

Office of Science

(discretionary dollars in thousands)

	FY 2008 Current Appropriation	FY 2009 Current Appropriation	FY 2009 Additional Appropriation	FY 2010 Congressional Request	FY 2010 vs. FY 2009	
					\$	%
Office Of Science						
Science						
High energy physics.....	702,845	795,726	232,390	819,000	+23,274	+2.9%
Nuclear physics.....	423,671	512,080	154,800	552,000	+39,920	+7.8%
Biological and environmental research.....	531,063	601,540	165,653	604,182	+2,642	+0.4%
Basic energy sciences.....	1,252,756	1,571,972	555,406	1,685,500	+113,528	+7.2%
Advanced scientific computing research.....	341,774	368,820	157,110	409,000	+40,180	+10.9%
Fusion energy sciences program.....	294,933	402,550	91,023	421,000	+18,450	+4.6%
Science laboratories infrastructure.....	66,861	145,380	198,114	133,600	-11,780	-8.1%
Safeguards and security.....	75,946	80,603	—	83,000	+2,397	+3.0%
Science program direction.....	177,779	186,695	1,600	213,722	+27,027	+14.5%
Workforce development for teachers and scientists.....	8,044	13,583	12,500	20,678	+7,095	+52.2%
Small business innovation research (SBIR)/Small Business Technology Transfer (STTR) (SC funding).....	92,997	—	19,004	—	—	—
Subtotal, Science.....	3,968,669	4,678,949	1,587,600	4,941,682	+262,733	+5.6%
Congressionally directed projects.....	120,161	93,687	—	—	-93,687	-100.0%
SBIR/STTR (Other DOE funding).....	47,241	—	—	—	—	—
Use of prior year balances and other adjustments.....	-53,188	-15,000	12,400	—	+15,000	+100.0%
Total, Office Of Science.....	4,082,883	4,757,636	1,600,000	4,941,682	+184,046	+3.9%

The FY 2010 **Office of Science** budget request is \$4,941.7 million, an increase of \$184.0 million, or 3.9% above the FY 2009 appropriation. The Science program is the Nation's primary sponsor of basic research in support of a broad array of subjects that lead to improving energy security and related issues including climate change, biomass, hydrogen, solar, genomics, high performance computing, and nanotechnology. The program maintains and operates several major national laboratories and supports thousands of researchers at laboratories and universities nationwide. Funding for each scientific discipline is as follows:

High Energy Physics (HEP) (\$819.0 million)

- HEP conducts research on the nature of matter and energy at its most fundamental level. The FY 2010 request supports research as well as operations of the user facilities at Fermi National Accelerator Laboratory in Batavia, Illinois. HEP is an international partner of the Large Hadron Collider.

Nuclear Physics (NP) (\$552.0 million)

- NP conducts research to understand the structure and interactions of atomic nuclei and the fundamental forces and particles of nature in nuclear matter. NP supports two large user facilities, the Continuous Electron Beam Accelerator Facility (CEBAF) at Thomas Jefferson National Laboratory and the Relativistic Heavy Ion Collider (RHIC) at Brookhaven, as well as two smaller user facilities. Construction continues on the CEBAF 12 GeV Upgrade. NP also supports the Isotope Development and Production for Research and Applications program that was transferred from the Office of Nuclear Energy in FY 2009.

Biological and Environmental Research (BER) (\$604.2 million)

- BER provides the environmental and biological knowledge that promotes national security through improved energy production and use, and conducts research to protect our environment. The FY 2010 request supports major high visibility areas in biological research including the three bioenergy research centers and climate change research to project future changes in the earth's climate and the environment.

Basic Energy Sciences (BES) (\$1,685.5 million)

- BES supports research and operates facilities to provide the foundation for new and improved energy technologies and for mitigation of the environmental impacts of energy use. The FY 2010 request includes support for several high priority research areas such as hydrogen, solar, nuclear energy systems, ultrafast science, carbon sequestration, and nanotechnology. BES also supports several major user facilities including

synchrotron radiation light sources, neutron scattering facilities, and Nanoscale Science Research Centers. Construction continues on the National Synchrotron Light Source-II and is completed on the Linac Coherent Light Source. Energy Frontier Research Centers are maintained at FY 2009 funding levels and two Energy Innovation Hubs are created.

Advanced Scientific Computing Research (ASCR) (\$409.0 million)

- The ASCR program delivers forefront computational and networking capabilities to scientists nationwide. Support is provided for the two Leadership Computing Facilities, as well as for the ongoing National Energy Research Scientific Computing Center (NERSC) and for the Energy Sciences Network (ESnet). ASCR also supports research in mathematics, computation, and computer science with a new effort in advanced computer architecture design.

Fusion Energy Sciences (FES) (\$421.0 million)

- FES is the national research effort to advance plasma science, fusion science, and fusion technology—the knowledge base required for an economically and environmentally attractive fusion energy source. The FY 2010 request includes funding for support of the international ITER project and continued support for research and operation of domestic research facilities including the DIII-D tokamak, Alcator C-Mod tokamak, and the National Spherical Torus Experiment.

Workforce Development for Teachers and Scientists (WDTS) (\$20.7M)

- WDTS ensures that DOE and the Nation have a sustained pipeline of highly trained Science, Technology, Engineering, and Mathematics (STEM) workers. The FY 2010 budget request implements a new graduate fellowship program in support of the Department's Regaining ENERGY Science and Engineering Edge (RE-ENERGYSE) education effort.