



DEPARTMENT OF ENERGY

Funding Highlights:

- Supports high-risk, high-payoff transformational research and development projects with \$300 million for the recently established Advanced Research Projects Agency–Energy (ARPA-E).
- Supports and encourages the early commercial deployment of innovative energy technologies with an additional \$36 billion in guaranteed loan volume authority for advanced nuclear power plants and an additional \$500 million in credit subsidy to support \$3 to \$5 billion in loan guarantees for innovative energy efficiency and renewable energy projects.
- Provides a 4.6 percent, or \$226 million, increase in funding at the Office of Science for basic research and world-leading laboratories to support transformational scientific discoveries and accelerate solutions to our Nation’s most pressing challenges.
- Invests \$2.3 billion in applied energy research and development to position the United States as the world leader in energy technology that will address climate change, develop new industries, and create new jobs.
- Accelerates the transition to a low-carbon economy through support of development and deployment of clean energy technologies such as solar, biomass, geothermal, wind, nuclear, and low-carbon emission coal power.
- Reduces security risks through major increases in funding for the detection, elimination, and securing of nuclear material and radiological sources worldwide and the maintenance of a safe, secure, and effective nuclear weapons stockpile.
- Continues the Nation’s efforts to reduce environmental risks and safely manage nuclear materials.

The President’s 2011 Budget provides \$28.4 billion for the Department of Energy (DOE) to support scientific innovation, develop clean and secure energy technologies, maintain national security, and reduce environmental risk.

Invests in the Sciences. The 2011 Budget continues the President’s Plan for Science and Innovation. The Budget provides \$5.1 billion for the Office of Science, including \$1.8 billion for

basic energy sciences to discover novel ways to produce, store, and use energy. The Budget also expands graduate research fellowship programs that will train students in critical energy-related fields. The 2011 Budget includes \$300 million for the Advanced Research Projects Agency-Energy, to accelerate game-changing energy technologies in need of rapid and flexible experimentation or engineering.

Encourages the Early Commercial Use of New, Innovative Energy Technologies that Will Reduce Greenhouse Gas Emissions.

The Budget substantially expands support for DOE loan guarantees for innovative energy technologies, by adding \$36 billion in new loan authority (for a total of \$54.5 billion) for nuclear power facilities and an additional \$500 million in credit subsidy to support \$3 to \$5 billion in loan guarantees for innovative energy efficiency and renewable energy projects. The loan guarantee program also will continue to support a range of commercial renewable energy programs and other facilities that help reduce pollutants and greenhouse gases while simultaneously creating clean energy jobs and contributing to long-term economic growth and international competitiveness.

Invests in Smart, Energy Efficient, and Reliable Electricity Delivery Infrastructure.

The Budget continues to support the modernization of the Nation's electric grid, by investing in research, development and demonstration of smart-grid technologies that will spur the transition to a smarter, more efficient, secure and reliable electric system. The end result will promote energy- and cost-saving choices for consumers, reduce emissions, and foster the growth of renewable energy sources like wind and solar. In addition, the Budget supports the Power Marketing Administration to reliably operate, maintain, and rehabilitate the Federal hydropower and transmission systems.

Advances the Development of Carbon Capture and Storage Technologies.

The Budget supports a balanced research and development (R&D) portfolio of carbon capture and storage technologies. The \$545 million for climate change technology funding provided for Fossil Energy R&D in the 2011 Budget will help reduce greenhouse gas emissions by focusing resources to develop carbon capture technologies with broad applications to advanced power systems, existing power plants, and industrial sources.

Invests in Clean Energy Technologies to Reduce Dependence on Oil and Accelerate the Transition to a Low-Carbon Economy.

The Budget provides support for accelerating research, development, demonstration of nuclear technologies, and the commercialization of new nuclear power facilities and various clean energy technologies. Nearly \$2.4 billion is provided for energy efficiency and renewable energy programs, an increase of \$113 million over the 2010 appropriation, including \$302 million for solar energy, \$220 million for biofuels and biomass R&D, \$325 million for advanced vehicle technologies, and \$231 million for energy efficient building technologies. These investments will help reduce dependence on oil and create long-term, sustainable economic growth in the low-carbon industries of the future, helping to foster long-term job creation. The Budget also eliminates funding for programs that provide inefficient fossil fuel subsidies that impede investment in clean energy sources and undermine efforts to deal with the threat of climate change.

Reduces Proliferation Risks and Promotes the Safety, Security, and Reliability of the Nuclear Weapons Stockpile Without Nuclear Testing.

The Budget provides \$2.7 billion, an increase of \$550 million over the 2010 appropriation, to prevent the proliferation of nuclear weapons. This increase supports the strategy to move toward a world without nuclear weapons that the President announced in his April 2009, speech in Prague. This investment fully funds efforts to: secure nuclear material; develop technology to detect and deter nuclear testing and smuggling; and support international nonproliferation treaties, regulatory controls, and safeguards. Development work on the reliable replacement warhead has ceased. The 2011 Budget funds \$8.1 billion, \$750 million over the 2010 Budget, to improve the nuclear stockpile's safety, security, and effectiveness with more extensive life extension programs, upgrades to the infrastructure supporting the life extension programs, and new initiatives in naval reactors work. Funding for the stockpile and naval reactors work increases by about 10 percent over 2010 funding.

Protects the Public from Harmful Exposure to Radioactive Waste and Nuclear Materials. The Environmental Management program continues to clean up the legacy of waste and contamination at sites used to produce nuclear weapons and conduct energy research. The Administration has determined that Yucca Mountain, Nevada, is not a workable option for

a nuclear waste repository and will discontinue its program to construct a repository at the mountain in 2010. The Department will carry out its responsibilities under the Nuclear Waste Policy Act within the Office of Nuclear Energy as it develops a new nuclear waste management strategy.

Department of Energy
(In millions of dollars)

	Actual 2009	Estimate 2010	Estimate 2011
Spending			
Discretionary Budget Authority:			
National Defense:			
National Nuclear Security Administration	9,121	9,877	11,215
Other Defense Activities	1,314	847	878
Energy Resources	4,131	4,292	5,065
Science	4,773	4,895	5,121
Environmental Management	5,992	6,008	6,000
Radioactive Waste Management	288	197	—
Corporate Management	207	220	212
Power Marketing Administration	234	99	95
Offsetting receipts	-23	-27	-230
Total, Discretionary budget authority	26,037	26,406	28,354
<i>Memorandum:</i>			
<i>Budget authority from American Recovery and Reinvestment Act ...</i>	36,729	—	—
<i>Budget authority from supplementals</i>	7,867	—	—
Total, Discretionary outlays	25,154	29,667	31,609
<i>Memorandum: Outlays from American Recovery and Reinvestment Act ..</i>	954	10,703	14,646
Mandatory Outlays:			
Existing law	-1,206	-752	-474
Legislative proposal, Ultradeep Water, Oil, and Gas Research and Development	—	—	30
Total, Mandatory outlays	-1,206	-752	-444
<i>Memorandum: Outlays from American Recovery and Reinvestment Act ..</i>	33	109	131
Total, Outlays	23,948	28,915	31,165

Department of Energy—Continued
(In millions of dollars)

	Actual 2009	Estimate	
		2010	2011
Credit activity			
Direct Loan Disbursements:			
Title 17 Innovative Technology Direct Loan Financing Account	21	7,284	18,114
Advanced Technology Vehicles Manufacturing Direct Loan Financing Account.....	886	5,304	11,352
Total, Direct loan disbursements	907	12,588	29,466
Guaranteed Loan Commitments:			
Title 17 Innovative Technology Loan Guarantee Program ¹	—	3,054	9,016
Total, Guaranteed loan commitments	—	3,054	9,016

¹ Commitments reflect the full face value of debt obligations, any part of which is guaranteed, supported by Title 17. These figures represent loan guarantee obligations of the Government at closing, and do not include "conditional commitments," which are legally contingent on the satisfaction of various conditions precedent.