

Investing In Innovation For Sustainable Growth And Quality Jobs

The Administration's vision of America's future is one in which prosperity is built by skilled, productive workers and sound investments that will spread opportunity at home and allow this nation to lead the world in the technologies, innovation, and discoveries that will shape the 21st century. Innovation will create new jobs and catalyze broadly shared economic growth. The lives of every American will improve as innovations diffuse and scale throughout the economy, leading to breakthroughs in health, education, energy, transportation, information, and much more.

To create the jobs of the future and to ensure that the United States remains the world's most dynamic economy, we must invest in American innovation by supporting the innovation building blocks of research, development, education, and infrastructure, by promoting competitive markets that spur productive entrepreneurship, and by catalyzing breakthroughs for national priorities. Since taking office, the President has already taken historic steps to lay the foundation for the innovation economy of the future, including well over \$100 billion of support for innovation in the Recovery Act, novel regulatory and executive order initiatives, and a comprehensive innovation strategy released in September 2009. But we cannot stop there.

The 2011 Budget moves the nation closer to the President's long-term goal of increasing combined private and public R&D investment to three percent of GDP. The budget will:

INVEST IN THE BUILDING BLOCKS OF AMERICAN INNOVATION

Restore American Leadership in Fundamental Research

"We need to encourage American innovation. Last year, we made the largest investment in basic research funding in history – an investment that could lead to the world's cheapest solar cells or treatment that kills cancer cells but leaves healthy ones untouched." –President Barack Obama, State of the Union Address, January 27, 2010

Double the R&D budget of key science agencies. The President's 2011 Budget sustains the President's commitment to restore American leadership in fundamental research by doubling the budgets of three key science agencies (National Science Foundation, Department of Energy's Office of Science, and the National Institute of Standards and Technology laboratories). The 2011 Budget provides \$13.3 billion for these three science agencies. The Budget prioritizes breakthrough approaches—such as the generation of fuels from sunlight, inspired by the process of photosynthesis in plants, or the invention of batteries that are more powerful, longer lasting, and safer – built from materials designed at the nanoscale. This funding will provide seed capital to accelerate the commercialization of promising ideas. The Budget also expands graduate research fellowship programs that will train students in energy and other innovation-related fields.

Make the R&E tax credit permanent. The 2011 Budget's proposed permanent extension of the research and experimentation tax credit will spur private investment in R&D by providing certainty that the credit will be available for the duration of the R&D investment.

Educate the next generation with 21st century knowledge and skills while creating a world-class workforce.

Recognize and reward excellence through the Race to the Top. In July 2009, President Obama issued a national challenge to reshape America's educational system to better engage and prepare our students for success in a competitive 21st century economy and workplace. Designed to spur innovation and the adoption and use of effective policies and practices, the Race to the Top is a comprehensive vision for school reform backed by a historic, \$4.35 billion investment. Not every state will receive an award under the Race to the Top but the competition has already generated an overwhelming response, with 41 states in the running and over 12 states that have altered laws or statewide policies to enhance their competitive edge and better align their practices to the competition. This year, President Obama will invest an additional \$1.35 billion in his FY 2011 budget to continue the Race to the Top among states, and to expand the program's reach through a separate competition for school districts. To develop, identify and bring to scale what works, the Obama Administration will also continue to support the Investing in Innovation Fund, the companion program to the Race to the Top.

Restore America to first in the world in college completion. President Obama has set a national goal of once again having the highest proportion of college graduates in the world. To reach that goal, he has proposed nearly doubling the amount of Pell grant scholarships available to 9 million students since he took office. He signed the \$2,500 American Opportunity Tax Credit for college into law and is now working to make it permanent to give families \$10,000 over four years for college. He will ensure that student loans remain affordable by limiting payments to 10 percent of income above a basic living allowance. Any remaining debt will be forgiven after 10 years of payments for borrowers in public service and 20 years for all others. He has proposed a \$12 billion American Graduation Initiative to help community colleges improve their quality, work with businesses, improve transfer rates, and support working students. And he is investing in access and completion programs and expanding low-cost Perkins loans.

Invest in the next generation of scientists and engineers. Our Nation's eighth graders are scoring below their peers from many Asian and European countries, and we are neither adequately closing the achievement gaps in math and science nor providing adequate opportunities for many students from diverse backgrounds. The Budget reflects the Administration's investment in improving science, technology, engineering, and mathematics (STEM) outcomes and creating the next generation of scientists and engineers who can help drive economic growth in the coming decades. The Budget provides \$300 million in new Department of Education grants to States to develop and implement institutional practices and improve teaching and learning in science and math aligned to new high standards. The Budget also dedicates \$150 million within the Investing in Innovation Fund to competitive grants for school districts, nonprofits, and other organizations to test, validate, and scale promising strategies to improve teaching and accelerate student learning in STEM subjects. The Department of Education will work with the National Science Foundation and other Federal agencies to identify the most effective interventions that can help States, schools, and teachers improve STEM outcomes.

Broaden reach and increase funding to promote study of science and technology. The Budget proposes to launch a comprehensive science and technology workforce program through the National Science Foundation 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.

Build a leading physical infrastructure

“We can put Americans to work today building the infrastructure of tomorrow. From the first railroads to the interstate highway system, our nation has always been built to compete. There’s no reason Europe or China should have the fastest trains, or the new factories that manufacture clean energy products.” –President Barack Obama, State of the Union Address, January 27, 2010

Create a national infrastructure innovation and finance fund. The 2011 Budget includes \$4 billion to create a National Infrastructure Innovation and Finance Fund to invest in projects of regional or national significance. This marks an important departure from the Federal Government’s traditional way of spending on infrastructure through grants to specific States and localities. The Fund will allocate resources based on demonstrable merit and analytical measures of performance. The Fund will provide planning, feasibility, and analytical capacity to help sponsors identify high-value projects from around the country and then carefully select the most worthwhile projects.

Sustain multi-year support for high-speed rail. Building on the historic \$8 billion down payment provided through the Recovery Act, the President’s Budget includes \$1 billion for high-speed rail, which supports the President’s five-year, \$5 billion pledge from the 2010 Budget. High-speed rail promises to give the traveling public a practical alternative to flying or driving, particularly where there is congestion in the skies and on the roads. With trains efficiently connecting city and business centers, travelers would enjoy a new level of convenience not available in most parts of the country today. The Administration is dedicated to working with States and project sponsors to identify high-speed rail projects that will provide the greatest transportation, social, and environmental benefits, while maximizing the return on taxpayer dollars.

Develop an advanced information technology ecosystem

Expand access to broadband. During 2011, the Department of Commerce and USDA will focus on administering the \$7.2 billion program to expand broadband deployment, as well as programs to improve broadband adoption and data collection, which were funded by the Recovery Act. In addition, the Budget expands access to broadband services by offering \$418 million in USDA loans and grants to move rural communities into the modern information economy.

Modernize the air traffic control system. The Budget provides \$1.14 billion, more than a 30-percent increase from 2010, for the innovative Next Generation Air Transportation System, the Federal Aviation Administration’s long-term effort to improve the efficiency, safety, and capacity of the aviation system. The 2011 Budget will help move from a national ground-based

radar surveillance system to a more accurate satellite-based surveillance system; aid in the development of more efficient routes through the airspace; and fund improvements in aviation weather information.

PROMOTE COMPETITIVE MARKETS THAT SPUR PRODUCTIVE ENTREPRENEURSHIP

Promote American exports

“We need to export more of our goods. Because the more products we make and sell to other countries, the more jobs we support right here in America. So tonight, we set a new goal: We will double our exports over the next five years, an increase that will support two million jobs in America...But realizing those benefits also means enforcing those agreements so our trading partners play by the rules. And that’s why we will continue to shape a Doha trade agreement that opens global markets, and why we will strengthen our trade relations in Asia and with key partners like South Korea, Panama, and Colombia.” –President Barack Obama, State of the Union Address, January 27, 2010

Promote opportunities for American exporters in new markets. The Budget provides \$534 million, a 20-percent increase, to the Department of Commerce’s International Trade Administration (ITA). As part of the National Export Initiative, a broader Federal strategy to increase American exports, ITA will strengthen its efforts to promote exports from small businesses, help enforce free trade agreements with other nations, fight to eliminate barriers to sales of U.S. products, and improve the competitiveness of U.S. firms.

Encourage high-growth and innovation-based entrepreneurship

Help entrepreneurs and small businesses build new and vibrant enterprises that lead to new jobs and economic growth. One of the lingering difficulties of the recession is that it is difficult for many small businesses to access the capital they need to operate, grow, and create new jobs. The Budget provides \$165 million in subsidy costs to support \$17.5 billion in Small Business Administration 7(a) loan guarantees that will help small businesses operate and expand. It also proposes to increase the maximum 7(a) loan size from \$2 million to \$5 million.

- Provide Incentives for Additional Investment. As another aspect of his jobs plan, the President is proposing an additional year of allowing companies (large and small) to immediately deduct 50 percent of their qualifying investments, a step that will lower the cost of making investments today, encouraging job creation today and innovation for tomorrow.
- Extend Enhanced Small Business Expensing. The Recovery Act allows small businesses to immediately write off up to \$250,000 of qualified investment in 2008 and 2009, providing an immediate tax incentive to invest in plant and equipment and create jobs. The President is proposing a one-year extension. This provision is estimated to cut small business taxes by over \$1 billion in 2009 and 2010.
- Permanently Eliminate Small Business Capital Gains. The Recovery Act encourages investment in small businesses by excluding from taxation 75 percent of the capital gains

for investors in small businesses who hold their investments for five years. This provision will save small business owners nearly \$1 billion over 10 years. The President's Budget proposes to completely eliminate the capital gains tax on small business stock.

Enhance regional economic competitiveness. Competitive, high-performing regional economies are the building blocks for national growth, and we must step up efforts to cultivate regional economic clusters across the country. The Budget supports growth strategies based on stronger regional clusters of innovation and economic activity through funding in Economic Development Administration (EDA), the Small Business Administration, the Department of Labor, and the Department of Education with other agencies in key support roles. The Budget provides funding in regional planning and matching grants within EDA to support the creation of regional innovation clusters that leverage regions' competitive strengths to boost job creation and economic growth. The Budget expands SBA's Emerging Leaders (formerly E200) initiative to \$3 million to support business development in distressed communities through intensive technical assistance for high-growth potential firms. The Budget also provides \$11 million to enhance small business participation in clusters by awarding competitive grants to promote greater coordination of resources, such as business counseling and mentor-protégé partnerships. DOL and Education will use their workforce and training resources to support regional collaboration and close linkages with employers so that training leads to good jobs.

Improve public sector innovation and support community innovation

Encourage innovation to address our nation's great social challenges. The Budget proposes \$60 million for the Social Innovation Fund, to identify and invest in innovative solutions that are increasing economic opportunities for Americans, transforming schools and improving access to health care. For the last several decades, the rate at which we are making progress on our nation's great challenges has been too slow. Yet, there are powerful, innovative ideas being developed across the country that can make a dramatic difference on these problems. The Social Innovation Fund will find and fund nonprofit organizations that have developed innovative solutions that are demonstrating impact and are ready to move these solutions to more communities of need.

Facilitate public sector innovation. The Budget includes funding to expand the White House Open Government Initiative, which focuses on modernizing government information technology and designing technology platforms that foster openness across the Executive branch. The Initiative has achieved many important milestones, including:

- Publishing government data online to make it easy for anyone to remix and reuse,
- Challenging thousands of Federal employees to propose ideas for slashing the time required to process veterans' disability benefits,
- Releasing information on Executive branch personnel and salaries, and
- Launching the IT dashboard, a one-stop clearinghouse of information that allows anyone with a web browser to track government spending on technology.

Improve America's patent system

Enhance Patent Processing. Currently, patent applicants wait almost three years on average to receive their patents. The Budget helps improve processing times by providing an additional \$435 million (23%) increase over the enacted 2010 program level of the United States Patent and Trademark Office (USPTO) to hire additional staff and modernize IT infrastructure. This level provides full-access to USPTO fee collections and includes a 15 percent interim fee increase on patent fees to boost FY11 resources. The Budget would also allow USPTO to set fees through regulation, allowing it to adjust fees to better reflect the actual cost of providing services and create a more sustainable operating model.

CATALYZE BREAKTHROUGHS FOR NATIONAL PRIORITIES

Unleash a clean energy revolution

“No area is more ripe for such innovation than energy. You can see the results of last year’s investment in clean energy – in the North Carolina company that will create 1200 jobs nationwide helping to make advanced batteries; or in the California business that will put 1,000 people to work making solar panels. But to create more of these clean energy jobs, we need more production, more efficiency, more incentives.” –President Barack Obama, State of the Union Address, January 27, 2010

Support transformational clean energy research. The 2011 Budget builds upon substantial clean energy R&D investments in the Recovery Act and 2010 appropriations to forge a comprehensive approach to transforming energy supply and slowing global climate change. R&D funding will support renewable energy and energy efficiency technologies such as advanced batteries, solid-state lighting, solar, biomass, geothermal, and wind power. The 2011 Budget supports research and development of advanced coal-fueled power systems and carbon capture and storage technologies as well as science-based nuclear energy R&D programs to advance nuclear technologies and improve their market competitiveness. The Budget also proposes \$170 million for bioenergy research in USDA and \$300 million for the Advanced Research Projects Agency-Energy within DOE to support transformational discoveries and accelerate the development of clean energy.

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.

Deploy clean energy solutions. The President’s budget supports approximately \$40 billion in additional loan guarantee authority for innovative nuclear power, energy efficiency, and

renewable energy projects. These loan guarantees will help prove the technical viability of various promising technologies in the early stages of their commercial deployment so that they can later thrive in the marketplace without government support. They will also help restart the American nuclear power industry. As the President said in the State of the Union address: “To create more of these clean energy jobs, we need more production, more efficiency, more incentives. That means building a new generation of safe, clean nuclear power plants in this country.”

Inspire students to pursue clean energy careers. The Department of Energy and the National Science Foundation will partner on a \$74 million RE-ENERGYSE education effort to inspire tens of thousands of young Americans to pursue careers in clean energy. The Department of Energy also supports students through the Workforce Development for Teachers and Scientists program.

Invest in green job training and workers with barriers to self-sufficiency. The President’s Budget also makes strategic investments in competitive programs to target high-growth sectors and serve populations often left behind, including \$85 million for green job training and \$40 million for transitional jobs programs. The Budget also supports an initiative to reform and improve Job Corps, by setting high standards for Job Corps centers and taking quick and decisive action to address problems.

Support advanced vehicle technologies

Drive the transformation of the transportation sector. We are supporting a competition of advanced vehicle technologies to find the most cost-effective ways to increase fuel economy. The President’s budget continues R&D and deployment programs for advanced combustion, vehicle electrification, biofuels, natural gas, and fuel cells. Building on the investments in the Recovery Act, this commitment to next generation vehicle technology will help American companies lead the competitive 21st century global auto market. We will not only reduce our dependence on oil, lower greenhouse gas emissions, and save consumers money at the gas pump - but do so with cost-effective technologies produced by American workers.

Drive innovations in healthcare

Increase Funding for Biomedical Research. To accelerate progress in biomedical research, the Budget continues to support research both on the campuses of the National Institutes of Health (NIH) and for approximately 300,000 scientists and other research personnel at institutions across the country. Investments will focus on priority areas including genomics, translational research, science to support health care reform, global health, and reinvigorating the biomedical research community. The Budget also includes \$6,036 million to continue to expand research related to cancer, and \$143 million to expand research related to Autism Spectrum Disorders. Additionally, under the President’s Executive Order and subsequent NIH Guidelines for Human Stem Cell Research, NIH approved 40 responsibly-derived stem cell lines—nearly double the previous number of lines available—for path-breaking research. Finally, NIH will pursue the discovery, development, and pre-clinical testing of novel compounds for the prevention and treatment of symptoms associated with Alzheimer’s disease.

