamental nanoscale research through investments in investigator-led activities, centers and networks of excellence, as well as the supporting infrastructure. Priority areas include research to enable efficient nanoscale manufacturing, nanotechnology solutions for detection of and protection from biological, chemical, radiological and explosive agents, the education and training of a new generation of workers for future industries, and partnerships and other policies to enhance industrial participation in the nanotechnology revolution. The convergence of nanotechnology with information technology, modern biology, and the physical sciences has the potential to reinvigorate discoveries and innovation in many areas of the economy.

Climate Change Research– the Administration has created two new initiatives: the Climate Change Research Initiative and the National Climate Change Technology Initiative that will complement and help prioritize current, ongoing research as well as provide additional funding for climate modeling.

National Ignition Facility – NIF, which is located at the Lawrence Livermore National Laboratory, is an inertial-confinement fusion ignition center and a key element of the science-based nuclear stockpile stewardship program. The project remains on track and is scheduled for completion at the end of FY 2008.

Advanced Simulation and Computing (ACSI) – The Administration has requested \$724.9 million to support this program which develops simulation and modeling technologies necessary to ensure the safety and reliability of the nuclear weapons stockpile without underground testing.

UC FY 2003 Budget Priorities

- Maintain strong funding of \$214 million for the National Ignition Facility (NIF) project which will allow for continued, but measured, progress on the project.
- Support increased funding for the national user facilities. National User Facilities benefit the research needs of thousands of scientists from universities, national laboratories and private industry every year and enable these scientists to acquire new knowledge that often cannot be obtained by any other means.
- Strengthen the nation's investment in the Department of Energy's Office of Science (SC) programs and facilities by providing an increase of at least \$300 million, for a minimum budget of \$3.580 billion in FY 2003. This increase would be allocated to support a targeted increase in the DOE research infrastructure of \$300 million a year for each of the next five years, allotted as follows:

\$100 million to strengthen core research and education in the physical sciences and engineering performed in universities and national laboratories;

\$100 million to increase the effectiveness and utilization of DOE's world class research facilities;

\$50 million to develop the next generation of scientific research tools; and

\$50 million to advance research and innovation, specifically targeting energy independence and national security.

Though a relatively modest increase in overall funding, this investment will help ensure continued U.S. scientific leadership in key scientific and engineering fields that will benefit the nation for years to come.

- Support at a minimum the request of \$407,720,000 million for Renewable Energy Resources. The Office's broad portfolio of research, development, demonstration and deployment address some of America's most pressing energy security concerns and can assist in the reduction of energy use, leading to savings to consumers and a lessening of dependence on foreign sources of energy.