The 2013 Budget:
Investing in Our Future

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“Tonight, I want to speak about how we move forward, and lay out a blueprint for an economy that’s built to last – an economy built on American manufacturing, American energy, skills for American workers, and a renewal of American values.”

- President Barack Obama
January 24, 2012
“The world is shifting to an innovation economy, and nobody does innovation better than America. In today’s innovation economy, we also need a world-class commitment to science and research.”
- President Barack Obama
December 6, 2011
The 2013 Budget: Investing in Our Future

• Pushes the Frontiers of Scientific Discovery
• Spurs Innovation
• Creates New American Jobs in Manufacturing
• Promotes Clean American Energy
• Educates Our Students in STEM
• Builds 21st Century Infrastructure
• Makes Tough Choices
  – Offsets all increases with cuts in other programs
  – Keeps non-security discretionary spending flat for the second year in a row
Composition of the Proposed FY 2013 Budget
Total Outlays = $3.8 trillion

- Social Security
- Defense discretionary
- Nondefense discretionary
- Medicare
- Medicaid
- Other mandatory
- Net interest

Defence R&D
Nondefence R&D

FEB. '12 OSTP
FY 2009 figures include Recovery Act appropriations. Research includes basic research and applied research.

FEB. '12 OSTP
Pushing the Frontiers of Scientific Discovery

• The 2013 Budget sustains the President’s commitment to double the budgets of three key science agencies: the National Science Foundation (NSF), the DOE Office of Science, and the NIST laboratories.

• The 2013 Budget supports a strong NASA Science portfolio.
Investing in the Building Blocks of American Innovation:
The President's Plan for Science and Innovation

budget authority in billions of current dollars

- Recovery Act
- NIST labs
- DOE Science
- NSF
Spurring Innovation by Investing in Research and Development

- Nearly $31 billion in 2013 for the National Institutes of Health (NIH).
- $2.3 billion in 2013 for U.S. Department of Agriculture (USDA) R&D, including $325 million for the Agriculture and Food Research Initiative.
- $17.7 billion for NASA to drive advances in science, technology, and exploration.
- $2.6 billion for Department of Commerce R&D, including NIST and NOAA investments.
Defense R&D Drives Innovation

<table>
<thead>
<tr>
<th></th>
<th>2012 estimate</th>
<th>2013 budget</th>
<th>'12-'13 Change</th>
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<tbody>
<tr>
<td>DOD basic research (“6.1”)</td>
<td>2,111</td>
<td>2,116</td>
<td>+0.2%</td>
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<tr>
<td>DOD applied research (“6.2”)</td>
<td>4,737</td>
<td>4,477</td>
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<td>DHS R&amp;D</td>
<td>577</td>
<td>729</td>
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<td>DOE Weapons Activities</td>
<td>4,281</td>
<td>4,691</td>
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- The Budget invests in defense-related S&T across a diverse portfolio, including advanced manufacturing, energy efficiency, cybersecurity, robotics, clean energy, a safe and secure nuclear arsenal, explosives detection, and biodefense.

- The Budget provides $2.8 billion for DARPA’s breakthrough research.
Advanced Manufacturing in the 2013 Budget

Creating New American Jobs in Manufacturing

- The 2013 Budget provides $2.2 billion for Advanced Manufacturing R&D in DOE, DOD, NIST, HHS, NSF, and other agencies.
- Focus areas include the National Robotics Initiative and the Materials Genome Initiative.
- Many of these investments will be matched by the private sector, in keeping with principles articulated by PCAST and the Advanced Manufacturing Partnership (AMP).
“And nowhere is the promise of innovation greater than in American-made energy... This country needs an all-out, all-of-the-above strategy that develops every available source of American energy. A strategy that’s cleaner, cheaper, and full of new jobs.”

- President Barack Obama
January 24, 2012
Energy R&D Highlights in the 2013 Budget

Promoting Clean American Energy

- **Energy Efficiency and Renewable Energy**
  - $2.3 billion for DOE EERE to: move toward 1 million advanced technology vehicles on the road; increase the energy productivity of American industries; and develop new materials for energy efficiency.

- **ARPA-E**
  - $350 million to DOE for support of transformational clean energy and natural gas research.

- **Hydraulic Fracturing**
  - $45 million for DOE, EPA, and USGS for research to reduce health and environmental impacts from hydraulic fracturing.

- **Clean Energy Technology**
  - Invest $6.7 billion (up 13 percent) from basic research to development and deployment.
US Global Change Research Program

in millions of constant FY 2012 dollars

FEB. '12 OSTP
FY 2009 figures include Recovery Act funding.
Global Change Research in the 2013 Budget

Leading the World Toward a Climate-Friendly Energy System

- Reaffirms commitment to addressing the climate change challenge.
- $2.6 billion for USGCRP, an increase of 5.6 percent or $136 million over 2012 enacted level.
- 2013 will be a key year for the National Climate Assessment.
- New USGCRP Strategic Plan will guide efforts to understand, assess, predict, and respond to global change.
- Science for sustainability is a priority (NSF, EPA, USDA, NOAA).
“That’s why when I took office, I called for an all-hands-on-deck approach to science, math, technology, and engineering. Let’s train more teachers. Let’s get more kids studying these subjects. Let’s make sure these fields get the respect they deserve.”

- President Barack Obama
February 7, 2012
Educating Our Students in STEM

- $3.0 billion for Federal STEM education programs in the 2013 Budget.
- Prepare 100,000 new STEM teachers over a decade: $135 million ($80 million in the Dept. of Education, $55 million in NSF) in the 2013 Budget.
- NSF and Department of Education will invest $60 million in a joint mathematics education initiative.
- Transform undergraduate STEM education: NSF’s Transforming Undergraduate Education in STEM ($61 million) program will fund R&D to design, test, and implement more effective STEM undergraduate educational practices. Widening Implementation and Demonstration of Evidence-Based Reforms (WIDER; $20 million) will support research on how to achieve sustainable implementation of better undergraduate STEM teaching.
Building a 21st Century Infrastructure

Wireless Innovation (WIN) Fund

• $300 million NIST fund for R&D on cutting-edge wireless technologies and applications, from spectrum receipts.
• NSF, DARPA, and others will make complementary investments in spectrum and other research.

Modernizing the Electrical Grid

• DOE will invest $143 million on grid modernization; DOD and NIST will make complementary investments.

A 21st Century Aviation System

• $1.1 billion for DOT R&D in the 2013 Budget, including R&D funding for the Next Generation Air-Traffic Control System (NextGen).
“Think about the America within our reach: A country that leads the world in educating its people. An America that attracts a new generation of high-tech manufacturing and high-paying jobs. A future where we’re in control of our own energy, and our security and prosperity aren’t so tied to unstable parts of the world. An economy built to last, where hard work pays off, and responsibility is rewarded.”

- President Barack Obama
January 24, 2012
THANK YOU

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