



OFFICE OF
MANAGEMENT AND BUDGET

THE FEDERAL BUDGET
FISCAL YEAR 2011

Creating the Clean Energy Economy of Tomorrow

Having steered the economy back from the brink of a depression, the Administration is committed to moving the Nation from recession to recovery by sparking job creation to get millions of Americans back to work and building a new foundation for the long-term prosperity for all American families. To do this, the 2011 Budget makes critical investments in the key areas that will help to reverse the decline in economic security that American families have experienced over the past decade with investments in education, clean energy, infrastructure, and innovation.

But even as we meet the challenge of the recession and work to build an economy that works for all American families, we must also change the way Washington does business – ending programs that don't work, streamlining those that do, cracking down on special interest access, and bringing a new responsibility to how tax dollars are spent. The President's Budget takes the steps to help jumpstart job creation, works to strengthen the economic security of American families, and makes the tough choices to put our Nation back on the path to fiscal responsibility.

Becoming the world leader in developing the clean energy technologies that will lead to the industries and jobs of tomorrow is critical to the future of our country. To help bring about the clean energy economy of tomorrow, the Budget will:

Undertake a Comprehensive Approach to Transform our Energy Supply and Slow Climate Change. The Administration will work to enact and implement a comprehensive market-based policy that will reduce greenhouse gas emissions in the range of 17 percent in 2020 and more than 80 percent by 2050. Businesses will have the flexibility to seek out the most profitable and least costly ways of achieving greenhouse gas emission reductions, from making investments in energy efficiency and low-carbon or zero-carbon fuels to offsetting their emissions through agricultural activities that remove carbon dioxide from the atmosphere, and developing export markets for American clean energy technologies through investments in emission offset activities abroad. The policy will address the needs of vulnerable families, communities, and

businesses to facilitate the transition to a clean energy economy. To prepare for the reduction in emissions, the Government will invest in climate registries to account for greenhouse gas emissions; implement regulations that improve energy efficiency, lower energy bills, and reduce emissions; plan for the effects of a changing climate in the stewardship of our natural resources; and undertake the research and development of next-generation energy technologies that will promote our energy and climate security.

Develop the Market for Clean Energy Technologies. The Budget substantially expands support for construction of new nuclear power plants by increasing the Department of Energy loan guarantees authority for such projects by \$36 billion, to a total of \$54.5 billion, and provides credit subsidy funding of \$500 million to support \$3 to \$5 billion of loan guarantees for energy efficiency and renewable energy projects. The loan guarantee program will encourage new nuclear facilities and a range of renewable energy projects that reduce greenhouse gases and pollutants, while simultaneously creating jobs and contributing to long-term economic growth. The Budget also supports research, development, and demonstration activities to accelerate deployment and commercialization of nuclear power, carbon capture and storage, renewable energy, and energy efficiency technologies. These steps contribute to the development of a more diverse energy portfolio that enhances American energy independence and, ultimately, national security. To reduce greenhouse gas emissions in developing countries, the United States will help them adopt clean energy technologies and low-carbon development strategies and open up new markets for exports of American clean energy technology.

Spur Investment in Domestic, Clean Energy Manufacturing. The Section 48(c) Advanced Energy Manufacturing Tax Credit was created by the Recovery Act to spur private investment in facilities that manufacture advanced energy technologies in fields like renewable energy, energy storage, advanced energy transmission, energy conservation, and contribute to greenhouse gas emissions mitigation. The program provides a 30 percent tax credit to qualified investments in new, expanded, or re-equipped advanced energy manufacturing projects, allocating a total of \$2.3 billion to clean energy manufacturers. The Budget expands this successful program, providing an additional \$5 billion to provide this tax credit to many more advanced energy manufacturing projects. This will help spur private investment in clean energy manufacturing and create jobs, helping to lay the groundwork for American leadership in the new clean energy economy.

Advance the Development of Carbon Capture and Storage Technologies. The Budget supports a balanced research and development portfolio of carbon capture and storage technologies. The \$545 million in funding provided in the 2011 Budget support fossil energy climate change technology 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.

Eliminate Funding for Inefficient Fossil Fuel Subsidies. As we work to create a clean energy economy, it is counterproductive to spend taxpayer dollars on incentives that run

counter to this national priority. To further this goal, the Budget eliminates tax preferences and funding for programs that provide inefficient fossil fuel subsidies, which impede investment in clean energy sources and undermine efforts to deal with the threat of climate change. We are eliminating 12 tax breaks for oil, gas, and coal companies, closing loopholes that will raise \$36 billion over the next decade. Moreover, this leadership in eliminating subsidies will also encourage prompter action by the major emerging economies to phase out their subsidies, which are in the hundreds of billions of dollars annually.

Invest in Science Research and Development. Investment in science and basic research is critical to long-term economic growth. That's why the Budget invests \$61.6 billion in civilian research and development, an increase of \$3.7 billion, a 6.4 percent increase, and an amount that continues the commitment to double funding for three key basic research agencies—the National Science Foundation, the Department of Energy's Office of Science, and the National Institute of Standards and Technology. This funding includes \$1.8 billion for research in basic energy sciences to discover novel ways to produce, store, and use energy to address energy independence and climate change and \$300 million for the Advanced Research Projects Agency-Energy, to accelerate game-changing energy technologies in need of rapid and flexible experimentation or engineering. The Budget includes increased funding for research to help create the foundation for the industries and jobs of the future, such as nano-manufacturing, advanced robotics, and new tools for the design of biological systems.

Boost Development of Clean Energy on Federal and Tribal Land. Already, public lands and offshore resources managed by the Federal Government constitute about one-third of the domestic supply of fossil fuel resources. The Administration will promote the development of clean, renewable energy on Federal lands. To that end, the Budget adds \$14 million -- on top of \$50 million in 2010 increases -- to build agency capacity to review and permit renewable energy projects on Federal lands. This includes conducting the environmental evaluations and technical studies needed to spur development of renewable energy projects, assessing available alternative resources, and mitigating the impacts of development. In addition, the Administration is assisting Indian tribes in overcoming the unique hurdles in developing renewable resources on Native American lands. Up to 15 percent of our potential wind energy resources are on Native American land, and the potential for solar energy is even higher.

Invest in the Understanding of Climate Change and Its Impacts. While climate policies are developed and investments in clean energy technologies are made, investments to understand the impacts of climate change are also crucial. Coastal areas, floodplains, and water systems will all be affected by the changing climate, and it is vital that we understand the potential effects of climate change so businesses, farmers, ranchers, and the entire Nation can prepare for them now. That is why the Budget invests \$2.6 billion to deepen our understanding of climate change and its impact. The United States also will take prompt, substantial action to help the least developed and most vulnerable countries adapt and build resilience to the impacts of climate change.

Increase the Number of Math, Science, and Engineering Graduates. If the United States is going to create the industries of tomorrow and the jobs that come with it, we need to continue to invest in educating the scientists and engineers who will develop these breakthroughs. That's why the Budget expands graduate research fellowship programs that will train students in critical energy-related fields. In addition, the Department of Energy, in partnership with the National Science Foundation, will dedicate at least 5 percent of its undergraduate and graduate fellowship, scholarship, and traineeship programs, roughly \$19 million in 2011, to students pursuing clean energy careers. Finally, the Budget proposes to launch a comprehensive science and technology workforce program to engage undergraduates at Historically Black, Tribal, and Hispanic-serving colleges and universities by realigning and building on existing programs. Funding for these activities would increase by over 14 percent to \$103 million.

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