



DEPARTMENT OF ENERGY

Funding Highlights:

- Provides \$27.9 billion in discretionary funds for the Department of Energy that will: position the United States to compete as a world leader in clean energy and advanced manufacturing; enhance U.S. energy security; cut carbon pollution and respond to and prepare for the threat of climate change; and modernize the nuclear weapons stockpile and infrastructure. This includes:
 - Advancing the Administration's "all-of-the-above" energy strategy by investing \$4.2 billion in the Department's discretionary applied energy programs to drive energy sector innovation;
 - Investing in energy productivity, manufacturing technologies, and advanced transportation to strengthen U.S. competitiveness and cut carbon pollution;
 - Maintaining the President's commitment to increase funding for key basic research agencies by providing more than \$5 billion for the Office of Science to conduct basic research and invest in research infrastructure in areas such as foundational science for clean energy and fundamental physics;
 - Providing \$2.3 billion for the Office of Energy Efficiency and Renewable Energy to build on the Administration's success in reducing U.S. dependence on fossil fuels, promoting energy efficiency, and doubling U.S. renewable electricity generation; and
 - Maintaining a safe, secure, and effective nuclear arsenal to deter adversaries and protect the Nation, while working to enhance national security through partnerships to detect, secure, and eliminate unnecessary nuclear and radiological material worldwide.

Opportunity, Growth, and Security Initiative:

- Through the Opportunity, Growth, and Security Initiative, supports:
 - Additional investments in clean energy to accelerate both research and the development and deployment of new technologies, including innovative new materials, processes, and system designs for sustainable vehicles and fuels, advanced manufacturing, solar and wind energy, and more efficient buildings;
 - A Race to the Top for Energy Efficiency and Grid Modernization that will provide incentives for States to modernize their electricity grids and reduce energy waste;

- Strengthened national resilience to the effects of climate change, including investments specifically for identifying and analyzing critical infrastructure vulnerabilities as well as funds for grants to support State and local level resilience planning; and
- Accelerated national security investments within the National Nuclear Security Administration, including facilities construction, deferred maintenance projects, and research and development to keep nuclear weapons safe, reliable, and effective.

Reforms:

- Achieves savings and efficiencies by eliminating \$4 billion annually in fossil fuel subsidies, cutting low priority and low performing programs, and increasing utilization of existing facilities and infrastructure.
- Supports ongoing efforts to improve management and performance through the reorganization of the management structure and by supporting a more robust policy analysis process.

The Department of Energy (DOE) is charged with advancing the energy, environmental, and nuclear security of the United States, promoting scientific and technological innovation in support of those missions, and ensuring the environmental cleanup of the national nuclear weapons complex. It facilitates many of the President's highest priorities, including cutting carbon pollution, increasing climate preparedness, and supporting clean energy and innovation, which are critical to job creation, long-term economic growth, and national security. In total, the Budget provides \$27.9 billion in discretionary funds for DOE to support its mission, a 2.6 percent increase over the 2014 enacted level. The Budget includes \$11.7 billion for nuclear security, a four percent increase over the 2014 enacted level. In light of the current discretionary caps, these increases in funding are significant and a testament to the importance of clean energy and innovation to the Nation's economic future, and to the importance of nuclear security to the Nation's safety. While funding has increased in these critical areas, the Administration has identified areas for savings and efficiency, such as eliminating \$4 billion annually in fossil fuel subsidies, cutting low priority and low performing programs, and increasing utilization of existing facilities and infrastructure.

Invests in Clean Energy, Innovation, and Jobs of the Future

Promotes Energy Innovation to Keep America Competitive, Respond to the Threat of Climate Change, and Empower Energy and Manufacturing Industries of Tomorrow. The Budget provides \$2.3 billion for the Office of Energy Efficiency and Renewable Energy (EERE) to accelerate research and development (R&D), build on ongoing successes, increase the use of critical clean energy technologies, and reduce costs further. Within EERE, the Budget increases funding by 15 percent above 2014 enacted levels for sustainable vehicle and fuel technologies, by 39 percent for energy efficiency and advanced manufacturing activities, and by 16 percent for innovative renewable power projects such as those in the SunShot Initiative to make solar power directly price-competitive with other forms of electricity by 2020. The Budget provides funding within EERE to help State and local decision-makers develop policies and regulations that encourage greater deployment of renewable energy, energy efficiency technologies, and alternative fuel vehicles. The Budget also supports technical assistance to States and local communities to help ensure shale gas is

developed in a safe, responsible way that helps build diverse and resilient regional economies that can withstand boom-and-bust cycles and can be leaders in building and deploying clean energy technologies. Within the Office of Electricity Delivery and Energy Reliability, the Budget also invests \$180 million in R&D and other activities that will facilitate the transition from the current electricity delivery infrastructure to a Smart Grid. The Budget also provides \$863 million for the Office of Nuclear Energy, which includes funding for R&D on advanced small modular reactors. The Budget provides \$476 million for the Fossil Energy Research and Development program primarily dedicated to further lowering the costs of carbon capture and storage and advanced power systems, which are key elements of achieving the President's climate goals and the all-of-the-above energy strategy. In addition, the Budget requests \$325 million for the Advanced Research Projects Agency–Energy, a program that seeks to fund transformative energy research, and over \$900 million for basic clean energy research in the Office of Science.

The Opportunity, Growth, and Security Initiative accelerates research and the development and deployment of new, high impact clean energy technologies by providing an additional \$484 million for activities leading to innovative materials, processes, and system designs; validation of new technologies; and increased Federal energy cost savings.

Invests in Energy Productivity and Advanced Transportation to Reduce Costs and Strengthen Domestic Manufacturing. The Budget supports progress toward the President's goal of cutting energy wasted by homes and businesses—doubling energy productivity by 2030. The Budget provides \$227 million for the Weatherization Assistance Program to help tens of thousands of low-income families save hundreds of dollars a year on their energy bills by making their homes more energy efficient. DOE's Federal Energy Management Program will continue to assist agencies to improve the energy efficiency of Federal buildings by investing in both efficiency and new renewable

energy. The Budget invests in a national effort to develop and commercialize emerging energy-efficient and cross-cutting manufacturing technologies. As an integral part of this initiative, the Budget provides DOE with \$305 million to expand efforts on innovative manufacturing processes, including Clean Energy Manufacturing Innovation Institutes as part of a larger national network of manufacturing innovation institutes. In addition, the Budget helps States and localities improve the integration and utilization of natural gas in manufacturing and transportation. Building on previous investments supporting U.S. electric and alternative-fuel vehicle development and manufacturing, the Budget provides \$359 million in discretionary funding for DOE vehicle technology activities. These activities include the EV Everywhere initiative, a targeted effort to make electric-powered vehicles as affordable and convenient as gasoline-powered vehicles for the average American family within a decade, and support, through the Clean Cities program, to promote the adoption of alternative fuel vehicles. The Budget also promotes fuel supply diversification by providing \$253 million at DOE to develop and demonstrate conversion technologies to produce advanced biofuels, such as “drop-in” replacements for gasoline, diesel, and jet fuel. In addition, the Budget invests \$2 billion over the next 10 years from Federal oil and gas development revenue in a new Energy Security Trust that would provide a reliable stream of mandatory funding for R&D on cost-effective transportation alternatives utilizing cleaner fuels such as electricity, homegrown biofuels, renewable hydrogen, and domestically produced natural gas that reduce U.S. dependence on oil.

To further increase U.S. energy productivity, the Opportunity, Growth, and Security Initiative includes one-time funding for Race to the Top performance-based awards to support State governments that implement effective policies to cut energy waste and modernize the grid, and additional funds to strengthen national resilience to the effects of climate change, including investments for grants to support State and local level resilience planning.

Invests in Basic Research and Research Infrastructure to Keep America Competitive. To continue the cutting-edge R&D that is essential to U.S. innovation and economic competitiveness, the Budget provides over \$5 billion to the Office of Science, which funds research grants and unique scientific facilities in multiple areas of science, including physics, biology, climate and environmental sciences, fusion, computational science, materials science, and chemistry.

Cuts Wasteful Spending and Improves Efficiency

Eliminates Unnecessary Fossil Fuel Subsidies. As the Nation continues to pursue clean energy technologies that will support future economic growth, it should not devote scarce resources to subsidizing the use of fossil fuels produced by some of the largest, most profitable companies in the world. That is why the Budget proposes to eliminate unnecessary fossil fuel subsidies that impede investment in clean energy sources and undermine efforts to address the threat of climate change. In total, the Budget would repeal over \$4 billion per year in tax subsidies to oil, gas, and other fossil fuel producers.

Protects Americans from Nuclear Threats

Ensures a Safe, Secure, and Effective Nuclear Deterrent. The Budget proposes \$8.3 billion for Weapons Activities, an increase of \$533 million, or 6.9 percent above the 2014 enacted level, to maintain a safe, secure, and effective nuclear deterrent as described in the Administration's Nuclear Posture Review (NPR) of 2010. Building on last year's jointly conducted cooperative analysis and planning process, the National Nuclear Security Administration (NNSA) and the Department of Defense (DOD) agreed on a prioritized plan and associated budget to meet the key NPR goals within the fiscal constraints of the Bipartisan Budget Act. Key nuclear stockpile programs, like the W76 and B61 life extensions, are sustained.

The Budget continues to make investments in improving or replacing aging facilities; adding funds for tritium production and plutonium manufacturing and experimentation; and sustaining the existing stockpile by maintaining the underlying science, surveillance, and other support programs. These foundational capabilities provide the bedrock that supports a safe, secure, and effective nuclear deterrent, and enables the United States to continue its nuclear testing moratorium in place since 1992. The Budget reflects a concerted effort to reduce the impact of the current fiscal environment on these capabilities. The Uranium Processing Facility, which has experienced cost growth in the design, will apply lessons learned from the analysis of the Chemistry and Metallurgy Research Replacement-Nuclear Facility.

To accelerate modernization and maintenance of nuclear facilities, the Opportunity, Growth, and Security Initiative accelerates funding for infrastructure planning and improvements found in the Readiness in Technical Base and Facilities and the Site Stewardship programs. The Budget also includes funds to increase nuclear science and engineering research and development found in the Campaigns. The Budget also proposes \$1.4 billion to fund naval reactors. This funding continues operational support to nuclear powered submarines and aircraft carriers, and development of the reactor for the replacement to the OHIO class ballistic missile submarine, and recapitalization of the program's 55-year old nuclear fuel infrastructure.

Reflecting a close partnership and shared commitment between NNSA and DOD to the Nation's defense, a portion of future funding for NNSA will continue to be included in DOD's outyear budget, providing allocations to NNSA in each budget year.

Prevents the Proliferation of Nuclear Material, Technologies, Facilities, and Expertise. The Budget proposes \$1.6 billion to prevent the proliferation of nuclear materials, technologies, and expertise that can support the spread of nuclear weapons and nuclear terrorism.

This funding supports Administration priorities by securing and eliminating unnecessary proliferation-attractive nuclear and radiological material, developing and fielding technologies to deter or detect nuclear proliferation, and implementing international nonproliferation regulatory controls and working to strengthen international nuclear safeguards and security regimes.

The Opportunity, Growth, and Security Initiative would accelerate nonproliferation research and development and expand international scientific engagement.

Following a year-long review of the plutonium disposition program, the Budget provides funding to place the Mixed Oxide (MOX) Fuel Fabrication Facility in South Carolina into cold-standby. NNSA is evaluating alternative plutonium disposition technologies to MOX that will achieve a safe and secure solution more quickly and cost effectively. The Administration remains committed to the U.S.-Russia Plutonium Management and Disposition Agreement, and will work with its Russian partners to achieve the goals of the agreement in a mutually beneficial manner.

Protects the Public from Harmful Exposure to Radioactive Waste and Nuclear Materials at DOE Sites. The Budget includes \$5.6 billion for the Environmental Management program to ensure that nuclear waste from the production of weapons during the Cold War is safely processed, secured, and disposed of in a timely manner. The program's cleanup actions include

removing radioactive waste from underground storage tanks, decontaminating and decommissioning old production facilities, and remediating soil and groundwater.

Securing the Long-Term Disposal of Nuclear Waste

Supports the Administration's New Strategy for the Management and Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste. The Administration released its *Strategy for the Management and Disposal of Used Nuclear Fuel and High Level Radioactive Waste* in January 2013 after determining that Yucca Mountain was not a workable solution for disposing of the Nation's spent nuclear fuel and high-level radioactive waste. Fundamentals of the Strategy include the creation of a well-defined consent-based facility siting process, implementation of interim storage in the near term, development of geologic disposal as a permanent solution, establishment of a new body to run the program, and an approach to make funds collected to support nuclear waste management more directly available for that purpose. The Strategy provides a framework for an integrated program for nuclear waste management and the Budget continues to lay the groundwork for full implementation, including sustainable funding mechanisms. The Budget provides \$79 million for R&D and process development activities in the areas of transportation, storage, disposal, and consent-based siting.