

ONE HUNDRED FOURTEENTH CONGRESS
Congress of the United States
House of Representatives
COMMITTEE ON ENERGY AND COMMERCE
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MEMORANDUM

March 1, 2016

To: Subcommittee on Energy and Power Democratic Members and Staff

Fr: Committee on Energy and Commerce Democratic Staff

Re: Hearing on “Fiscal Year 2017 Department of Energy Budget”

On **Wednesday, March 2, 2016, at 10:00 a.m., in room 2123 of the Rayburn House Office Building**, the Subcommittee on Energy and Power will hold an oversight hearing on the proposed budget for the Department of Energy (DOE) for fiscal year (FY) 2017.

I. OVERVIEW OF THE FY 2017 DOE BUDGET REQUEST

The President’s FY 2017 budget requests \$32.5 billion for DOE, which represents a \$2.9 billion increase from the FY 2016 enacted level of \$29.6 billion. Highlights of the FY 2017 proposed DOE budget include:

- New Regional Clean Energy Innovation Partnerships;
- Sustainable transportation technologies research;
- Basic clean energy research;
- Nuclear energy technology programs and infrastructure;
- More support for grid modernization, resiliency, and clean energy into the grid; and
- Carbon capture and storage technologies development and deployment research.¹

The largest increases in the budget request are in the areas of science, energy, and research and development (R&D), specifically for DOE’s *Mission Innovation*, which embodies the Administration’s commitment, as announced at the start of the Paris climate negotiations, to

¹ U.S. Department of Energy (DOE), *FY 2017 Congressional Budget Request – Budget in Brief*, (Feb. 26, 2016) (online at energy.gov/sites/prod/files/2016/02/f29/FY2017BudgetinBrief_0.pdf).

accelerate public and private global clean energy innovation. *Mission Innovation* supports DOE research, development, and demonstration activities across the spectrum of clean energy technologies.

Other significant proposed DOE budget items are investments in the following amounts:

- \$500 million in clean energy R&D through the Advanced Research Projects Agency – Energy (ARPA-E), which is \$209 million above the FY 2016 enacted level;
- \$2.9 billion in the office of Energy Efficiency and Renewable Energy (EERE), which is \$829 million above the FY 2016 enacted level; and
- \$5.7 billion in science that is \$325 million above the FY 2016 enacted level

The budget request supports a broad portfolio of programs, including support for the National Laboratory system to carry out critical responsibilities for America’s security and economy in three areas:

- Building the Future through Science and Clean Energy;
- Ensuring Nuclear Security; and
- Organizing, Managing, and Modernizing the Department to Better Achieve Its Enduring Missions.²

The request includes \$12.9 billion for energy, science, and related programs, an increase of \$2.8 billion from the FY 2016 enacted level. This funding will help support increased investment in leading-edge science and technology, new research facilities to advance the frontiers of science; advanced manufacturing institutes; implementation of the Administration’s strategy for nuclear waste management and crosscutting initiatives to further technological innovation using an enterprise wide approach to research efforts.

The request takes steps to implement recommendations from the first installment of the Quadrennial Energy Review (QER) released in 2015. The request also supports ongoing implementation of the President’s Climate Action Plan and builds on the systems-based analysis of the Quadrennial Technology Review (QTR) released in 2015.

The budget request includes mandatory funding for clean energy R&D that complements activities supported by discretionary funding. The request includes \$150 million in mandatory funding for DOE’s ARPA-E as part of the ARPA-E Trust proposal, which seeks \$1.85 billion in mandatory funding over five years to reliably increase the program’s transformational clean energy technology R&D.

The request provides around \$12.9 billion for the National Nuclear Security Administration (NNSA), which is \$357 million above the FY 2016 enacted level, to support DOE’s nuclear security responsibilities.

² *Id.* at 1.

The table below compares the funding levels for specific DOE offices and programs under the \$32.5 billion FY 2017 budget request with funding levels in prior fiscal years.

**Table I. Department of Energy
Budget by Appropriation**
(\$ millions)

	FY2015 Enacted	FY2016 Enacted	FY2017 Request
ENERGY PROGRAMS			
Energy Efficiency and Renewable Energy	\$1,914.2	\$2,069.2	\$2,898.4
Electricity Delivery and Energy Reliability	147.0	206.0	262.3
Nuclear Energy	833.4	986.2	993.9
Fossil Energy R&D	560.6	632.0	600.0
Naval Petroleum and Oil Shale Reserves	20.0	17.5	15.0
Strategic Petroleum Reserve	200.0	212.0	257.0
Northeast Home Heating Oil Reserve	1.6	7.6	6.5
Uranium D&D Fund	625.0	673.7	673.7
Energy Information Administration	117.0	122.0	131.1
Non-Defense Environmental Cleanup	246.0	255.0	218.4
Science	067.74	5347.0	5672.1
Advanced Research Projects Agency – Energy (ARPA-E)	280.0	291.0	500.0
Departmental Admin. (net)	125.1	131.0	144.9
Office of Indian Energy Policy and Programs	16.0	16.0	22.9
Office of Inspector General	40.5	46.4	44.4
Innovative Technology Loan Guarantee Program	17.0	17.0	10.0
Advanced Technology Vehicles Manufacturing Loan Program	4.0	6.0	5.0
21 st Century Clean Transportation Plan Investments	—	—	1,335.0
TOTAL, ENERGY PROGRAMS	10,208.0	11,019.6	13,559.0
DEFENSE ACTIVITIES			
National Nuclear Security Administration (NNSA)			
Weapons Activities	8,180.4	8,846.9	9,243.1
Nuclear Nonproliferation	1,615.2	1,940.3	1,807.9
Naval Reactors	1,233.8	1,375.5	1,420.1
Federal Salaries and Expenses	370.0	363.8	412.8
Total, NNSA	11,399.0	12,526.5	12,884.0
Defense Environmental Cleanup	4990.0	5,289.7	5,227.0

	FY2015 Enacted	FY2016 Enacted	FY2017 Request
Other Defense Activities	753.0	776.4	791.6
Defense Nuclear Waste Disposal	—	—	—
TOTAL, DEFENSE ACTIVITIES	17,142.5	18,592.6	18,902.5
POWER MARKETING ADMINISTRATION (PMAs)			
Southeastern	—	—	—
Southwestern	11.4	11.4	11.1
Western	91.7	93.4	95.6
Colorado River Basins	-23.0	-23.0	-23.0
TOTAL, PMAs	80.4	82.0	83.9
Total	27,402.3	29,602.7	32,499.0

Source: FY 2017 DOE budget request

The following sections provide additional information on important aspects of DOE's proposed budget for FY 2017, specifically for cross-cutting programs.

A. Mission Innovation

Mission Innovation is an initiative launched by the U.S. and 19 other countries to accelerate widespread clean energy technology innovation and cost reduction. Each of the 20 participating countries, which together represent over 80 percent of global governmental clean energy research and development, will seek to double their governmental investments, such as R&D over five years. The doubling plan and portfolio will provide new opportunities for synergies and collaboration among this collective of participating countries.³

The President's FY 2017 Budget takes a significant first step toward fulfilling the U.S. pledge to double federal clean energy R&D investments over the next five years, by providing \$7.7 billion across 12 federal agencies, with DOE responsible for approximately 76 percent of that government-wide total. The FY 2017 Request provides a total of \$5.9 billion in discretionary funding for clean energy R&D. This funding represents an increase of over 21 percent above the FY 2016 appropriated level of \$4.8 billion.

The DOE program components supporting *Mission Innovation* include elements of basic research sponsored by the Office of Science, ARPA-E, and portions of the applied energy programs that support clean energy research, development, and demonstration activities. Overall programs supporting *Mission Innovation* comprise slightly more than half of the total President's FY 2017 Budget Requests for science and energy, including ARPA-E.

³ *Id.* at 80.

B. EERE

The Office of Energy Efficiency & Renewable Energy (EERE) is the nation's primary clean energy technology organization. EERE implements a range of strategies aimed at reducing U.S. reliance on oil, increasing energy affordability, ensuring environmental responsibility, enhancing energy security, offering Americans a broader range of energy choices, and creating jobs.

The FY 2017 budget request takes a significant first step toward fulfilling the U.S. pledge to seek to double federal clean energy research and development investments government-wide over the next five years as part of *Mission Innovation*, an initiative launched by the U.S. and 19 other countries to accelerate widespread clean energy technology innovation and cost reduction. The EERE FY 2017 budget request of \$2.9 billion in discretionary funds includes \$2.1 billion to support *Mission Innovation*, which is an increase of \$702 million from the enacted FY 2016 level.

The request also includes \$1.3 billion in mandatory funding to support the Administration's 21st Century Clean Transportation Plan. The request provides \$500 million in FY 2017 to scale-up clean transportation R&D through initiatives to reduce the cost of battery technology; advance the next generation of low carbon biofuels, in particular for intermodal freight and fleets; and establish a mobility systems integration facility to investigate systems level energy implications of vehicle connectivity and automation.

All told, the FY 2017 budget proposes a doubling of EERE funds over FY 2016 to \$4.2 billion.⁴

C. ARPA-E

Created in 2007, the Advanced Research Projects Agency – Energy (ARPA-E) “catalyzes transformational energy technologies to enhance the economic, environmental, and energy security of the United States.”⁵ The ARPA-E FY 2017 budget request of \$350 million contributes to the *Mission Innovation* pledge, which is an increase of \$59 million from the FY 2016 enacted level of \$291 million. These investments will drive innovation essential for economic growth, provide clean, affordable and reliable energy, and advance energy security.

D. NNSA

As noted earlier, DOE's FY 2017 budget request would provide some \$12.9 billion for the National Nuclear Security Administration (NNSA). The request includes funding to maintain a safe, secure, and effective nuclear deterrent without testing, including life extension programs for major weapons systems and modernization of the Nation's research and production infrastructure.

⁴ *Id.* at 34.

⁵ *Id.* at 53.

The requested amounts would also ensure that the U.S. is ready to respond to nuclear and radiological incidents at home and abroad, and supports programs that reduce the threats of nuclear proliferation globally, including implementation and monitoring of the Joint Comprehensive Plan of Action with Iran to verifiably prevent Iran from obtaining nuclear weapons.

Finally, DOE's request for nuclear security supports activities that provide safe and effective propulsion for the Navy's nuclear propulsion program. The request includes \$6.8 billion for Departmental management and performance programs, including environmental cleanup programs to meet the nation's Manhattan Project and Cold War legacy responsibilities. The request includes \$6.1 billion, of which \$674 million is mandatory spending from the U.S. Enrichment Corporation Fund, to uphold the federal government's commitment to states and communities to remediate the environmental legacy of over six decades of nuclear weapons and nuclear research, development, and production. The request supports major management reforms, including new project oversight, assessment, and cost estimation initiatives as part of ongoing efforts to strengthen effective project and program management across the NNSA.

E. Nuclear Legacy Waste Cleanup

The budget request includes \$6.1 billion for Environmental Management, which is \$99 million below the FY 2016 enacted level for the Department to address its cleanup responsibilities for large quantities of liquid radioactive waste, spent nuclear fuel, contaminated soil and groundwater, and deactivating and decommissioning excess facilities used by the nation's nuclear weapons program. The requested amount includes \$2.4 billion to maintain progress on constructing and operating facilities to address waste stored in underground tanks at sites in Washington, South Carolina, and Idaho. In addition, this request includes a proposal for mandatory funding of \$674 million for deactivating, decommissioning, and demolishing excess gaseous diffusion plants at Oak Ridge, Tennessee; Paducah, Kentucky; and Portsmouth, Ohio.⁶

II. WITNESS

The following witness has been invited to testify:

The Honorable Ernest Moniz
Secretary
U.S. Department of Energy

⁶ *Id.* at 61.