



Department of Energy FY 2015 Budget Request Overview

March 4, 2014



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The Department of Energy \$27.9 Billion FY 2015 Budget Request Funds Presidential Priorities

The FY 2015 Request funds programs supporting:

- **Energy and Science:** Climate Action Plan with an all of the above energy strategy and Quadrennial Energy Review; maintaining global scientific leadership
- **Nuclear Security:** Nuclear Posture Review, Stockpile Stewardship and Management Plan; securing nuclear materials globally
- **Management and Performance:** Legal and moral obligations to clean up Cold War nuclear waste and to manage scarce dollars more effectively



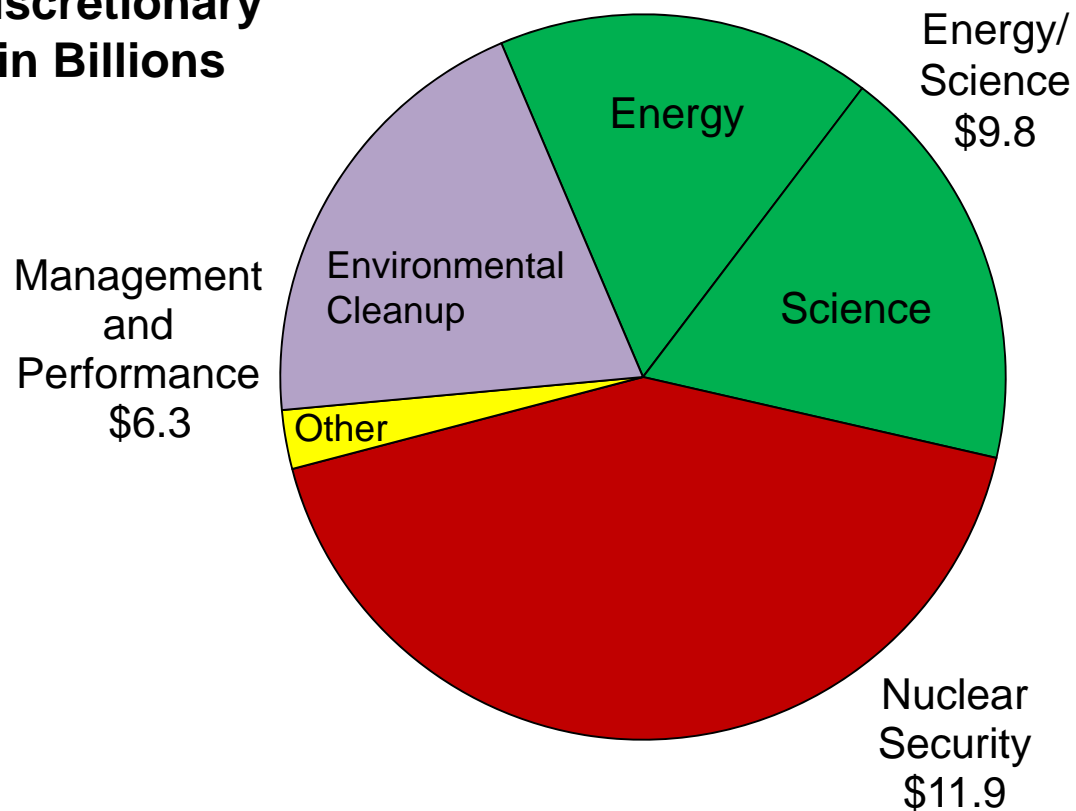
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- The Request is 2.6% above the FY 2014 enacted level, while the total Federal discretionary budget increase is 0.1%.
- Increase reflects the President's clean energy and nuclear security priorities despite budget cap constraints.
- An additional \$1.6 billion, fully offset, is part of the Opportunity, Growth and Security Initiative:
 - \$355 million for climate resilience
 - \$684 million for other energy initiatives
 - \$600 million for nuclear security



The Department of Energy \$27.9 Billion FY 2015 Budget Request Funds Presidential Priorities

**Discretionary
\$ in Billions**



Energy and Science \$9.8B Request Increases 5% from FY 2014

<u>Discretionary Budget Request</u>	<u>FY 2015 \$</u>
Energy Efficiency and Renewable Energy	2.3B
Electricity Delivery and Energy Reliability	180M
Fossil Energy	711M
Nuclear Energy	863M
Indian Energy Policy and Programs	16M
Advanced Research Projects Agency—Energy	325M
Energy Information Administration	123M
Energy Policy and Systems Analysis	39M
International Affairs	18M
Loan Programs	11M
Power Marketing Administrations	82M
<u>Science</u>	<u>5.1B</u>
Total	9.8B

<u>Opportunity, Growth, and Security Initiative</u>	<u>FY 2015 \$</u>
Energy Efficiency and Renewable Energy	714M
Race to the Top for Grid Modernization	200M
Electricity Delivery and Energy Reliability	100M
<u>Advanced Research Projects Agency—Energy</u>	<u>25M</u>
Total	1.0B

<u>Request for Mandatory Funding</u>	
Energy Security Trust Fund	200M



Energy and Science \$9.8B Request Increases 5% from FY 2014

- Invests in energy and science programs that
 - implement the President's Climate Action Plan
 - advance the all of the above energy strategy
 - promote US leadership in science and technology innovation



Energy and Science \$9.8B Request Increases 5% from FY 2014

- EERE request supports key Administration priorities through increased investment in sustainable transportation, renewable power, advanced manufacturing, and energy efficiency
 - Efficiency investments increase 39%
 - Advanced Manufacturing: funds at least 1 new NNMI institute
 - Renewable Power: 3 offshore wind projects; geothermal research and test site (FORGE); DPA commitment
 - Vehicles: EV Everywhere Grand Challenge
- Energy Security Trust Fund provides an additional \$200M/year over 10 years for advanced transportation infrastructure and R&D to reduce oil dependence



Energy and Science \$9.8B Request Increases 5% from FY 2014

- FE request supports sustainable fossil fuel usage
 - Carbon Capture, Utilization, and Storage
 - Post- and pre-combustion capture systems
 - Storage infrastructure and technology
 - Natural Gas
 - Scientific testing of gas hydrates
 - Interagency R&D collaboration on shale gas development
 - Demonstration of natural gas CCS technology



Energy and Science \$9.8B Request Increases 5% from FY 2014

- NE request advances strategy for long-term nuclear waste management and for developing next generation nuclear reactors:
 - Technical support for SMR licensing
 - Funds CASL modeling and simulation Hub
 - Supports implementation of Administration’s Strategy for Management and Disposal of Used Fuel and Radioactive Waste
- OE request invests in energy infrastructure security, including resiliency, emergency response, cyber and physical security
 - Infrastructure Security and Energy Restoration budget funds an Energy Resilience Operations Center
 - Request also funds expanded research on micro-grids and grid-scale energy storage



Request Funds Increases for ARPA-E, EIA, EPSA, and IE

- ARPA-E request of \$325M represents a 16% increase that funds \$150M in an open solicitation and 4-5 targeted solicitations
- EIA request of \$123M supports evolving data needs for a changing energy market
- EPSA request of \$39M supports Quadrennial Energy Review and analysis and modeling for the Department's grid modernization program
- IE request of \$16M consolidates Tribal energy programs in a single office and expands funding



Energy and Science \$9.8B Request Increases 5% from FY 2014

- Science request includes increased funding for advanced computing, computational materials science, and climate modeling
 - Increased investment in Exascale computing
- Continued focus on facilities, including significant investment in FRIB and LCLS II
- Sustained commitment to EFRCs
- Fusion energy budget sustains domestic fusion program while supporting international commitments



Crosscutting Initiatives

To focus resources and management coordination on new and ongoing R&D, the Department is proposing crosscutting initiatives funded in program offices but managed jointly:

- **Grid:** Unified grid modernization strategy to address institutional and technological challenges to creating a more secure, resilient, and flexible future grid. (\$314M – OE, EERE, EPSA, CI)
- **Subsurface:** Energy production and storage, CO₂ storage, and hazardous materials disposal share common challenges in characterizing, engineering, and monitoring geologic environments (\$192M – FE, EERE, EM, SC, NE).
- **Exascale:** Research and development in Science and NNSA leading to the implementation of advanced computing systems. (\$141M – SC, NNSA)
- **Supercritical CO₂:** Research, development, and demonstration of SCO₂ technologies with broad potential for higher-efficiency, lower-cost power generation, including a new STEP demonstration project. (\$57M – NE, EERE, FE)
- **Cybersecurity:** Activities to strengthen the protection of DOE from cyber attacks, bolster the Nation’s capabilities to address cyber threats, and improve the cybersecurity of the energy sector. (\$302M – NNSA, CIO, EM, SC)



Nuclear Security

\$11.9B, +4% from FY 2014

<u>Discretionary Budget Request</u>	<u>FY 2015 \$</u>
National Nuclear Security Administration	
<i>Weapons Activities</i>	8.3B
<i>Defense Nuclear Nonproliferation</i>	1.6B
<i>Naval Reactors</i>	1.4B
<i>Federal Salaries and Expenses</i>	410M
Total National Nuclear Security Administration	11.7B
<u>Specialized Security Activities</u>	<u>202M</u>
Total	11.9B

<u>Opportunity, Growth, and Security Initiative</u>	<u>FY 2015 \$</u>
National Nuclear Security Administration	
<i>Weapons Activities</i>	504M
<i>Defense Nuclear Nonproliferation</i>	96M
Total	600M



National Nuclear Security Administration

\$11.7B, +4% from FY 2014

- Weapons Activities: \$8.3B, +7%
 - Funds “3+2” strategy that reduces the number and types of weapons in the stockpile while maintaining a mission effective nuclear deterrent without testing, including W76-1, B61-12, and W88 ALT 370 life extension programs
 - Invests in the scientific and engineering foundation and in critical infrastructure pursuant to the 2010 Nuclear Posture Review
- Naval Reactors: \$1.3 B, +26%
 - Funds reactor for the *Ohio*-class replacement submarine and the used fuel handling facility, saving the government money over time



Defense Nuclear Nonproliferation

\$1.6 B, -20% from FY14

- Global Threat Reduction Initiative (\$334M) will continue to convert or shutdown HEU reactors, remove vulnerable HEU and plutonium, and protect additional buildings containing high-priority materials
- DNN R&D (\$361M) will continue to improve capabilities in nonproliferation and foreign weapons program activity monitoring
- Fissile Material Disposition (\$311M) remains a vital commitment but as the Department assesses potentially more cost effective options, MOX is put in cold standby



Management and Performance

\$6.3B, -3% from FY 2014

<u>Discretionary Budget Request</u>	<u>FY 2015 \$</u>
Environmental Management	5.6B
Legacy Management	172M
Chief Financial Officer	47M
Chief Human Capital Officer	25M
Chief Information Officer	72M
Congressional and Intergovernmental Affairs	6M
Economic Impact and Diversity	7M
Environment, Health, Safety and Security	181M
Independent Enterprise Assessments	74M
General Counsel	31M
Hearings and Appeals	6M
Inspector General	40M
Management	68M
Public Affairs	3M
<u>Small and Disadvantaged Business Utilization</u>	<u>2M</u>
Total	6.3B



Management and Performance

The Department is improving management through strategic reorganizations that:

- Unite the basic science and applied energy programs under a single Under Secretary
- Improve departmental management and execution of some of our most technically complex cleanup missions by establishing an Under Secretary for Management and Performance with responsibility for the Office of Environmental Management and the DOE's major support functions
- Strengthen departmental policy planning and systems analysis (EPSA)
- Establish an enterprise-wide approach to health, safety and security
- Support diversity, small businesses, and Native Americans

Initiatives are ongoing to:

- Rebuild the strategic partnership with the National Laboratories
- Improve delivery and reduce the cost of human resource functions and IT services
- Strengthens management through new cyber and incident management councils



Management and Performance

In 2015, the budget request for the Office of Environmental Management will:

- Continue progress on cleanup at 16 sites across the DOE complex
- Implement an effective approach to vitrifying Hanford tank waste
- Continue progress on environmental management of the former uranium enrichment facilities at Oak Ridge, Portsmouth, and Paducah
- Continue operating the SRS Defense Waste Processing Facility and H-Canyon Materials Management facility; and the startup of the Idaho Sodium Bearing Waste Facility for disposal of the remaining liquid waste





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