



CONGRESSIONAL BUDGET OFFICE COST ESTIMATE

May 5, 2015

H.R. 1806 **America COMPETES Reauthorization Act of 2015**

*As ordered reported by the House Committee on Science, Space, and Technology
on April 22, 2015*

SUMMARY

H.R. 1806 would authorize appropriations totaling about \$33 billion over the 2016-2020 period for several agencies to support scientific research, industrial innovation, and certain educational activities. Assuming appropriation of the necessary amounts, CBO estimates that implementing the legislation would cost about \$32 billion over the 2016-2020 period.

Enacting the legislation could increase direct spending; therefore, pay-as-you-go procedures would apply. However, CBO estimates that the net effect on direct spending would be negligible for each year. H.R. 1806 would not affect revenues.

H.R. 1806 contains no intergovernmental or private-sector mandates as defined in the Unfunded Mandates Reform Act (UMRA) and would impose no costs on state, local, or tribal governments

ESTIMATED COST TO THE FEDERAL GOVERNMENT

The estimated budgetary effects of H.R. 1806 are shown in the following table. The costs of this legislation fall within budget functions 250 (general science, space, and technology), 270 (energy), 370 (commerce and housing credit), 450 (community and regional development), and 800 (general government).

	By Fiscal Year, in Millions of Dollars					2016- 2020
	2016	2017	2018	2019	2020	
CHANGES IN SPENDING SUBJECT TO APPROPRIATION						
National Science Foundation						
Research and Related Activities						
Authorization Level	6,186	6,186	0	0	0	12,372
Estimated Outlays	1,113	3,712	3,959	1,918	866	11,568
Education and Human Resources						
Authorization Level	866	866	0	0	0	1,732
Estimated Outlays	104	450	572	355	173	1,654
Other National Science Foundation Activities						
Authorization Level	544	544	0	0	0	1,088
Estimated Outlays	326	441	186	91	30	1,074
Subtotal, National Science Foundation						
Authorization Level	7,596	7,596	0	0	0	15,192
Estimated Outlays	1,543	4,603	4,717	2,364	1,069	14,296
Office of Science and Technology Policy						
Authorization Level	5	5	0	0	0	10
Estimated Outlays	4	5	1	1	1	10
National Institutes of Standards and Technology						
Science and Technical Research						
Authorization Level	745	744	0	0	0	1,489
Estimated Outlays	574	729	171	15	0	1,489
Industrial Technology Services						
Authorization Level	130	130	0	0	0	260
Estimated Outlays	35	103	94	26	3	260
Facility Construction and Maintenance						
Authorization Level	59	59	0	0	0	118
Estimated Outlays	7	15	18	28	28	97
Subtotal, National Institutes of Standards and Technology						
Authorization Level	934	933	0	0	0	1,867
Estimated Outlays	615	848	282	69	31	1,846
						Continued

TABLE CONTINUED.

	By Fiscal Year, in Millions of Dollars					2016-2020
	2016	2017	2018	2019	2020	
CHANGES IN SPENDING SUBJECT TO APPROPRIATION (Continued)						
Department of Energy						
Office of Science	5,340	5,340	0	0	0	10,680
Authorization Level	2,937	4,539	2,403	801	0	10,680
Estimated Outlays						
Applied Research and Development						
Authorization Level	2,563	2,563	0	0	0	5,126
Estimated Outlays	469	1,282	1,441	993	559	4,745
Subtotal, Department of Energy						
Authorization Level	7,903	7,903	0	0	0	15,806
Estimated Outlays	3,406	5,821	3,844	1,794	559	15,425
Total Spending Under H.R. 1806						
Estimated Authorization Level	16,438	16,437	0	0	0	32,875
Estimated Outlays	5,568	11,277	8,844	4,228	1,659	31,576

Note: Components may not sum to totals because of rounding.

BASIS OF ESTIMATE

For this estimate, CBO assumes H.R. 1806 will be enacted near the end of 2015 and that the necessary amounts will be appropriated for each fiscal year. Estimated outlays are based on historical spending patterns for existing programs.

National Science Foundation (NSF) Programs

H.R. 1806 would authorize the appropriation of \$15.2 billion over the 2016-2017 period for the National Science Foundation to carry out various activities to support basic scientific research and education.

Research and Related Activities. The bill would authorize the appropriation of \$12.4 billion over the 2016-2017 period for programs under NSF's research and related activities account. In 2015, those programs received an appropriation of \$5.8 billion. Based on historical spending patterns, CBO estimates that this provision would cost \$11.6 billion over the 2016-2020 period and \$0.8 billion after 2020.

Education and Human Resources. The legislation would authorize the appropriation of \$1.7 billion over the 2016-2017 period for NSF's education and human resources programs. CBO estimates that implementing this provision would cost \$1.7 billion over the 2016-2020 period.

Other NSF Activities. H.R. 1806 would authorize the appropriation of \$1.1 billion over the 2016-2017 period for other NSF activities, including agency operations and award management, major research equipment and facilities construction, the Office of the Inspector General, and the Office of the National Science Board. In 2015, those programs received appropriations totaling \$544 million. Based on historical spending patterns, CBO estimates that implementing those provisions would cost \$1.1 billion over the 2016-2020 period.

Office of Science and Technology Policy

H.R. 1806 would authorize the appropriation of \$10 million over the 2016-2017 period for the Office of Science and Technology Policy (OSTP). OSTP also would be required to establish a body within the National Science and Technology Council to coordinate international science and technology cooperation, as well as a federal coordination office for Science, Technology, Engineering, and Mathematics education. In 2015, the agency received an appropriation of \$6 million.

National Institute of Standards and Technology (NIST) Programs

H.R. 1806 would authorize the appropriation of \$1.9 billion over the 2016-2017 period for programs administered by the National Institute of Standards and Technology. By comparison, appropriations for NIST programs in 2015 total about \$864 million.

Scientific and Technical Research. The bill would authorize the appropriation of about \$1.5 billion for NIST's Scientific and Technical Research and Services program, which supports NIST's laboratories and technical programs as well as national research facilities. Assuming appropriation of the specified amounts, CBO estimates that implementing this provision would cost \$1.5 billion over the 2016-2020.

Industrial Technology Services. H.R. 1806 also would authorize the appropriation of \$260 million over the 2016-2017 period to operate two programs:

- The Manufacturing Extension Partnership program (\$250 million), which provides technical assistance and training to small manufacturers, and
- The Network for Manufacturing Innovation program (\$10 million), which supports a network of research centers focused on developing manufacturing technologies.

Assuming appropriation of the specified amounts, CBO estimates that implementing this provision would cost \$260 million over the 2016-2020 period.

Facility Construction and Maintenance. Finally, for NIST, the bill would authorize the appropriation of \$118 million over the 2016-2017 period for construction and maintenance of NIST buildings and laboratories. Assuming appropriation of the specified amounts, CBO estimates that implementing this provision would cost \$97 million over the 2016-2020 period and \$21 million after 2020.

Department of Energy (DOE) Programs

H.R. 1806 would authorize the appropriation of \$15.8 billion over the 2016-2017 period for the Department of Energy to carry out various activities to support scientific research and education.

Office of Science. The bill would authorize the appropriation of \$10.7 billion over the 2016-2017 period for DOE research programs in basic energy sciences, biological and environmental sciences, high energy physics, and computational science. In 2015, DOE received appropriations totaling \$5.1 billion to carry out those activities. Assuming appropriation of the authorized amounts, CBO estimates this provision would cost \$10.7 billion over the 2016-2020 period.

Applied Research and Development. H.R. 1806 would authorize appropriations totaling \$5.1 billion over the 2016-2017 period for DOE's major research and development programs. (By comparison, appropriations for those programs in 2015 total \$3.6 billion.) Authorized funding under H.R. 1806 includes:

- \$2.4 billion for activities related to energy-efficiency and renewable energy;
- \$1.2 billion for fossil energy programs;
- \$1 billion for nuclear energy programs;
- \$280 million for activities of the Advanced Research Projects Agency-Energy; and
- \$226 million for the Office of Electricity Delivery and Energy Reliability.

Based on historical spending patterns, CBO estimates that fully funding applied research and development would cost \$4.7 billion over the 2016-2020 period, and \$0.5 billion after 2020.

PAY-AS-YOU-GO CONSIDERATIONS

The Statutory Pay-As-You-Go Act of 2010 establishes budget reporting and enforcement procedures for legislation affecting direct spending or revenues.

H.R. 1806 would authorize NIST to accept funds from private entities for efforts to support domestic manufacturing and would make those amounts available to the agency without further appropriation. Based on information from NIST, CBO estimates that this provision would have an insignificant effect on net direct spending because amounts collected would be small—less than \$500,000 per year—and would be spent by the agency.

H.R. 1806 also would allow agencies that sponsor prize competitions to waive a requirement that participants obtain liability insurance to protect the government against claims by third party entities. Because any successful claims against the government for those cases would probably be paid from the Treasury’s Judgment Fund (a permanent, indefinite appropriation for claims and judgments against the United States), the bill could affect direct spending. However, CBO anticipates that any such cases would be rare and that the impact on direct spending would be insignificant.

INTERGOVERNMENTAL AND PRIVATE-SECTOR IMPACT

H.R. 1806 contains no intergovernmental or private-sector mandates as defined in UMRA. Public colleges, universities, and research centers could benefit from grants authorized by the bill.

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