



## DEPARTMENT OF ENERGY

### Funding Highlights:

- Provides \$29.5 billion, a 12 percent increase over the 2010 enacted level. This reflects increases for priority areas such as clean energy, nuclear security, and research and development. Savings are achieved through cuts to inefficient fossil energy programs.
- Doubles the number of Energy Innovation Hubs, adding three areas of research to focus on critical materials including rare earth materials, battery and energy storage, and new grid technologies and systems to help Smart Grid and improve energy transmission efficiency.
- Positions the United States to lead in the clean energy economy by providing \$5.4 billion for long-term research and development at the Office of Science and \$550 million for the Advanced Research Projects Agency–Energy.
- Makes a significant commitment to U.S. energy technology leadership, more than doubling energy efficiency research, development, and deployment and increasing renewable energy investments by over 70 percent.
- Initiates a public-private effort to reduce energy usage in our Nation’s commercial buildings by 20 percent by 2020. The Department of Energy’s programs include a “Race to Green” grant competition and a pilot program to provide retrofit loan guarantees that will focus on universities and hospitals. These programs complement an expanded and redesigned tax incentive for commercial building upgrades.
- Helps reach the goal of one million advanced technology vehicles on the road by 2015 through more than \$580 million to assist in research and development, a competitive grant program to support deployment in communities across the country, and enhancements to the existing electric vehicle tax incentive.
- Increases the percentage of electricity produced by clean energy sources by encouraging early commercial deployment of innovative clean energy technologies with additional loan guarantee support for nuclear power plants and innovative energy efficiency and renewable energy projects. This financing support complements tax incentives (e.g., Section 1603 grants and Section 48c credits) for renewable energy generation and manufacturing.
- Eliminates inefficient fossil fuel subsidies that impede investment in clean energy sources and undermine efforts to address the threat of climate change.
- Includes \$7.6 billion to maintain a safe, secure, and effective nuclear weapons stockpile in support of the planned decrease in deployed U.S. and Russian weapons under the New Strategic Arms Reduction Treaty approved by the Senate.

- Strengthens national security through funding for the detection, elimination, and securing of nuclear and radiological material worldwide.
- Continues the Nation's efforts to reduce environmental risks and safely manage nuclear materials.

The Department of Energy (DOE) is charged with advancing the national, economic, and energy security of the United States; promoting scientific and technological innovation in support of that mission; and ensuring the environmental cleanup of the national nuclear weapons complex. It facilitates some of the President's highest priorities: clean energy and research and development (R&D), which are critical to the Nation's economic competitiveness and national security. The President's Budget provides \$29.5 billion for DOE to support this mission, a 12 percent increase over the 2010 enacted level. While funding has been increased in these critical areas, the Administration has identified areas for savings, such as certain fossil energy programs where industry has the resources to move forward without Federal assistance.

### ***Invests in the Clean Energy Economy and Jobs of the Future***

**Doubles the Number of Energy Innovation Hubs.** Energy Innovation Hubs will bring together top scientists to work in teams on cross-disciplinary research related to critical materials and rare earth elements, energy storage and batteries, and the development of new grid technologies and systems to help Smart Grids improve energy transmission efficiency. Innovation and breakthroughs often happen when scientists and thinkers from different disciplines have a chance to work together on some of our toughest problems. This was the approach undertaken in the Manhattan Project and in the effort to develop radar. As we look at the challenges facing the Nation, especially those related to clean energy,

we need to foster this kind of creativity. That is why the Budget doubles the number of Energy Innovation Hubs, creating three more Hubs across the country. These new Hubs will join existing Hubs on fuels from sunlight, energy efficient buildings, and modeling and simulation technologies for nuclear power.

**Funds Clean Energy Research, Development, and Deployment to Keep America Competitive.** To lead in the industries of tomorrow, it is critical that we invest in R&D today. The Budget advances the President's Plan for Science and Innovation to double the budgets of key basic research agencies, providing \$5.4 billion for the Office of Science, including \$2.0 billion for basic energy sciences to discover new ways to produce, store, and use energy. These funds are part of a broad energy strategy that starts with research and includes deployment through grants, financing assistance, and tax incentives. Compared to 2010, the Budget more than doubles funding for energy efficiency activities to improve the energy productivity of our industries, vehicles, and buildings. It ramps up support for renewable energy research, development, and deployment activities by over 70 percent, including: \$457 million for solar energy; \$341 million for biofuels and biomass R&D, including a new reverse auction to promote advanced biofuels; and more than doubling investment in geothermal energy to \$102 million. It also includes: \$853 million to support nuclear energy, including research and development of a variety of nuclear technologies, such as Small Modular Reactors; and \$453 million for a fossil energy R&D portfolio focused on carbon capture and storage technologies. The Budget includes funding to accelerate the deployment of

new models of energy research pioneered in the last several years, including \$550 million for the Advanced Research Projects Agency–Energy, a program that supports breakthrough ideas. Finally, building on the unprecedented investment in clean energy provided by the American Reinvestment and Recovery Act of 2009 (the Recovery Act), the Budget provides \$36 billion in loan guarantee authority for new nuclear power facilities and an additional \$200 million in credit subsidy to support \$1 billion to \$2 billion in loan guarantees for innovative energy efficiency and renewable energy projects, and proposes new loan authority to improve the efficiency of commercial buildings, hospitals and schools.

**Reduces Buildings’ Energy Use by 20 Percent by 2020.** The 80 billion square feet of non-residential building space in the United States present an opportunity to realize large gains in energy efficiency. In 2010, commercial buildings consumed roughly 20 percent of all energy in the U.S. economy. The President’s Better Buildings Initiative will, over the next 10 years, seek to make non-residential buildings 20 percent more energy efficient by catalyzing private sector investment through a series of incentives to upgrade offices, stores, universities, schools, hospitals and other commercial buildings. The Budget proposes to make American businesses more energy efficient through three new initiatives: re-designing the current tax deduction for commercial buildings and upgrades by changing it to a credit and increasing the program by \$1 billion; launching two new pilot projects that focus on increasing financing opportunities for universities, schools, and hospitals by providing loan guarantees; and creating a \$100 million “Race to Green” competition for State and municipal governments to implement innovative approaches to building codes, standards, and performance measurements so that commercial building efficiency will become the norm. These programs build on the Administration’s commitment to retrofitting residential and government buildings, particularly through the Recovery Act investments and the Administration’s proposed Homestar program. The Administration continues to call on the Congress to pass the Homestar bill, which would

create jobs by encouraging Americans to invest in energy saving home improvements.

**Helps Put One Million Advanced Technology Vehicles on the Road by 2015.** To reach this goal and become the first in the world to do so, the Budget proposes new efforts to support electric vehicle manufacturing and adoption in the United States. The Budget transforms the existing \$7,500 tax credit for electric vehicles into a rebate that will be available to all consumers immediately at the point of sale, and advances innovative technologies through new R&D investments, building on the Recovery Act investments. In addition, the Budget proposes an investment of \$588 million for vehicle technologies—an increase of 88 percent above current funding levels, including a new effort to reward communities that invest in electric vehicles and infrastructure and remove regulatory barriers through a \$200 million grant program, modeled after the Race to the Top program.

**Modernizes the Electric Grid.** The Budget continues to support the modernization of the Nation’s electric grid by investing in research, development, and demonstration of Smart Grid technologies. This effort will spur the transition to a smarter, more efficient, secure and reliable electric system. As part of this effort, the Budget supports a new Energy Innovation Hub that will focus on grid technologies. 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 Administrations to reliably operate, maintain, and rehabilitate the Federal hydropower and transmission systems.

**Eliminates Inefficient Fossil Fuel Subsidies.** Consistent with the Administration’s Government-wide effort to identify areas for savings, the Budget eliminates inefficient fossil fuel subsidies that impede investment in clean energy sources and undermine efforts to address the threat of climate change. Approximately \$4 billion per year in tax subsidies to oil, gas, and other fossil fuel producers are proposed for repeal.

### ***Protects Americans from the Threat of Nuclear Harm and Pollution***

#### **Modernizes the Nation's Nuclear Weapons Arsenal, Reduces Proliferation Risks, and Maintains a Strong Strategic Deterrent.**

The Administration proposes \$11.8 billion in new budget authority for the National Nuclear Security Administration (NNSA), \$1.9 billion more than the 2010 enacted level. The overall investment includes \$7.6 billion for Weapons Activities, an increase of \$1.2 billion over the 2010 enacted level, to maintain a safe, secure, and effective nuclear arsenal by improving and replacing aging facilities and infrastructure, continuing nuclear weapon life extension programs, and sustaining stockpile surveillance and certification activities. This is the first of a multi-year effort, consistent with the report on the nuclear weapons infrastructure submitted to the Congress in November 2010. This multi-year funding is included in the outyear Budget assumptions and will be included in NNSA's budget each year. The Administration also proposes \$2.5 billion to prevent the proliferation of nuclear weapons by fully funding efforts to secure and dispose of nuclear material, to develop technologies to detect and deter

nuclear testing and smuggling, and to support international nonproliferation treaties, regulatory controls, and safeguards. The Administration also proposes \$1.2 billion for the work on naval reactors, including design of a new spent fuel handling infrastructure and reactor development for a replacement to the Ohio Class ballistic missile submarine to sustain a robust nuclear deterrent. Finally, reflecting their close partnership and shared commitment, a portion of future funding for NNSA will be included in the Department of Defense's budget, with allocations being made to NNSA each budget year.

#### **Protects the Public from Harmful Exposure to Radioactive Waste and Nuclear Materials.**

The Environmental Management program continues to clean up waste and contamination to meet its cleanup commitments at sites used for nuclear weapons production and energy research. The program's cleanup actions include removing radioactive wastes from underground storage tanks, decontaminating and decommissioning old production facilities, and installing groundwater monitoring wells primarily at sites in Washington, South Carolina, Idaho, Tennessee, and New Mexico.

**Department of Energy**  
(In millions of dollars)

	Actual 2010	Estimate	
		2011	2012
<b>Spending</b>			
Discretionary Budget Authority:			
National Defense:			
National Nuclear Security Administration.....	9,881		11,783
Cancellation of unobligated balances .....	—		—70
Other Defense Activities.....	847		859
Energy Resources .....	4,445		5,697
Science .....	4,964		5,416
Environmental Management .....	6,459		6,130
Corporate Management.....	256		171
Power Marketing Administrations.....	150		86
Offsetting receipts.....	-508		-525
Total, Discretionary budget authority.....	26,494	28,353	29,547
<i>Memorandum:</i>			
Budget authority from supplementals .....	-20	—	—
American Recovery and Reinvestment Act rescission.....	-1,500	—	—
Total, Discretionary outlays.....	32,911	47,808	42,483
Mandatory Outlays:			
Existing law .....	-830	-1,877	-1,244
Legislative proposals:			
Ultra-deep Water, Oil, and Gas Research and Development .....	—	—	30
Home Energy Retrofit Rebate Program .....	—	300	1,800
Wireless Innovation Fund.....	—	—	20
Total, Mandatory outlays.....	-830	-1,577	606
Total, Outlays .....	32,081	46,231	43,089
<b>Credit activity</b>			
Direct Loan Disbursements:			
Title 17 Innovative Technology Direct Loan Financing Account.....	444	9,857	16,958
Advanced Technology Vehicles Manufacturing Direct Loan Financing Account.....	1,581	18,556	2,786
Total, Direct loan disbursements.....	2,025	28,413	19,744
Guaranteed Loan Commitments:			
Title 17 Innovative Technology Loan Guarantee Financing Account <sup>1</sup> ....	99	2,589	3,713
Better Buildings Pilot Loan Guarantee Initiative for Universities, Schools, and Hospitals.....	—	—	2,000
Total, Guaranteed loan commitments .....	99	2,589	5,713

<sup>1</sup> The commitments noted here include disbursements of loan guarantee commitments by the Government, not “conditional commitments” under Title XVII, which are legally contingent on the satisfaction of various conditions precedent.

