# SSTI WEEKLY DIGEST Helping Transform Technology-Based Economies

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> Archive > SSTI Home

#### Special Federal Budget Issue

- Budget Overview
- Department of Agriculture
- Department of Commerce
- Department of Defense
- Department of Education
- Department of Energy
- Department of Health and Human Services
- Department of Homeland Security
- Department of Housing and Urban Development
- Department of the Interior
- Department of Justice
- Department of Labor
- Department of Transportation
- Department of the Treasury
- Environmental Protection Agency
- NASA
- National Science Foundation
- Regional Commissions and Authorities
- Small Business Administration

**Budget Analysis and Agency Summaries** 

#### **Budget Overview**

President Barack Obama's FY13 budget request includes few major changes from FY12 due to the spending cap agreed upon in the Budget Control Act. Funding for most, but not all, TBED-related programs would maintain nearly level funding. The White House is accentuating the budget's generous support for advanced manufacturing, clean energy and STEM education, and again is asking that the R&D tax credit be made permanent.

Comparisons to the previous year's funding level are made against the FY12 budget as enacted, unless otherwise noted.

#### Entrepreneurship, Regional Innovation and Capital Access

Funding for Economic Development Administration programs would be \$182 million (17.3 percent decrease) under the proposed budget. A new initiative, **Regional Innovation Strategies**, would receive \$25 million to encourage regional clusters and innovation and to administer the **i6 and Jobs Accelerator Challenges**. Funding for EDA's other TBED-related grant programs includes:

- Economic Adjustment Assistance \$65.2 million (17 percent increase)
- Partnership Planning \$27 million (6.9 percent decrease)
- Trade Adjustment Assistance \$15.8 million (0.3 percent decrease)
- Technical Assistance \$12 million (3.9 percent decrease)
- Research and Evaluation \$1.5 million (2.4 percent decrease)

The Small Business Administration's (SBA) **Regional Innovation Clusters** program, which supports a number of public-private partnerships to promote development in tech-based industries across the country, would receive \$3.4 million (30 percent decrease).

The Department of Treasury's **New Markets Tax Credit** program would be allocated \$7 billion in credit authority to help attract private sector capital to low-income communities. A portion of these credits would be reserved for a **Manufacturing Communities Tax Credit**, which would focus on investment in communities affected by military base closures or mass layoffs.

The budget would make up to \$16 billion available in **Section 7(a) loan guarantees** through SBA, including \$13.7 billion in term loans and \$2.3 billion in revolving lines of credit. The two SBA Small Business Investment Company (SBIC) programs associated with the Startup America initiative both would have \$200 million in debentures to assist high-potential companies. This includes the **Impact Investment Fund**, which provides a match for private investment capital in underserved communities, and the **Early Stage Innovation Fund**, which matches private investment capital for early stage seed funds.

#### Manufacturing

The administration has emphasized the importance of advanced manufacturing in the proposed budget, claiming \$2.2 billion in support for manufacturing research and development. This figure includes, among other investments:

- DOE Office of Energy Efficiency Advanced Manufacturing program \$290 million (150.9 percent increase over the former Industrial Partnerships program)
- NSF Advanced Manufacturing program \$148.9 million (35.5 percent increase)
- NIST Advanced Manufacturing Consortia program \$21 million (new program)

In addition, the budget would provide \$1 billion for a new **National Network for Manufacturing Innovation**, administered as a collaboration among NIST, NSF and the Departments of Defense and Energy. The effort would support manufacturing technology commercialization and support local manufacturing ecosystems.

The Hollings Manufacturing Extension Program (MEP) would receive \$128 million, a 2.3 percent decrease that would not affect MEP Center Renewals in FY13.

#### Science and Technology

The budget would provide only minimal increases for the federal government's key science agencies. A release from the Office of Science and Technology Policy notes that the budget includes \$140.8 billion for research and development across all agencies, almost the same as FY12. While the White House is still committed to the goal of doubling the budgets of the National Science Foundation, the Department of Energy (DOE) Office of Science, and National Institute of Standards and Technology (NIST) laboratories over the next decade, the budget increases requested for those agencies in FY13 fall short of the seven percent needed to achieve that goal.

While funding essentially would stay level for the major science agencies, several smaller research agencies would receive significant increases. NIST Scientific and Technical Research and Services would receive an \$81 million increase for new initiatives, including \$45 million for advanced manufacturing research. ARPA-E would receive an additional \$75 million to increase its research on transportation systems, stationary power and clean energy. The Department of Agriculture's (USDA) Agriculture and Food Research Initiative would expand its renewable energy and nutrition studies.

Research agency highlights include:

- National Institutes of Health \$30.7 billion (>0.1 percent increase from FY12 estimated)
- National Science Foundation \$7.4 billion (4.8 percent increase from FY12 estimated)
- DOE Office of Science \$5 billion (2.4 percent increase)
- NASA Science \$4.9 billion (3.2 percent decrease)
- Defense Advanced Research Projects Agency \$2.8 billion (negligible increase)
- Environmental Protection Agency Science and Technology \$807.2 million (1.7 percent increase)
- NASA Space Technology \$699 million (21.8 percent increase)
- NIST Scientific and Technical Research and Services \$648 million (14.3 percent increase)
- DHS Research, Development and Innovation \$478 million (79.8 percent increase)
- Advanced Research Projects Agency-Energy \$350 million (27.3 percent increase)
- USDA Agriculture and Food Research Initiative \$325 million (23.1 percent increase)

Funding for multi-agency initiatives includes:

- Networking and Information Technology Research and Development \$3.8 billion (1.8 percent increase)
- U.S. Global Change Research Program \$2.6 billion (5.6 percent increase)
- National Nanotechtechnology Initiative \$1.8 billion (4.1 percent increase)

#### STEM Education

The new **Effective Teaching and Learning: STEM** program would replace the Department of Education's (ED) current Mathematics and Science Partnerships program. Within the program's \$149.7 million allocation, \$80 million would be used for STEM teacher and leader training and professional development in support of the president's goal of preparing 100,000 STEM teachers over the next decade. Another \$30 million in ED funding, together with \$30 million from the National Science Foundation boost government efforts to support STEM education.

The budget includes funding for the **Community College to Career Fund**, a three-year, \$8 billion collaboration between the Departments of Labor (DOL) and Education (ED). The initiative would support state and community college partnerships with businesses that deliver training in emerging fields such as healthcare, clean energy and advanced manufacturing. Grants from this fund would help expand training and internships in local, high-need areas and launch a nationwide, online entrepreneurship course. In FY13, both DOL and ED would contribute \$1.3 billion to the effort.

return to the table of contents

## **Department of Agriculture**

Estimated FY12 funding is used for USDA comparisons, unless otherwise noted

The administration's FY13 <u>budget request</u> for the Department of Agriculture (USDA) is \$154.7 billion, a 4.8 decrease from the estimated FY12 level. Discretionary spending would be \$24 billion (no change) while mandatory spending, the majority of USDA's budget, would grow to \$131 billion (6.5 percent increase). The increase in mandatory spending is primarily due to a one-time shift in the timing of certain crop insurance costs mandated by the 2008 Farm Bill. Mandatory funding for many USDA programs has been omitted due to the need for Farm Bill reauthorization. Please note that, in some cases, the lack of numbers for mandatory spending has affected comparisons to FY12.

The proposed budget would increase funding for research in human nutrition and obesity reduction, food safety, sustainable bioenergy, global food security and climate change through the Agriculture and Food Research Initiative. It also would boost funding for many TBED-related initiatives under Rural Development.

USDA agencies and offices are divided into seven agency groups. These groups include:

Agency Groupings	FY13 Request	Percent Change from FY12 Estimate
Food, Nutrition and Consumer Services	\$115.1 billion	1.1
Farm and Foreign Agricultural Services	\$23.8 billion	35.1
Natural Resources and Environment	\$9.4 billion	(6.7)
Research, Education and Economics	\$2.7 billion	(2.1)
Marketing and Regulatory Programs	\$2.4 billion	1.6
Rural Development	\$2.4 billion	(3.5)
Food Safety	\$1 billion	(0.8)
Other Activities	\$548 million	2.2

Offsetting receipts, rescissions & other adjustments would offset \$2.8 billion of this spending.

USDA's **Research, Education and Economics** agencies would receive \$2.7 billion (2.1 percent decrease) under the proposed FY13 budget. These agencies include:

- <u>National Institute of Food and Agriculture (NIFA)</u> \$1.3 billion (6.1 percent decrease) overall, \$1.2 billion (3.1 percent increase) in discretionary funding;
- Agricultural Research Service (ARS) \$1.1 billion (0.4 percent increase);
- National Agricultural Statistics Service \$179 million (13.2 percent increase); and,
- Economic Research Service \$77 million (no change).

Several NIFA programs are supported through mandatory funding that is subject to Farm Bill reauthorization. They were, therefore, omitted for the USDA budget. Funding for NIFA's discretionary program actually increased, mostly due to a major boost in funding for the **Agriculture and Food Research Initiative (AFRI)**, which would receive \$325 million (23.1 percent increase). A similar increase was proposed last year. The additional funding would expand AFRI's alternative and renewable energy research initiative, food safety research, nutrition and obesity prevention studies and other ongoing research efforts.

The **Agricultural Research Service (ARS)** would shift spending from the New Products/Product Quality/Value Added program and the Crop Protection program to increase funding for the Environmental Stewardship program. The Environmental Stewardship program would receive \$214 million (13.2 percent increase) to create a continent-wide infrastructure to assess the condition and trends of the U.S. agroecosystems. ARS also will partner with NOAA to establish a **Regional Integrated Science and Assessments** program to develop new technologies in agricultural modeling.

A \$20 million increase for the **National Agricultural Statistics Service** would provide funding for the 2012 <u>Census of Agriculture</u>. FY13 is scheduled to be the peak year of activity for the census five-year cycle.

**USDA** <u>Rural Development (RD)</u>, the key USDA office for encouraging rural economic growth, would be funded at \$2.4 billion (3.5 percent increase). Within RD, the <u>Rural Utilities Service (RUS)</u> provides grants, direct loans and loan guarantees to suppliers of electric, telecommunications, water and wastewater services in rural areas; the <u>Rural Housing Service (RHS)</u> delivers rural housing and community facilities programs; and, the <u>Rural Business – Cooperative Service (RBS)</u> offers assistance and financing to cooperatives and other rural businesses. The budget would provide RUS with \$578 million (1.5 percent decrease), RHS with \$1.5 billion (2.3 percent decrease) and RBS with \$132 million (34.3 percent decrease).

In addition to electric, water and telecommunications programs, RUS administers USDA's rural broadband, distance learning and telemedicine programs. The budget request seeks \$9 million (33.3 percent increase) in budget authority to support \$94 million (44.4 percent decrease) in broadband loans and \$13 million (30 percent increase) in broadband grants. RUS would receive \$25 million (no change) to issue in distance learning and telemedicine grants.

RBS is home to most of USDA's programs directly related to technology-based economic development. The proposed \$132 million RBS budget excludes several programs that currently are authorized only through 2012 through the 2002 Farm Bill and that rely on mandatory funds. No numbers are provided for these programs, which include <u>Biorefinery Assistance Guaranteed Loans</u>, mandatory funds for <u>Rural Energy for American Loans and Grants</u>, the <u>Bioenergy for Advanced Biofuels</u> program, and mandatory funds for the <u>Rural Microentrepreneur Assistance Loans and Grants</u>.

The proposed budget would provide no funding for several RBS programs, including <u>Rural Business</u> <u>Opportunity Grants</u>, **Delta Regional Authority Grants** and <u>Rural Energy for America Grants</u>. <u>Rural</u> <u>Economic Development Loans and Grants</u> do not receive budget authorization, but would be allowed to offer \$33 million in direct loans (no change) and \$10 million (no change) in grants.

Many of RBS's programs support the **Rural Innovation Initiative**, which coordinates activities by USDA and other agencies to help rural communities strategically leverage existing resources for economic development. These programs contribute a portion of their funding to the initiative and support communities that are involved with the initiative through their awards.

RBS's discretionary programs include:

- <u>Business and Industry Guaranteed Loans</u> \$56 million (24.4 percent increase) authorized for \$821 million (1.2 percent increase) in loans to provide protection against loan losses to establish, expand or modernize rural businesses, particularly those involved in local and regional food systems, the Regional Innovation Initiative and renewable energy development;
- <u>Rural Business Enterprise Grants</u> \$30 million (25 percent increase) for grants for small and emerging rural businesses, particularly those involved in the Rural Innovation Initiative;
- Value-Added Agricultural Product Market Development \$15 million (7.1 percent increase) for grants for value-added projects, particularly those involved in the Rural Innovation Initiative;
- **<u>Rural Cooperative Development Grants</u>** \$13 million (18.2 percent increase)
- Intermediary Relending Program \$6 million (no change) in funding to support \$19 million (5.6 percent increase) in loans to support distribution systems for local products;
- <u>Rural Energy for America Guaranteed Loans</u> \$5 million (150 percent increase) in discretionary funding to support \$19 million (216.7 percent increase) in loans for renewable energy systems, energy efficiency improvements, energy audits and feasibility studies, particularly those involved in the Rural Innovation Initiative; and,
- Rural Microentrepreneur Assistance Program Guaranteed Loans \$3 million (new funding) to support \$22 million in loans to establish reserves for relending to microentrepreneurs, which would also be used to support the Regional Innovation Initiative.

return to the table of contents

# **Department of Commerce**

The administration's discretionary FY13 <u>budget request</u> for the Department of Commerce totals \$8.0 billion (2.2 percent increase over FY12 enacted levels). The request for mandatory spending is \$1.3 billion (572 percent increase). This includes \$1.2 billion for the Public Safety Broadband Network within the <u>National Telecommunications & Information Administration</u>, and \$1 billion for the National Network for Manufacturing Innovation under the <u>National Institute of Standards & Technology</u>. This mandatory spending request also includes Spectrum Auction Receipts from the Public Safety Trust Fund, with a gain of \$1.2 billion.

In addition, because the <u>U.S. Patent and Trademark Office</u> now is allowed to use all their fees collected during the patent process, they essentially are off-budget.

Discretionary funding for DOC's TBED-related component offices (including salaries and expenses) includes:

DOC Component	FY13 Request	Percent Change from FY12 enacted
National Oceanic and Atmospheric Administration	\$5.1 billion	3.2
Bureau of the Census	\$970.4 million	9.4
National Institute of Standards and Technology	\$859.8 million	13.1
International Trade Administration	\$517 million	13.5
Economic Development Administration (see explanation below)	\$219.7 million, \$182 million for EDA programs	(0.7), (17.3) for programs
Bureau of Industry and Security	\$102.3 million	1.3
Economic and Statistical Analysis (formerly Economics and Statistics Administration)	\$100.3 million	4.4
Departmental Management	\$56 million	(1.8)
National Telecommunications and Information Administration	\$46.9 million	3
Minority Business Development Agency	\$28.7 million	(5.4)

#### National Oceanic and Atmospheric Administration (NOAA)

The FY13 budget request for NOAA totals more than \$5.0 billion (3.2 percent increase) in discretionary funds. This level of funding would provide \$3.2 billion for Operations, Research and Facilities and \$1.9 billion for Procurement, Acquisition and Construction. Major NOAA programs include:

- <u>National Weather Service (NWS)</u> \$874.8 million (3.1 percent decrease) to provide weather, water, and climate forecasts;
- <u>National Marine Fisheries Service (NMFS)</u> \$807.8 million (1.7 percent increase) for management and conservation of marine resources;
- <u>National Ocean Service (NOS)</u> \$458.5 million (1.5 percent decrease) to deliver scientific, technical, and resource management services;
- <u>Oceanic and Atmospheric Research (OAR)</u> \$403.4 million (7.1 percent increase) for research and development and to improve NOAA climate, weather, coastal, and ocean services; and,
- <u>National Environmental Satellite, Data, and Information Service (NESDIS)</u> \$191.1 million (6.1 percent increase) for the procurement, launch, and operation of the country's civil operational environmental satellites.

#### National Institute of Standards and Technology (NIST)

The FY13 request for NIST totals \$859.8 million (13.1 percent increase), including \$648 million (14.3 percent increase) for the laboratory research programs of Scientific and Technical Research and Services (STRS). Within the STRS allocation, \$135 million would be reserved for research in advanced manufacturing, including \$81 million for new initiatives. These initiatives include:

- Advanced Manufacturing \$45 million in funding for new laboratory research programs to support biomanufacturing, nanomanufacturing, the Materials Genome Initiative, smart manufacturing and a new \$5 million NIST Manufacturing Fellows program;
- NIST Centers of Excellence \$20 million to provide grants for four new Centers of Excellence in measurement science;
- Forensic Science, Advanced Communications, and Disaster Resilience \$20 million for additional research in these areas; and,
- National Strategy for Trusted Identities for Cyberspace (NSTIC) \$8 million for additional grants for the NSTIC initiative.

Funding for NIST's **STRS extramural grants** would be reduced by \$12 million, including a \$6 million reduction in one-time grants and another \$6 million reduction in lower-priority research areas.

The remaining \$209 million of NIST's budget would be dedicated towards facilities construction (\$60 million, 8.3 percent increase) and Industrial Technology Services (\$149 million, 16 percent increase). The <u>Technology Innovation Program (TIP)</u> and the <u>Baldrige Performance Excellence Program (BPEP)</u> have been phased out, and no budget requests were made for these programs for FY13. Programs in the Industrial Technologies Services budget include:

- <u>Hollings Manufacturing Extension Program (MEP)</u> \$128 million (2.3 percent decrease) for continuation of the program, which would not affect MEP Center renewals in FY13; and,
- Advanced Manufacturing Technology Consortia (AMTech) Program \$21 million, for a new
  program that would provide grants to leverage existing consortia or create new consortia to
  develop long-term industrial needs and fund research dedicated to meeting those needs. This
  program was proposed in the FY12 budget request, but received no appropriations.

In addition, the budget requests \$1 billion for mandatory funding to establish a **National Network for Manufacturing Innovation (NNMI)**. This fund would be a collaboration among NIST, NSF, and the Departments of Defense and Energy to create a nationwide network of institutes to promote the development of new manufacturing technologies with broad applications. These Manufacturing Innovation Institutes would support manufacturing technology commercialization and support local manufacturing ecosystems.

#### International Trade Administration (ITA)

The FY13 request for the ITA is \$517 million (13.4 percent increase). The majority of the increase in the ITA budget request is seen in the **Trade Promotion and U.S. Foreign Commercial Service** line item, which would rise to \$318.2 million (17.7 percent increase). The Import Administration service also would garner an increase to \$84.8 million (21.5 percent increase).

#### **Economic Development Administration (EDA)**

Under the proposed budget, EDA would receive \$19.7 million (0.7 percent decrease, excluding a onetime \$200 million injection of disaster recovery assistance in FY12). Of the proposed amount, \$182 million is allotted for EDA's programs (17.3 percent decrease). The remaining funding is reserved for salaries and expenses.

The FY13 request for the EDA includes the creation of the Regional Innovation Strategies program, a follow-up to the proposed Regional Innovation Program from the FY12 administration request. The proposal also removes the **Sustainable Economic Development** program, which received no funding in FY12. Overall, the FY13 grant discretionary funding request for EDA totals \$180 million (18.2 percent decrease). EDA's FY13 focus will be on directing resources to distressed communities, and to continue its inter-agency programs **i6 Challenge** and the **Jobs and Innovation Accelerator Challenge**.

Although still the largest total discretionary fund budgeted, the **21st Century Innovation Infrastructure** program also has the largest proposed budgetary decrease. This reduction is part of EDA's shift away from capital projects and towards more regionally-focused investment projects. The budgetary decrease is a reallocation of resources towards other EDA programs, namely into Economic Adjustment Assistance and the Regional Innovation Strategies programs.

**Economic Adjustment Assistance** would receive a 17.1 percent increase in the FY13 budget request. The increase in funding will be used to provide more support for communities to develop and implement strategies which will better leverage existing community assets.

The **Regional Innovation Strategies** is a new initiative that is allocated \$25 million under the FY13 budget request. The Regional Innovation Strategies program is intended to encourage innovation, regional collaboration, and regional innovation clusters. As part of this, Regional Innovation Strategies will assume administration over the i6 and Jobs and Accelerator Challenges. In addition, \$7 million would be used for science park loan guarantees.

EDA Grant Category	FY13 Request	Percent Change from FY12 enacted
21st Century Innovation Infrastructure	\$65.5 million	(52.7)
Economic Adjustment Assistance	\$65.2 million	17
Partnership Planning	\$27 million	(6.9)
Regional Innovation Strategies	\$25 million	New
Trade Adjustment Assistance	\$15.8 million	(0.3)
Technical Assistance	\$12 million	(3.9)
Research and Evaluation	\$1.5 million	(2.4)

#### National Telecommunications and Information Administration (NTIA)

The NTIA would receive \$47 million (2.2 percent increase) to manage the radio spectrum and telecommunications research. It also would continue to administer and provide oversight of \$4.2 billion in broadband grants. As part of the National Wireless Initiative, NTIA would provide initial funding to establish a **Public Safety Broadband Corporation** to oversee deployment and operation of a nation-wide broadband network.

return to the table of contents

## **Department of Defense**

The FY13 <u>budget request</u> for the Department of Defense (DOD) provides \$525.4 billion in base discretionary funding (1.0 percent decrease) and \$88.5 billion (26.6 percent decrease) for Overseas Contingency Operations (OCO). Much of the reduction comes from operation reductions in both Iraq and Afghanistan. The decreases are part of the long-term plan to reduce defense expenditure by FY17.

**Research, Development, Testing and Evaluation (RDT&E)** would receive \$69.4 billion (2.8 percent decrease) in FY13. This includes \$11.9 billion for early stage science and technology programs, specifically in bio-defense, cybersecurity, information access, robotics, advanced computing, and cleaner and more efficient energy use.

FY13 budget request for DOD RDT&E by military branch (in millions of dollars, change from FY12
estimated)

	Army	Navy	Air Force	Defense-Wide
	Ашу	inavy		Deletise-wide
Basic Research	446 (+8.0%)	605 (+6.7%)	517 (+4.4%)	554 (+2.8%)
Applied Research	886 (+3.0%)	792 (-4.2%)	1,121 (-4.2%)	1,720 (-2.8%)
Advanced Technology				
Development	928 (-14.8%)	592 (-18.9%)	607 (-5.7%)	3,216 (+5.1%)
Demonstration/Validation	600 (-23.4%)	4,342 (-6.5%)	1,213 (+12.7%)	6,256 (-13.7%)
Engineering and				
Manufacturing				
Development	3,278 (-12.2%)	5,784 (-15.0%)	4,820 (+13.4%)	720 (-20.4%)
Management Support	1,145 (-3.1%)	845 (-19.0%)	1,209 (-15.3%)	945 (-32.0%)
	1,145 (-5.176)	045 (-19.076)	1,209 (-15.576)	945 (-52.076)
Operation System Development	1,618 (+10.7%)	3,986 (-8.6%)	16,072 (-17.8%)	4,728 (-13.1%)
	1,010 (110.770)	0,000 ( 0.070)	10,072 (17.070)	-,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Total	8,901 (-6.5%)	16,946 (-10.7%)	25,559 (-10.7%)	18,139 (-10.9%)

Programs recommended for termination include the **High Mobility Multi-Wheeled Vehicle** (\$200 million in FY12), **Medium-Range Maritime Unmanned Aerial System** (\$200 million), **RQ-4 Global Hawk Block 30** (\$800 million), **C-130 Avionics Modernization Program** (\$300 million), and **C-27J Joint Cargo Aircraft** (\$200 million). Between these terminations and other project and program restructuring, \$75 billion would be saved from FY13-FY17. Funding levels for DOD research agencies in the FY13 budget include:

- Defense Advanced Research Projects Agency (DARPA) \$2.8 billion (negligible increase);
- Chemical and Biological Defense Programs \$1.1 billion (3.5 percent decrease);
- Defense Threat Reduction Agency \$498.2 million (6.4 percent decrease);
- <u>Defense Information Systems Agency</u> \$255.6 million (12.9 percent decrease); and,
- Defense Logistics Agency \$296.3 million (FY12 figures unavailable).

return to the table of contents

# **Department of Education**

Estimated FY12 funding is used for ED comparisons, unless otherwise noted

The administration has requested \$69.8 billion (2.5 percent increase from the estimated FY12 level) for the Department of Education (ED) <u>budget in FY13</u>, including \$47 billion (3.8 percent increase) for discretionary programs and another \$22.8 billion (no change) in discretionary funds for Pell Grants.

The FY13 request of \$36.1 billion (including discretionary and mandatory funds, 13.1 percent decrease) for <u>Pell Grants</u> would make funding available to more than 9.7 million students (1.5 percent increase). The maximum Pell award would increase to \$5,635, an \$85 increase with \$4,860 from discretionary funding and \$775 from mandatory funds, and ED proposes measures to ensure full program funding through the 2014-15 academic year.

ED budget items related to science, technology engineering and mathematics (STEM) include:

- Effective Teaching and Learning: STEM \$149.7 million, which would replace the current <u>Mathematics and Science Partnerships</u> program at level funding. Funds would be used to support state implementation of comprehensive, evidence-based plans, professional development to provide high-quality STEM instruction, and for subgrants in high need areas. From this allocation, an \$80 million set-aside is proposed for STEM teacher and leader training and professional development to support the president's goal of preparing 100,000 effective STEM teachers over the next decade.
- Investing in Innovation (i3) program \$150 million (0.4 percent increase) to build on the first three i3 competitions by supporting grants to develop, validate and scale up practices, strategies or programs to improve student outcomes. Priority could be given to projects proposing to improve STEM subjects. In addition, a portion of the request would support the Advanced Research Projects Agency-Education (ARPA-ED) to pursue breakthrough developments in educational technology and learning systems, support systems for educators, and educational tools.
- Fund for the Improvement of Education \$36.3 million (11 percent decrease) including \$30 million for a STEM initiative to be jointly administered with the National Science Foundation. The remaining \$6.3 million would be used for services for disconnected youth and the Data Quality Initiative.

Other DOE programs to improve college completion and the skilled workforce include:

- <u>Fund for the Improvement of Postsecondary Education</u> \$70 million, including \$55.5 million to support a new **First in the World** initiative, modeled on the Investing in Innovation (i3) program, which would provide "venture capital" to colleges and universities to develop strategies to promote college completion; and,
- Community College to Career Fund \$1.3 billion in FY13 for an \$8 billion joint effort with the Department of Labor to improve access to job training and support state and community college partnerships with businesses. The Department of Education would contribute \$4 billion over three years. See the Budget Overview for details.

The proposed budget requests \$621.2 million (4.6 percent increase) for the <u>Institute of Education</u> <u>Sciences</u> (IES). The increase would allow IES to award up to \$30 million in education research and development grants. The IES budget includes \$202.3 million (6.6 percent increase) for **research**, **development**, and **dissemination**.

The Department of Education would contribute \$25 million to the \$125 million **Workforce Innovation Fund** to engage States and localities in identifying better ways of delivering services, breaking down program silos, and paying providers for success. The Departments of Labor and Education would jointly administer the Fund. <u>See the Department of Labor section for details.</u>

return to the table of contents

# **Department of Energy**

The Administration's FY13 <u>budget request</u> would provide \$27.2 billion (3.2 percent increase over FY12 enacted level) in discretionary funding to the Department of Energy (DOE).

Under the proposed budget, the Office of Energy Efficiency and Renewable Energy (EERE) and the Advanced Projects Research Agency – Energy (ARPA-E) would have their allocations increased by more than 25 percent. Funding within the DOE Office of Science also would increase, particularly within the Basic Energy Sciences program.

DOE offices include:

		Percent Change from FY12
Office	FY13 Request	Enacted
National Nuclear Security Administration	\$11.5 billion	4.9
Environmental Management	\$5.7 billion	(1.1)
Science	\$5 billion	2.4
Energy Efficiency and Renewable Energy	\$2.3 billion	29.1
Nuclear Energy	\$770.4 million	(10.3)
Fossil Energy	\$650.8 million	(15.3)
Advanced Research Projects Agency – Energy	\$350 million	27.3
Corporate Management	\$246.2 million	(1.1)
Legacy Management	\$177.9 million	4.9
Electricity Delivery and Energy Reliability	\$143 million	2.8
Credit (Loan) Programs	\$9 million	50
Other	\$71.8 million	-

The <u>National Nuclear Security Administration</u> would receive \$11.5 billion (4.9 percent increase) under the proposed budget. This appropriation would include \$7.6 billion (5 percent increase) for **Weapons Activities**, \$2.5 billion (7.1 percent increase) for **Defense Nuclear Nonproliferation**, \$1.1 billion (0.8 percent increase) for **Naval Reactors**, and \$411.3 million (0.3 percent increase) for the **Office of the Administrator**.

The <u>Office of Science</u> would receive \$5 billion under the FY13 request, a 2.4 percent increase from FY12. The office supports, selects and manages DOE energy projects, operates DOE's scientific facilities and manages the design and construction of new facilities. The increase would expand research in Basic Energy Sciences, Advanced Scientific Computing, and Biological and Environmental Research.

Highlights among the Office of Science research programs include:

- <u>Basic Energy Sciences</u> \$1.8 billion (6.6 percent increase), which would increase funding for construction of the Linac Coherent Light Source-II, Synchrotron Radiation Light Sources facilities and project costs, and for Condensed Matter and Materials Physics Research;
- <u>High Energy Physics</u> \$776.5 million (1.8 percent decrease), which would conclude its International Linear Collider program and the Tevatron Collider, leading to the decrease;
- <u>Biological and Environmental Research</u> \$625.3 million (2.6 percent increase), which would increase its investment in Environmental System Science and Climate and Earth System Modeling;
- <u>Nuclear Physics</u> \$526.9 million (3.7 percent decrease), which would decrease spending on the Low Energy Nuclear Physics subprogram;
- <u>Advanced Scientific Computing Research</u> \$455.6 million (3.3 percent increase), which would open an additional co-design center and new science applications to address the challenges of data-intensive science at scientific user facilities and support the development of new tools and software to mitigate the difficulties of data-intensive science;
- <u>Fusion Energy Sciences</u> \$398.3 million (0.7 percent decrease), which would reduce domestic research in most areas, but increase funding for facility operations; and,
- <u>Workforce Development for Teachers and Scientists</u> \$14.5 million (21.6 percent decrease), which would have funding eliminated for the Science Graduate Fellowship Program.

The Office of Energy Efficiency and Renewable Energy (EERE) would receive a substantial increase in funding under the proposed FY13 budget. The budget would provide \$2.3 billion (29.1 percent increase) to EERE, which supports clean energy research, development, demonstration and deployment. The new Advanced Manufacturing program, which would replace the Industrial Technologies program, would allow DOE to expand R&D on innovative manufacturing processes and advanced industrial materials. Major EERE programs include:

- <u>Vehicle Technologies</u> \$420 million (27.7 percent increase), which would support expanded research on advanced battery technology and manufacturing;
- <u>Building Technologies</u> \$310 million (41.4 percent increase), which would support an increased emphasis on advanced building HVAC systems, and enhanced sensor and control technologies;
- <u>Solar Energy</u> \$310 million (7.3 percent increase), which would support the SunShot Initiative to make solar energy cost-competitive nationwide by the end of the decade;
- <u>Advanced Manufacturing</u> \$290 million (150.9 percent increase), which was formerly known as Industrial Technologies and would support partnerships with industry to support high-risk, nextgeneration manufacturing technologies;
- <u>Biomass and Biorefinery RD&D</u> \$270 million (35.5 percent increase), which would expand research on producing hydrocarbon fuels from biomass and institute a pilot program to support the transition of new technologies for the production of drop-in hydrocarbon fuels into pilot-scale biorefineries;
- <u>Weatherization and Intergovernmental Activities</u> \$195 million (52.3 percent increase), which would sustain essential weatherization production, training and infrastructure for Recovery Act grantees as those funds are depleted;
- <u>Wind Energy</u> \$95 million (1.9 percent increase), which would shift its focus from onshore to offshore wind technology research;
- <u>Hydrogen and Fuel Cell Technologies</u> \$80 million (22.8 percent decrease), which would focus on high-impact fuel cell deployments with industry and government partners;
- <u>Geothermal Technology</u> \$65 million (71.7 percent increase), which would support enhanced geothermal test site activities and projects; and,
- <u>Water Power</u> \$20 million (66 percent decrease), with a reduction due to the completion of several multi-year projects.

DOE's <u>Office of Nuclear Energy</u> would receive \$770.4 million (10.3 percent decrease), with no funding for the office's **Integrated University Program**. Major Nuclear Energy research programs include:

- Fuel Cycle R&D \$175.4 million (5.8 percent decrease);
- Reactor Concepts R&D \$73.7 million (35.9 percent decrease); and,
- Nuclear Energy Enabling Technologies \$65.3 million (12.5 percent decrease).

The Office of Fossil Energy (FE) would be allocated \$650.8 million (15.3 percent increase) in FY13. The Fossil Energy Research and Development Office (FER&D), which develops technologies to enhance the clean use of domestic fossil fuels, would receive \$420.6 million (21.3 percent increase), though proposed adjustments totaling \$187 million in FY12 and \$7.9 million in FY13 would amount to a decrease in funding. Funding for the FER&D Coal program would fall to \$275.9 million (25.1 percent decrease), and Natural Gas Technology would increase to \$17 million (13.4 percent increase).

The <u>Office of Energy Delivery and Energy Reliability (OE)</u> would receive \$143 million (2.8 percent increase) under the proposed budget. The office leads national efforts to modernize the electric grid, enhance security and reliability of the energy infrastructure and facilitate recovery from disruptions to the energy supply. OE's **Research and Development** program would receive \$103.4 million (4.3 percent increase). While most of OE's R&D programs would be reduced, the budget provides funding for a new **Electricity Systems Hub** that would offset those reductions. These programs include:

- Clean Energy Transmission and Reliability \$24 million (5.5 percent decrease), which would close out research related to the integration of variable resources into the transmission system;
- Electricity Systems Hub \$20 million (new program), which would address barriers associated with modernizing the U.S. electrical grid;
- Energy Storage \$15 million (24.6 percent decrease), which would discontinue projects on Naion batteries and Li-ion batteries for community storage and would leverage state funding sources;
- Smart Grid Research and Development \$14.4 million (39.7 percent decrease), which would closeout funding for power electronics research to focus on current device compositions and build on research done at ARPA-E and the Office of Science; and,
- **Permitting, Siting and Analysis** \$6 million (14.3 percent decrease), which had received enhanced funding in FY12 to support collaborative efforts with states, regional entities and tribes on advanced transmission systems and market approaches.

Funding for <u>ARPA-E</u> would rise in FY13 to \$350 million (27.3 percent increase). ARPA-E plans to increase the number of programs it offers in Transportation Systems and in Stationary Power, and to work with the Department of Defense to develop advanced clean energy technologies.

return to the table of contents

# **Department of Health and Human Services**

Estimated FY12 funding is used for HHS comparisons, unless otherwise noted

The administration's <u>FY13 request</u> for the Department of Health and Human Services (HHS) is \$76.7 billion in discretionary spending, reflecting a 0.3 percent decrease from the FY12 estimated budget. The reduction in discretionary funding for ongoing activities and legislative proposals would save an estimated \$350.2 billion over the next 10 years. Discretionary spending accounts for only 8.2 percent of the total HHS budget. Mandatory spending for programs like Medicare, Medicaid and the Children's Health Insurance Program accounts for the balance. Total FY13 outlays for HHS are requested aa \$940.9 billion (7.9 percent increase).

While the total HHS discretionary change is negligible between fiscal years, there are several revisions in priorities within the HHS budget. For instance, among the agencies within HHS discretionary spending are (listed by FY12 estimated size):

Agency	FY13 Request (\$ millions)	Percent Change from FY12
National Institutes of Health	\$30.7 billion	_
Health Resources and Services Administration	\$6.1 billion	(2.2)
Centers for Disease Control and Prevention	\$5.1 billion	(11.6)
Substance Abuse and Mental Health Administration	\$3.2 billion	(5.9)
Food and Drug Administration	\$2.5 billion	0.5
Agency for Healthcare Research and Quality (program level)	\$409 million	0.1

The <u>Office of the National Coordinator for Health Information Technology</u> would receive \$66 million, \$5 million above the FY12 estimated budget (8.2 percent increase) to accelerate the adoption of health IT and promote electronic health records.

The FY13 budget includes \$599 million for core patient-centered health research activities and to disseminate research findings, train the next generation of patient-centered outcomes researchers and improve data capacity. Of the proposed funding, \$78 million would come from the Patient-Centered Outcomes Research Trust Fund established by the Affordable Care Act. The funding primarily would support research conducted by <u>National Institute of Health</u> (NIH), core research activities within the <u>Agency for Healthcare Research and Quality</u>, and data capacity activities within the <u>Office of the Secretary</u>.

Through the Public Health and Social Services Emergency Fund, the request includes \$547 million for the **Biomedical Advanced Research and Development Authority**, an increase of \$132 million over the estimated FY12 budget (31.8 percent increase), to improve existing and develop new next-generation medical countermeasures to mitigate the medical consequences of potential chemical, biological, radiological, and nuclear threats.

The budget also provides \$50 million to establish a **Strategic Investment Corporation** that would function as a public/private venture capital fund providing companies developing medical countermeasures with the necessary financial capital and business acumen to improve the chances of successful development of new medical countermeasure technologies and products. The Strategic Investment Corporation was proposed in the FY12 budget for \$100 million. However, it received no funding in FY12.

#### National Institutes of Health (NIH)

In FY 2013, NIH estimates the FY13 funding request of \$30.7 billion (equal to the FY12 estimated budget) would support a total of 35,888 research project grants, including 9,415 new and competing awards (7.7 percent increase of FY12). In the proposed FY13 budget, approximately 83 percent of the funds appropriated to NIH would flow to the extramural community, which supports work by more than 325,000 scientists and research personnel affiliated with over 3,000 organizations including universities, medical schools, hospitals and other research facilities. Approximately 11 percent of the budget would support intramural programs consisting of basic and clinical research activities. The total request for 24 components of NIH and the Office of the Director breaks down as follows:

Institute	FY13 Request (\$ millions)	Percent Change from FY12
National Cancer Institute	5,069	>0.1
National Institute of Allergy and Infectious Diseases	4,495	>0.1
National Heart, Lung and Blood Institute	3,076	>0.1
National Institute of General Medicine Studies	2,379	(2.0)
National Institute of Diabetes and Digestive and Kidney Diseases	1,942	(0.2)
National Institute of Dental and Craniofacial Research	420	(0.5)
National Institute of Neurological Disorders and Stroke	1,625	>0.1
National Institute of Mental Health	1,479	-
Office of the Director (NIH)	1,429	1.9
National Institute of Child Health and Human Development	1,321	>0.1
National Institute on Aging	1,103	>0.1
National Institute of Drug Abuse	1,054	>0.1
National Institute of Environmental Health Sciences (see note)	763	(>0.1)
National Eye Institute	693	(1.3)
National Center for Advancing Translational Sciences	639	-
National Institute of Arthritis and Musculoskeletal and Skin Diseases	536	>0.1
National Human Genome Research Institute	511	(>0.1)
National Institute of Alcohol Abuse and Alcoholism	457	(>0.1)
National Institute of Deafness and Other Communication Disorders	417	>0.1
National Library of Medicine	381	2.1
National Institute of Biomedical Imaging and Bioengineering	337	(>0.1)
National Institute on Minority Health and Health Disparities	279	>0.1
National Institute of Nursing Research	145	>0.1
National Center for Complementary and Alternative Medicine	128	>0.1
John E. Fogarty International Center	70	-

Note: An additional \$79 million is requested for the National Institute of Environmental Health Sciences as part of the Department of Interior appropriations request.

In FY13, the administration calls for a reallocation of existing funds for the newly implemented <u>National</u> <u>Center for Advancing Translational Sciences</u> (NCATS). NCATS would serve as the nation's hub for catalyzing innovations in translational science. To meet the goals of NCATS, NIH would reorganize a wide range of preclinical and clinical translational science capabilities within NIH into an integrated scientific enterprise. The \$639 million budget for NCATS would be primarily a reallocation of funds from programs previously located in the NIH <u>Office of the Director</u>, <u>National Human Genome Research</u> <u>Institute</u> and the abolished National Center for Research Resources. Major components of NCATS include Clinical and Translational Science Awards, the FDA NIH Regulatory Science program, the Office of Rare Diseases Research, parts of the Molecular Libraries program and the Therapeutics for Rare and Neglected Diseases program.

The FY13 NCATS budget request includes \$50 million (400 percent increase) for the **Cures Acceleration Network** (CAN) established in the 2010 Health Reform Act to support revolutionary advances to translate scientific research into commercial practice. The CAN initiative may use up to 20 percent of its funds on flexible research authorities to enable transactions other than contracts, grants, and cooperative agreements to carry out its goals.

A request of \$775 million would support the training for 16,171 research scientists through the <u>Ruth L.</u> <u>Kirschstein National Research Service Awards</u> (NRSA) program.

Consistent with FY12 congressional action, the FY13 request for the <u>National Institute of Allergy and</u> <u>Infectious Diseases</u> (NIAID) no longer would include a transfer of funds to the **GlobalFund to Fight HIV/AIDS, Tuberculosis, and Malaria**. Instead, the funds for this program were requested in a single source from the Department of State.

IN FY13, NIH would make several changes in order to maximize resources for investigator initiated grants including the discontinuation of outyear inflationary allowances for competing and continuation grants; the reduction of non-competing continuation grants by one percent below the FY 2012 level; and the negotiation of budgets of competing grants to avoid growth in the average award size. It also would establish a process for additional scrutiny and review by individual institutes or the Center Advisory Council of awards to any principal investigator with existing grants of \$1.5 million or more in total costs.

#### **Centers for Disease Control and Prevention (CDC)**

The **Centers for Disease Control and Prevention (CDC)** and the <u>Agency for Toxic Substances and</u> <u>Disease Registry</u> (ATSDR) would receive \$5.1 billion in funding, a decrease of \$664 million (11.6 percent increase) from estimated FY12 funding levels. The proposed budget request increases support for core programs, such as domestic HIV/AIDS prevention; food safety; surveillance for healthcare associated infections (HAI); health statistics; global polio eradication; and improving the efficiency of state laboratories. In addition, the proposed budget would consolidate disease specific funding throughout the CDC to create comprehensive programs that enable state and local health departments to maximize public health impact by addressing the greatest needs in their communities.

The CDC budget would allocate \$379 million (50 percent increase) for a **coordinated grant program** that refocuses activities from disease specific approaches into a **Coordinated Chronic Disease Prevention and Health Promotion program**, a comprehensive approach to improve health outcomes and reduces health disparities by focusing on the leading causes of death and disability.

The CDC also would eliminate the <u>REACH program</u> and the <u>Preventive Health and Health Services</u> <u>Block Grant</u> because these activities are comparable to other CDC activities. It would address the goals of these activities through the **Coordinated Chronic Disease Prevention Program** and the <u>Community</u> <u>Transformation Grants</u>. The <u>National Institute for Occupational Safety and Health</u> – the primary federal agency responsible for conducting research, making recommendations and translating knowledge for the prevention of work-related illnesses and injury – would receive \$420 million (10.1 percent). This decrease would be the net result of \$44 million in targeted program reductions and a decrease of \$4 million from ontime contract costs in FY12 for administering provider payment for the **World Trade Center (WTC) Health Program**.

**Environmental Health** activities within CDC would be reduced to \$133 million (5 percent decrease from estimated FY12), mostly through a consolidation of asthma, childhood lead poisoning and healthy homes programs and a \$33 million request for FY12 (50 percent decrease).

The proposed budget also includes a total of \$61 million, no change from FY12, to help ensure a prepared, diverse and sustainable public health workforce through experiential fellowships and training programs.

#### Substance Abuse and Mental Health Services Administration (SAMHSA)

**The Substance Abuse and Mental Health Services Administration** would receive \$3.2 billion (5.9 percent decrease). Of this amount, \$831 million (14.4 percent decrease) would be used to support competitive grants to identify and test innovation prevention and treatment interventions. The reduction in grants funds results from eliminating program areas that are fully tested.

#### Food and Drug Administration (FDA)

The Administration proposes to implement several new fees related to support FDA food safety activities through existing and proposed law. FDA's budget includes the <u>National Center for Toxicological</u> <u>Research</u>, which supports multidisciplinary research toward the development of new technologies in seven areas that would receive \$59 million (1.7 percent decrease from estimated FY12).

#### Agency for Healthcare Research and Quality (AHRQ)

The request for AHRQ **General Patient Safety Research** is \$63 million (4.5 percent decrease) while **Patient-Centered Health Research** would receive \$72 million (44.4 percent increase) to initiate projects resulting from the Affordable Care Act. The request for cross-cutting activities within AHRQ is \$89 million (17.6 percent decrease).

**Health Information Technology Research** would receive \$26 million (same as FY12). Of this amount, \$19 million (same as FY12) would be used to support approximately 56 research grants that will generate evidence demonstrating the most effective and efficient use of health IT to improve health care delivery, safety and quality.

**Prevention and Care Management** research would receive \$28 million in FY13 (same as FY12) to which support health system redesign activities to improve primary health care services delivery for high-quality, safe and effective clinical prevention and chronic disease care.

return to the table of contents

# **Department of Homeland Security**

The administration is requesting \$44.9 billion (2.8 percent decrease) for the Department of Homeland Security (DHS) in <u>FY13</u>. Spending for the <u>Science and Technology (S&T) Directorate</u> would increase 24.5 percent under the proposed FY13 budget. To preserve funding for core homeland security functions such as boarder security and Coast Guard assets, DHS would redirect over \$850 million in base resources from administrative and mission support areas.

The S&T Directorate would receive \$831.5 million in FY13 (24.5 percent increase). S&T strengthens America's security and resiliency through the management of science and technology research that will lead to knowledge products and innovative technology solutions for DHS and the homeland security community to respond to and recover from homeland security threats. The directorate has four Research, Development, Testing and Evaluation (RDT&E) program, project and activities (PPA's) and 16 thrust areas. The four PPA's and their funding recommendations for FY13 include:

- Research, Development and Innovation \$478 million (79.8 percent) to provide state-of-theart technology to meet the needs of the operational components of the department. The five main thrusts of RD&I include APEX projects (\$15 million); biological defense (\$135.4 million); cyber security (\$64.5 million); explosive defense (\$119.7 million); and first responders (\$49.3 million). An additional \$94.1 million in FY13 funding would allow S&T to resume research and development in areas that received little or no funding in FY12, such as border security, chemical attack resiliency, counterterrorism, information sharing, and interoperability.
- <u>Laboratory Facilities</u> \$127.4 million (27.8 percent decrease) to provide the nation with a coordinated, enduring core of productive science, technology and engineering labs.
- Acquisition and Operations Support \$48 million (11.4 percent decrease) to provide expert assistance to entities across the homeland security enterprise to ensure the transition, acquisition, and deployment of technologies and procedures improve the effectiveness of operations.
- <u>University Programs</u> \$40 million (9.3 percent increase) to support homeland security-related research and education at U.S. colleges and universities.

The <u>Domestic Nuclear Detection Office (DNDO)</u> would receive \$328 million, a 13.1 percent increase. DNDO coordinates federal efforts to detect and protect against terrorism threats. Funding for Research, Development and Operations would increase by 10.1 percent for a total of \$236.8 million.

The <u>Coast Guard's Research, Development, Test and Evaluation</u> program would receive \$19.7 million (28.9 percent decrease) for the development of techniques, methods, hardware and systems for the maritime environment that will directly contribute to increasing the productivity and effectiveness of Coast Guard operating missions.

return to the table of contents

## **Department of Housing and Urban Development**

The administration's FY13 <u>budget request</u> for the Department of Housing and Urban Development (HUD) is \$44.8 billion, a 3.5 percent increase over the FY12 enacted budget. Highlights include \$100 million for the multi-agency <u>Partnership for Sustainable Communities Initiative</u>, which provides incentives for communities to develop long-term regional plans linking housing and transportation investments. This would restore funding zeroed out in FY12 to the 2011 level.

The <u>Community Development Fund</u>, which includes the <u>Community Development Block Program</u> (CDBG), <u>Sustainable Communities Initiative</u>, <u>Capacity Building Program</u>, and <u>Indian Community</u> <u>Development Program</u>, would receive \$3.1 billion in FY13, a 5 percent decrease from FY12 estimated funding.

Level funding of \$2.9 billion is proposed for the CDBG formula grant program to assist state and local governments address community and economic development activities such as public infrastructure improvements, housing rehabilitation and construction, and job creation and retention.

The **Sustainable Communities Initiative** was established in 2010 as a partnership between HUD, the Environmental Protection Agency and the Department of Transportation to manage two competitive grant programs and for data collection and evaluation. The budget proposal includes \$100 million in FY13 to be distributed among the following areas:

- \$46 million to fund 20 additional <u>Regional Integrated Planning and Implementation grants</u> to help enable communities to align public and private investments in housing, transportation and infrastructure;
- \$46 million for <u>Community Challenge Planning grants</u> for investments in neighborhoods and communities to update building codes, zoning and local planning efforts; and,
- \$8 million for research, evaluation, modeling tools, technical support, and best practices to advance the field of practice for building sustainable communities.

The <u>Office of Policy Development and Research</u> (PD&R) would receive \$52 million in FY13 (13 percent increase). This request includes \$44.5 million to restore and enhance various national housing surveys and \$7 million for research dissemination activities.

To support ongoing improvements of program effectiveness and efficiency, the FY13 budget includes transfers from program accounts of up to 0.5 percent (\$120 million maximum) for the **Transformation Initiative** (TI). First enacted in 2010, this multi-year effort provides funding for high-quality research and evaluation of HUD's programs. HUD anticipates allocating 10 to 20 percent of TI transfers to Research and Evaluation in FY13. Also within the TI category are research projects that seek to better understand the current state of policy problems addressed by HUD programs.

No new appropriation is requested for the <u>Empowerment Zone</u> (EZ) or <u>Renewal Community</u> (RC) programs in the FY13 budget. The budget proposes to extend the EZ tax incentives, which expired Dec. 31, 2011, through December 2013. RC tax incentives expired in 2009.

return to the table of contents

# **Department of the Interior**

The administration's <u>FY13 request</u> for the Department of Interior (DOI) is \$11.4 billion (1 percent increase). R&D activities within DOI are distributed among several offices and are relatively modest in spending compared to other research-oriented agencies. Highlights include:

- \$748.7 million (11.2 percent increase) proposed for the <u>New Energy Frontier</u> initiatives including \$86.5 million (21.5 percent increase) for **Renewable Energy** programs to advance development of wind resources along the Atlantic coast and to conduct environmental work to allow responsible construction of renewable energy power generation and transmission facilities on the public lands, and \$662.3 million (10 percent increase) to support strategic investments, enhance environmental enforcement functions, expand training and electronic inspection capabilities and fund operational safety improvements.
- \$1.1 billion (3.2 percent increase) is being requested for the <u>U.S. Geological Survey</u> (USGS). The USGS provides research and scientific information to support the mission of the DOI and its science requirements.
- \$53.3 million (3.6 percent decrease) proposed for the <u>Landsat Missions</u> program for Landsat 9 mission development; however USGS will work with other agencies to examine alternatives for providing land remote sensing data in a cost-effective manner in the future.

return to the table of contents

# **Department of Justice**

*Estimated FY12 funding is used for DOJ comparisons, unless otherwise noted* The administration's <u>request</u> for the Department of Justice (DOJ) is \$27.1 billion, 0.4 percent below the FY12 estimated level. Increased funding is requested for research, evaluation and statistics.

For the <u>Office of Justice Programs (OJP)</u>, the budget request for FY13 totals \$2.4 billion (8.4 percent increase from FY12 enacted) with \$136 million (20.3 percent increase) for <u>Research, Evaluation, and</u> <u>Statistics</u>. This appropriation includes programs that provide grants, contracts and cooperative agreements for research, development and evaluation; development and dissemination of quality statistical and scientific information; and nationwide support for law enforcement agencies.

Of this amount, \$48 million (20 percent increase) is requested for research, development and evaluation efforts under the <u>National Institute of Justice (NIJ)</u>, which serves as the R&D agency of DOJ. Another \$60 million (33.3 percent increase) would support criminal justice statistics programs under the <u>Bureau of Justice Statistics</u>.

Additional research related funding in the DOJ budget includes:

- \$100 million for the **DNA initiative**. This program provides capacity building grants, training, and technical assistance to state and local governments and supports innovative research on DNA analysis and use of forensic evidence.
- \$15 million for the **Economic, High-Technology, and Cybercrime Prevention** program, which provides grants, training, and technical assistance to combat economic, high-technology, and internet crimes, including intellectual property crimes.

The administration requests level funding of \$412.5 million for programs administered by the <u>Office on</u> <u>Violence Against Women (OVM)</u> to prevent and respond to violence against women and related victims. This includes a \$3 million appropriation to NIJ for research and evaluation of violence against women and \$1 million for analysis and research on violence against Indian women.

return to the table of contents

# **Department of Labor**

The administration's <u>budget</u> provides \$12 billion in discretionary funding for the Department of Labor (DOL), a 5 percent decrease from the FY12 enacted budget. Building on the American Jobs Act, the budget proposes several new and ongoing initiatives to help workers improve job skills. The Departments of Labor and Education jointly would administer two programs helping workers acquire in-demand skills: a new \$8 billion Community College to Career Fund and the Workforce Innovation Fund. The budget proposal also includes reforms to Job Corps to improve outcomes and achieve cost savings.

For training and employment services under the <u>Employment and Training Administration (ETA)</u>, the administration requests \$3.2 billion (1.2 percent increase). Training and employment services include the following programs:

- <u>Adult Employment and Training Formula Grants</u> would receive \$769.5 million (0.2 percent decrease) to provide financial assistance to states to help prepare low-skill adult workers for higher-paying jobs.
- <u>Youth Activities</u> would receive \$824.3 million (the same as last year) to provide services to prepare low-income youth for employment and post-secondary education.
- <u>Dislocated Workers Employment and Training Activities</u> would receive \$1.2 billion (0.2 percent decrease) to provide employment and training services to individuals who have lost their jobs or are unlikely to return to employment in a previous industry.
- Workforce Data Quality Initiative would receive \$6 million (7.2 percent decrease) to enable state workforce agencies to build longitudinal data systems that merge workforce information with education data.

The FY13 budget proposes an increase of \$50.1 million to the <u>Workforce Innovation Fund</u> above the FY12 enacted level of \$49.9 million. DOL and the Department of Education jointly would administer the fund established to improve access to services for workers and job-seekers. In addition to \$100 million from DOL, the Department of Education would contribute \$25 million for a total \$125 million with \$10 million set aside for projects to build knowledge of what interventions work for disconnected youth.

The budget funds a new initiative, the **Community College to Career Fund**, designed to improve access to job training across the country, providing \$8 billion to the Departments of Education and Labor to support state and community college partnerships with businesses that deliver training in emerging fields such as healthcare, clean energy and advanced manufacturing (<u>see the Budget Overview</u>). This initiative builds on the <u>Trade Adjustment Assistance Community College and Career Training (TAACCT)</u> program, which is providing \$2 billion over four years to help community colleges improve and expand their programs to meet local and regional labor market demands. The budget includes \$1.3 billion from DOL in FY13 for the initiative.

To improve program outcomes and strengthen accountability, the FY13 budget launches a reform effort for <u>Job Corps</u> and reduces funding by 3.1 percent. Specifically, the administration proposes in program year 2013 to close a small number of low-performing centers and focus more on services to 20-24 year-olds. Job Corps would receive \$1.65 billion under the administration's budget to provide academic and career and technical training to help prepare at-risk youth for opportunities to enter the workforce, the military, or enroll in postsecondary education. The administration also plans to undertake other efforts to improve the program, including changes to strengthen the performance measurement system and report center-level performance in a more transparent way.

The <u>Bureau of Labor Statistics (BLS)</u> would receive \$618.2 million (1.5 percent increase) to collect, analyze and disseminate essential economic information to support public and private decision making. The BLS measures labor market activity, working conditions and price changes to the economy.

return to the table of contents

# **Department of Transportation**

The administration's FY13 Department of Transportation (DOT) <u>budget request</u> totals \$74.5 billion (2.6 percent increase) plus an additional \$50 billion in immediate transportation investments in FY12.

The proposed \$50 billion in immediate investments is to support critical infrastructure projects, improving America's roads, bridges, transit systems, border crossings, railways and runways. Included in this amount is \$1 billion to advance <u>NextGen</u>, which would support multiple infrastructure projects and other investments that are designed to accelerate NextGen capabilities.

The administration is proposing a six-year, \$476 billion **surface reauthorization plan** to modernize the country's transportation infrastructure. Budget items included in the six-year plan related to research and technology include:

- Research, Technology and Education Program \$644 million in FY13. The proposal restructures existing Federal Highway Administration research, development and technology activities into three programs: a highway research and development program, a technology and innovation deployment program, and a training and education activities program. The administration proposes \$4 billion for the research program over the six-year reauthorization period.
- **Research and Technology Deployment Program** \$121 million in FY13. This program replaces the Research and University Research Centers and the Grants for Energy Efficiency and Greenhouse Gas Reductions, and also includes resources for clean fuels research. Over the next six years, the administration proposes to invest \$1.1 billion in the activities and programs described below:
  - National Research Program \$38.2 million to increase ridership, improve operating efficiencies, understand the service needs of rural and targeted populations, improve planning and service projections, improve safety, and provide research leadership to address other major issues facing the transit industry.
  - **Transit Cooperative Research** \$6.5 million to provide funds to the National Academy of Sciences to conduct investigative research on subjects related to public transportation.
  - University Transportation Center \$8 million to support transit research at university transportation centers.
  - Greenhouse Gas and Energy Reduction Deployment and Demonstration program -\$50 million to complement FTA capital programs with capital grants to transit agencies to implement technologies that reduce greenhouse gas emissions, improve energy efficiency, reduce dependency on fossil fuels, and increase the use of environmentally sustainable operations.
  - **Clean Fuels and Environmental Research** \$14.7 million to build on the Clean Fuels and Environmental Research and the Research to Reduce Environmental Impacts programs that have contributed to the deployment of low emission technologies in public transportation.
  - **National Transit Institute** \$3.5 million to support the institute's training programs for the transit industry.

The <u>Federal Aviation Administration's</u> (FAA) total request is \$15.2 billion (4.6 percent decrease). The request for FAA research, engineering and development is \$180 million (7.1 percent increase from FY12 estimated funding). Funding would support the continuation of work in both NextGen and other research areas such as environmental research, safety research in areas such as fire research, propulsion and fuel systems, unmanned aircraft, advanced materials research and weather research.

The FY13 budget proposes to convert the <u>Research and Innovative Technology Administration (RITA</u>) into the Office of the Assistant Secretary for Research and Technology within the Office of the Secretary. The budget requests \$14 million (12.5 percent decrease in estimated FY12 RITA funding) for the new Office of the Assistant Secretary for Research and Technology.

The <u>Federal Railroad Administration</u> (FRA) budget request for R&D is \$35.5 million (1.4 percent increase). The request includes funds for research and development activities to reduce risk in railroad operations and address high-speed rail technical challenges. Included in this request is funding to exchange technology with railroad operators for system integration, interoperability standards, and prototypes for positive train control communications.

return to the table of contents

# **Department of the Treasury**

The Department of Treasury would receive \$16.1 billion (8.52 percent increase over the FY12 enacted budget) under the proposed FY13 budget. Of this funding, \$12.8 billion would support the Internal Revenue Service, \$2.9 billion would support Treasury's International Programs and \$1.2 billion would support Treasury's other operating bureaus. An \$830 million permanent cancellation from the Forfeiture Fund would reduce the request by that amount.

The <u>Community Development Financial Institutions Fund (CDFI)</u> provides infusions of capital to institutions that serve economically distressed communities and low-income individuals through a number of programs. CDFI's FY13 request is the same as last year's enacted budget level, though funding would be redistributed among its constituent programs. These programs include:

- <u>Community Development Financial Institutions Program</u> \$127.9 million (12.4 percent decrease), which provides financial assistance and technical assistance awards;
- <u>Healthy Food Financing Initiative</u> \$25 million (13.6 percent increase), a partnership with the Department of Health and Human Services to finance healthy food alternatives in low-income neighborhoods;
- **Bank on USA Program** \$20 million (no FY12 funding), a grant program to help CDFI's provide access to affordable financial services;
- <u>Bank Enterprise Award Program</u> \$15 million (16.7 percent decrease), which offers awards to financial institutions that support community and economic development activities; and,
- <u>Native American CDFI Assistance</u> Program \$12 million (no change) to provide assistance to and foster the development of Native American CDFIs.

Another \$21 million would be provided for CDFI's administrative costs.

CDFI also administers the <u>New Markets Tax Credit (NMTC)</u> program, which helps attract private sector capital to low-income communities. The FY13 budget would provide \$7 billion in allocation authority for the credit, but no direct appropriations. The CDFI is seeking a statutory change that would allow participating investors to use NMTC as an offset against their Alternative Minimum Tax. CDFI anticipates allocating \$250 million of the allocation authority to support the Healthy Food Financing Initiative.

Though no numbers are provided, the budget includes a mention of a proposed **Manufacturing Communities Tax Credit**, which would use a portion of the NMTC allocation to support qualified investments in communities affected by military base closures or mass layoffs. The <u>Small Business Credit Initiative (SSBCI)</u> was introduced in the Small Business Jobs Act of 2010 to provide support for state capital access and credit support programs. The initiative was funded with \$1.5 billion in FY11, of which \$1.46 billion was apportioned for funding to states. As of November 2011, \$1.4 billion had been obligated. Though no new program funding would be provided for SSBCI in the FY13 budget, \$6.6 million would be available for administration.

The same act created the <u>Small Business Lending Fund (SBLF)</u>, which provides capital to eligible financial institutions with assets of less than \$10 billion to increase the availability of credit to small businesses. The fund's lending activity occurred during FY11, but \$24.6 million would be allocated for FY13 administration.

return to the table of contents

# **Environmental Protection Agency**

The administration's FY13 <u>budget request</u> of \$8.3 billion for the Environmental Protection Agency (EPA) reflects a 1.2 percent decrease from FY12 as enacted. The budget proposal increases funding for science and technology programs by 1.7 percent. Savings are achieved largely through reductions in the Drinking Water and Clean Water State Revolving Funds and through the elimination of programs that have served their purpose or accomplished their mission, according to budget documents.

For <u>Science and Technology (S&T)</u>, including R&D activities, the administration requests \$807.2 million, a 1.7 percent increase above FY12 enacted. Funding for S&T represents 9.6 percent of EPA's total budget request. S&T programs include:

- <u>Clean Air and Climate</u> \$127.1 million (2.2 percent increase)
- Indoor Air and Radiation \$6.7 million (1.3 percent decrease)
- Forensics Support \$15.6 million (2.1 percent increase)
- Homeland Security \$40.1 million (4.5 percent decrease)
- IT, Data Management and Security \$4 million (10.8 percent increase)
- **<u>Pesticides Licensing</u>** \$7.1 million (8.1 percent increase)
- <u>Research Programs</u>
  - **Air, Climate and Energy** \$105.9 million (7.1 percent increase)
  - Safe and Sustainable Water Resources \$121.2 million (6.8 percent increase)
  - **Sustainable Communities** \$165.7 million (2.9 percent decrease)
  - Chemical Safety and Sustainability \$134.7 million (2.6 percent increase)

**Science to Achieve Results** (STAR) grants would be funded at \$81 million for research in areas such as hydraulic fracturing, potential endocrine disruptors and green infrastructure.

Climate protection programs total \$108 million, an 8.5 percent increase, and include:

- \$83.9 million for Energy STAR (8.5 percent increase)
- \$18.7 million for Greenhouse Gas Reporting Registry (18.6 percent increase)
- \$4.9 million for Methane to Markets (1.7 percent decrease)
- \$30.5 million for other activities (5 percent increase)

In FY13, the EPA is refocusing resources to support a **Center for Innovative Estuarine Approaches**. The center will develop innovative scientific and technical solutions to inform policies, environmental structures, and business approaches to ensure the sustainability of coastal watersheds and estuaries. The budget proposes \$2 million for this effort. Additionally, EPA will build on current research to study the potential impacts of hydraulic fracturing on drinking water. The budget proposal includes \$8 million to expand hydraulic fracturing research in coordination with the Department of Energy and the Department of the Interior.

The FY13 budget request includes \$1.2 billion for the <u>Clean Water State Revolving Fund</u> (19.9 percent decrease) and \$850 million for the <u>Drinking Water State Revolving Fund</u> (7.4 percent decrease). These programs provide grants to states to capitalize on their own revolving funds, which finance wastewater and drinking water treatment systems.

The FY13 budget proposes to eliminate a number of programs totaling \$50 million that have served their purpose or accomplished their mission. These include the **Clean Automotive Technology** program, **Beaches Protection** categorical grants, **Environmental Education**, **State Indoor Radon** grants, and the **Fibers** program.

To transition the <u>Diesel Emission Reduction Act Grants</u> program away from ongoing federal support, the administration proposes a new funding strategy using rebates and revolving loan funds to concentrate resources on communities in a limited set of high exposure areas. The program would receive \$15 million in FY13 (50 percent decrease).

Funding for the <u>Great Lakes Restoration Initiative</u> is slated for \$300 million, an increase of \$500,000 over the FY12 enacted level. In FY13, priority will be given to cleaning up and de-listing areas of concern. The budget requests \$72.6 million (26.7 percent increase) for the <u>Chesapeake Bay</u> program. Additional funding would be used to increase implementation and accountability grants to the six Chesapeake Bay states and DC to facilitate work on Watershed Implementation Plans and integration of state and local efforts.

#### return to the table of contents

### NASA

Estimated FY12 funding is used for NASA comparisons, unless otherwise noted

The administration has proposed a \$17.7 billion FY13 budget for NASA, a 0.03 percent decrease from the FY12 estimated spending. In the aftermath of the end of the shuttle program in 2011, NASA is shifting its priorities toward developing a lower cost program for robotic exploration of Mars, supporting the **International Space Station** and building the James Webb Space Telescope to succeed the Hubble Space Telescope. In order to stimulate private sector investment in space exploration, funding for the Commercial Spaceflight program would be increased to \$829.7 million (104.4 percent increase).

Most of NASA's directorates would experience small budget decreases under the proposed budget, except for **NASA Space Technology**, which would receive a 21.8 percent increase, and **NASA Education**, which would receive a 26.5 percent decrease. Additional funding also would be available for the construction of facilities.

Funding for major NASA directorates and offices includes:

Directorate or Office	FY13 Budget Request	Percent Change from FY12 Estimated
Science	\$4.9 billion	(3.2)
Space Operations	\$4 billion	(4.2)
Exploration	\$3.9 billion	(5.9)
Space Technology	\$699 million	21.8
Construction and Environmental Compliance and Regulation	\$619.2 million	27.4
Aeronautics	\$551.5 million	(3.1)
Education	\$100 million	(26.5)

NASA Science conducts and supports research enabled by space exploration and space observatories. Under the proposed budget, NASA Science would receive \$4.9 billion (3.2 percent decrease). Decreases in funding for Mars exploration and the <u>Lunar Quest Program</u> would contribute to a 20.6 percent overall decrease for Planetary Science. Funding for the James Webb Space Telescope, however, would increase by 21 percent to reflect major changes in the program and its timeline. Research areas in the budget include:

- Earth Science \$1.8 billion (1.4 percent increase over FY12 estimate);
- Planetary Science \$1.2 billion (20.6 percent decrease);
- Astrophysics \$659.4 million (2 percent decrease);
- Heliophysics \$647 million (4.3 percent increase); and,
- James Webb Space Telescope \$627.6 million (21 percent increase).

<u>NASA Space Technology</u>, which is overseen by the Office of the Chief Technologist and funds the development of space exploration technology, would receive \$699 million (21.8 percent) increase. The proposed budget would increase funding for Crosscutting Space Technology Development and Exploration Technology Development, as well as instituting the mandated increase for SBIR and STTR programs. The increase also reflects the relocation of some research programs from Aeronautics to Space Technology. Program funding includes:

- Crosscutting Space Technology Development \$293.8 million (56.5 percent increase);
- Exploration Technology Development \$202 million (6.4 percent increase);
- SBIR and STTR \$173.7 million (4.2 percent increase); and,
- Partnerships Development and Strategic Integration \$29.5 million (no change).

<u>NASA Education</u> funding would decrease by 26.5 percent, reflecting decreases for both its Aerospace Research and Career Development programs and its STEM Education and Accountability programs. Programs include:

- NASA Space Grant \$24 million (41.2 percent decrease);
- Experimental Project to Stimulate Competitive Research (EPSCoR) \$9 million (48 percent decrease)
- Minority University Research Education Program \$30 million (no change); and,
- STEM Education and Accountability Projects \$ 37 million (26 percent decrease).

NASA would receive \$619.2 million (27.4 percent increase) for Construction and Environmental Compliance and Regulation. The additional funding would contribute to the construction of facilities to support Exploration programs, such as Space Launch Systems and the Orion Multi Purpose Crew Vehicle.

return to the table of contents

# **National Science Foundation**

Estimated FY12 funding is used for NSF comparisons, unless otherwise noted

The **National Science Foundation (NSF)** FY13 discretionary budget request is \$7.4 billion (4.8 percent increase over FY12 estimated). Of that amount, \$6 billion (5.2 percent increase) would be designated to research and related activities, \$196.2 million (0.5 percent decrease) for R&D facilities and equipment and \$911.2 million (5.6 percent increase) for education and training. Nearly 90 percent of the funding is awarded through a merit review process that includes the distribution of grants and cooperative agreements.

The proposed budget also calls for approximately \$67 million in lower priority education, research and outreach programs to be terminated or consolidated. These efforts would include:

- Eliminating three Computer and Information Science and Engineering Research Programs;
- Terminating the Cyber-Enabled Discovery and Innovation (CDI) program;
- Eliminating four Mathematics and Physical Sciences Research Programs;
- Reducing funding for Nanoscale Science & Engineering Centers (NSECs); and,
- Eliminating two public outreach programs.

A major emphasis in FY13 would be the **OneNSF Framework (OneNSF)**, a framework to enable seamless operations across organizational and disciplinary boundaries. OneNSF would allow NSF to respond to new challenges, leverage resources and opportunities for maximum impact and provide leadership that advances scientific knowledge and science, technology, engineering and mathematics (STEM) education. OneNSF would receive \$807.1 million to support seven programs to create new knowledge, stimulate discovery, address complex societal problems and promote national prosperity:

FY 2013 Priorities	FY13 Request	Percent Change from estimated FY12
Cyber-Enabled Materials, Manufacturing, and Smart Systems (CEMMSS)	\$257.4 million	81.7
Science, Engineering, and Education for Sustainability (SEES)	\$202.5 million	29
Secure and Trustworthy Cyberspace (SaTC)	\$110.3 million	(1.3)
Cyberinfrastructure Framework for 21st Century Science and Engineering (CIF21)	\$106.1 million	36
Integrated NSF Support Promoting Interdisciplinary Research and Education (INSPIRE)	\$63 million	209.6
Expeditions in Education (E <sup>2</sup> ) (see note)	\$49 million	_
NSF Innovation Corps (I-Corps)	\$18.9 million	152

Note: The Expeditions in Education program is a proposed FY13 initiative that establishes a partnership between the <u>Directorate for Education and Human Resources</u> (EHR) and other research directorates and offices. E<sup>2</sup> would integrate, leverage and expand STEM education research and development to improve learning in science and engineering disciplines and capitalize on the scientific assets across NSF to enhance EHR investments in learning and education.

The FY13 budget request would include funding for several other initiatives that cross several NSF directorates. Highlights from these initiatives include:

- <u>Networking and Information Technology Research and Development</u> (NITRD) \$1.2 billion (1.6 percent increase) to support large scale networking, cybersecurity, high-confidence software and systems, human-computer interaction and software productivity.
- <u>National Nanotechnology Initiative</u> (NNI) \$434.9 million (2.1 percent increase) is a contribution by NSF to coordinate nanotech efforts across 25 federal agencies.
- <u>U.S. Global Change Research Program</u> (USGCRP) \$425.1 million (33 percent increase) to advance basic research, integrative modeling and product development in the areas of climate change and evolving ecosystems.
- <u>Faculty Early Career Development Program</u> (CAREER) —\$216.9 million (4.9 percent increase) to support exceptionally promising college and university junior faculty who are committed to the integration of research and education and who are most likely to become the leaders in their fields.
- <u>Advanced Manufacturing</u> \$148.9 million (35.5 percent increase) to invest in emerging advanced manufacturing technologies.
- Enhancing Access to the Radio Spectrum (EARS) \$50.5 million (237 percent increase) to identify interdisciplinary research opportunities that will lead to future enhancements in the efficiency by which the radio spectrum is used and that will increase access broadband wireless services and other benefits derived from efficient spectrum use.
- <u>Research at the Interface of Biological Mathematical and Physical Sciences</u> (BioMaPS) \$30.2 million (50.9 percent increase) to support interdisciplinary research that brings together researchers from the biological, mathematical and physical sciences.

#### **NSF Center Programs**

NSF requests \$296.8 million (11 percent increase) for the center programs, which are the principal means by which NSF fosters interdisciplinary research. Many NSF centers receive additional support from research-based state TBED strategies. NSF center programs include:

- <u>Science and Technology Centers</u> (STCs) \$74.4 million (46.6 percent increase) to support partnerships involving academia, industry government laboratories and other organizations to conduct innovative, potentially transformative, complex research and education projects.
- Engineering Research Centers (ERCs) \$69 million (1.4 percent decrease) to fund partnerships working towards the development of next-generation advances in engineered systems.
- <u>Materials Research Science & Engineering Centers</u> \$51.2 million (15.4 percent increase) to support centers that perform materials research at academic institutions across the country.
- <u>Centers for Chemical Innovation</u> \$29.3 million (21.9 percent increase) to support long-term "big questions" in basic chemical research.
- <u>Nanoscale Science and Engineering Centers</u> \$26.5 million (15.8 percent decrease) towards research to advance the development of ultra-small technology in electronics, materials, medicine, environmental science and other fields.
- <u>Centers for Analysis and Synthesis</u> \$26.4 million (0.3 percent increase) toward the development of new tools and standards for management of biological information and to support data analysis capabilities across the country.
- <u>Sciences of Learning Centers</u> \$20.0 million (1.7 percent decrease) to conduct research that advances the understanding of learning and its societal implications.
- Industry/University Cooperative Research Centers (I/UCRCs) \$7 million (level with FY12 estimated). The increase will focus on topics related to sustainable energy and cyberinfrastructure.

NSF is organized into several directorates, offices and a commission. The administration's request for spending on research and related activities by directorate and office follows:

- <u>Mathematical & Physical Sciences</u> \$1.3 billion (2.8 percent increase)
- <u>Geosciences</u> \$906.4 million (2.4 percent increase)
- Engineering \$876.3 million (6.1 percent increase)
- **Biological Sciences** \$733.9 million (3 percent increase)
- <u>Computer & Information Science & Engineering</u> \$709.7 million (8.6 percent increase)
- Office of Polar Programs \$449.7 million (3.2 percent increase)
- Social, Behavioral & Economic Sciences \$259.6 million (2.1 percent increase)
- Office of Cyberinfrastructure \$218.3 million (3.1 percent increase)
- Office of International Science & Engineering \$51.3 million (2.9 percent increase)
- <u>U.S. Arctic Research Commission</u> \$1.6 million (1.3 percent increase)

Selected programs from NSF's directorates and offices include:

- <u>Emerging Frontiers</u> (EF) \$107.3 million (1.6 percent increase) within the Biological Sciences Directorate provides funding to identify, incubate and support infrastructure and research areas that transcend scientific disciplines and/or advance the conceptual foundations of biology.
- Industrial Innovation and Partnerships (IIP) line item– \$210.30 million (8.7 percent increase) within the Engineering Directorate to support the commercialization and technology transfer efforts of institutions of higher education. The <u>Partnerships for Innovation</u> program would receive \$8.2 million (6.8 percent increase over FY12);
- <u>Accelerating Innovation Research</u> (AIR) \$14.3 million (1.8 percent increase) would provide innovation research fellowships in small businesses and industry-defined fundamental research;
- NSF <u>SBIR/STTR Program</u> \$165.2 million (8.1 percent increase), administered by the Engineering Directorate; and,
- Office of Emerging Frontiers in Research Innovation (EFRI) \$32.0 million (3.2 percent increase), also administered by the Engineering Directorate helps NSF focus on emerging areas in a timely manner. EFRI recommends, prioritizes and funds emerging frontiers of engineering research and education.

**Integrated Activities (IA)** would receive \$431.5 million (23.4 percent increase over FY12 estimated). Selected programs include:

- **Communication Science Broadly (CSB)** would receive no funding in FY13. Related peerreviewed activities would continue to be supported through the Advancing Informal STEM Learning (AISL) program – formerly known as the Informal Science Education program – in the Directorate for Education and Human Resources;
- Experimental Program to Stimulate Competitive Research (EPSCoR) —\$158.2 million (4.8 percent increase over FY12) to promote the development of eligible states' S&T resources through partnerships involving universities, industry, government and the federal R&D enterprise; and,
- Integrated NSF Support Promoting Interdisciplinary Research and Education (INSPIRE) \$63.0 million (209.6 percent increase over FY12 estimated) for proposed initiative to support a suite of activities that will foster and support interdisciplinary research.

Proposed funding for NSF's science, technology engineering and mathematics (STEM) education initiatives includes:

- Increasing the Participation and Advancement of Women in Academic Science and Engineering Careers (ADVANCE) \$17.1 million (5.0 percent increase);
- Integrative Graduate Education and Research Training (IGERT) \$51.7 million (13 percent decrease) to prepare U.S. doctoral students for advancing knowledge in emerging areas of research and to pursue successful careers in academia industry or public sector;
- Science, Technology, Engineering and Math Talent Expansion Program (STEP) \$17.3 million (32.9 percent decrease);
- Total, Graduate Fellowships & Traineeships \$321.7 million (12.9 percent increase) to build the critical human capital base required for future STEM investigation and innovation;
- Total, <u>Reseach Experiences for Undergraduates</u> (REU) \$68.4 million (3.7 percent increase); and,
- As part of the administration's strategic plan in STEM education, NSF is partnering with the Department of Education to launch an evidence-based initiative to improve K-16 mathematics education and knowledge building. In FY13, NSF's Directorate for Education and Human Resources (EHR) and Department of Education would contribute \$30 million each. EHR's contributions would be through support for the <u>Discovery Research K-12</u> (DR K-12) and <u>Transforming Undergraduate Education in STEM</u> (TUES) programs.

return to the table of contents

# **Regional Commissions and Authorities**

Estimated FY12 funding is used for the following comparisons, unless otherwise noted The administration's FY13 <u>budget request</u> contains discretionary funding for three commissions, the Appalachian Regional Commission, Delta Regional Authority, and the Denali Commission. In addition, although the Tennessee Valley Authority generates its own income, it requires Congress to determine and reaffirm its budgetary authority.

- <u>Appalachian Regional Commission (ARC)</u> \$64.9 million (5 percent decrease) to foster sustainable development in a 420 county area across 13 states. FY13 goals include \$10 million to work with partner agencies to promote sustainable economic growth and employment.
- <u>Delta Regional Authority (DRA)</u> \$11.3 million (3.1 percent decrease) to assist 252 counties and parishes in eight states. DRA would continue to focus on multi-state planning and investments including small business development and entrepreneurship and innovative green-economy job creation in FY13.
- <u>Denali Commission</u> \$10.2 million (4.8 percent decrease) to promote infrastructure improvement and economic development services in rural Alaska. The FY13 budget includes a 50 percent matching requirement for construction project funding, and a 20 percent match to grants to distress communities.
- <u>Tennessee Valley Authority (TVA)</u> \$37.6 billion (1 percent decrease) to develop an area of a river basin across seven states.

return to the table of contents

# **Small Business Administration**

The administration's FY13 <u>budget request</u> for the Small Business Administration (SBA) totals \$948.3 million (3.2 percent increase). Much of this proposed increase would be under the SBA loan programs – **Section 7(a)**, **504/Certified Development Company**, and **Microloans**.

The FY13 budget request maintains the SBA separate from the Commerce Department. However, President Obama has asked for congressional authority to restructure portions of the Commerce Department. The <u>proposal</u> would consolidate the functions of the SBA, U.S. Trade Representative, Export-Import Bank, Overseas Private Investment Corporation, the Trade and Development Agency, and Commerce Department's business and trade functions into a new executive department. As part of this effort, the FY13 budget requests \$6 million to coordinate with other agencies to develop businessusa.gov and \$5 million to complete data center consolidation efforts.

The FY13 request would support more than \$22 billion in small business financing through SBA's lending network by receiving \$496.4 million (38.4 percent increase) for SBA's three loan programs and program administration.

- <u>Section 7(a) loans</u> are financial loans to businesses that do not qualify for conventional credit. The proposed budget would make \$235.6 million (69 percent increase) in subsidies available to support \$16 billion in loan guarantees to small businesses, which includes \$13.7 billion in term loans and \$2.3 billion in revolving lines of credit.
- <u>504/Certified Development Company</u> assists small business through long-term financing used to acquire major fixed assets necessary for expansion or modernization. In FY13, this program would receive \$113 million (66.9 percent increase) in credit subsidy to support a \$6 billion program level.
- <u>Microloans</u> provide small short-term loans to small businesses. The \$2.8 million (24.3 percent decrease) in subsidies this program would receive would support a program level of \$18 million.
- The administrative costs for these programs would total \$145 million (2 percent decrease).

The <u>Small Business Investment Company (SBIC)</u> is a privately-owned and managed group of investment funds that uses private capital and SBA-guaranteed borrowed funds to make equity and debt investments in small businesses. SBIC would be funded to support \$4 billion (33.3 percent increase) in debentures.

Beginning in 2012, SBA would use up to \$200 million in SBIC debenture annually over five years to support equity-based investments in regions not well served by private financial markets through the <u>Impact Investment Fund</u>. Another \$200 million in matching SBIC debenture funds would be available over five years to support private early stage and seed stage investment to startups between the angel investor financing stage and venture capital financing stage through the <u>Innovation Fund</u>. Both programs are part of the Startup America program. **SBIC direct microloans** would support \$18 million (28 percent decrease) in lending under the proposed budget.

The <u>Small Business Development Centers (SBDCs)</u> operate in all 50 states and support small businesses with various administrative support. The FY13 budget request is \$111.7 million (8.8 percent decrease), including \$101.1 million (10.1 percent decrease) in grants to 63 lead centers with over 900 outreach locations.

SBA operates twenty <u>Regional Innovation Clusters</u> (RICs) across the country as public-private partnerships to promote development in tech-based industries. The FY13 budget requests \$3.4 million (30 percent decrease) to continue the initiative.

The 110 Women's Business Centers (WBC) would receive \$18.9 million (5.2 percent decrease), including \$12.6 million (10.0 percent decrease) in grants for the 110 nonprofits that host WBCs, and <u>SCORE</u>, an organization of volunteers providing mentorship to entrepreneurs, would receive \$12.7 million (1.8 percent decrease), including \$6.3 million (10 percent decrease) in grants.

The budget request calls for the discontinuation of the **PRIME Technical Assistance** program, which would save \$3.5 million.

The budget also calls for the establishment of a **National Veterans Entrepreneurial Training (VET) Program** focused on transitioning and training military veterans interested in entrepreneurship. The budget request is \$7 million.

#### return to the table of contents

 State Science & Technology Institute
 Image: Comparison of the state state