



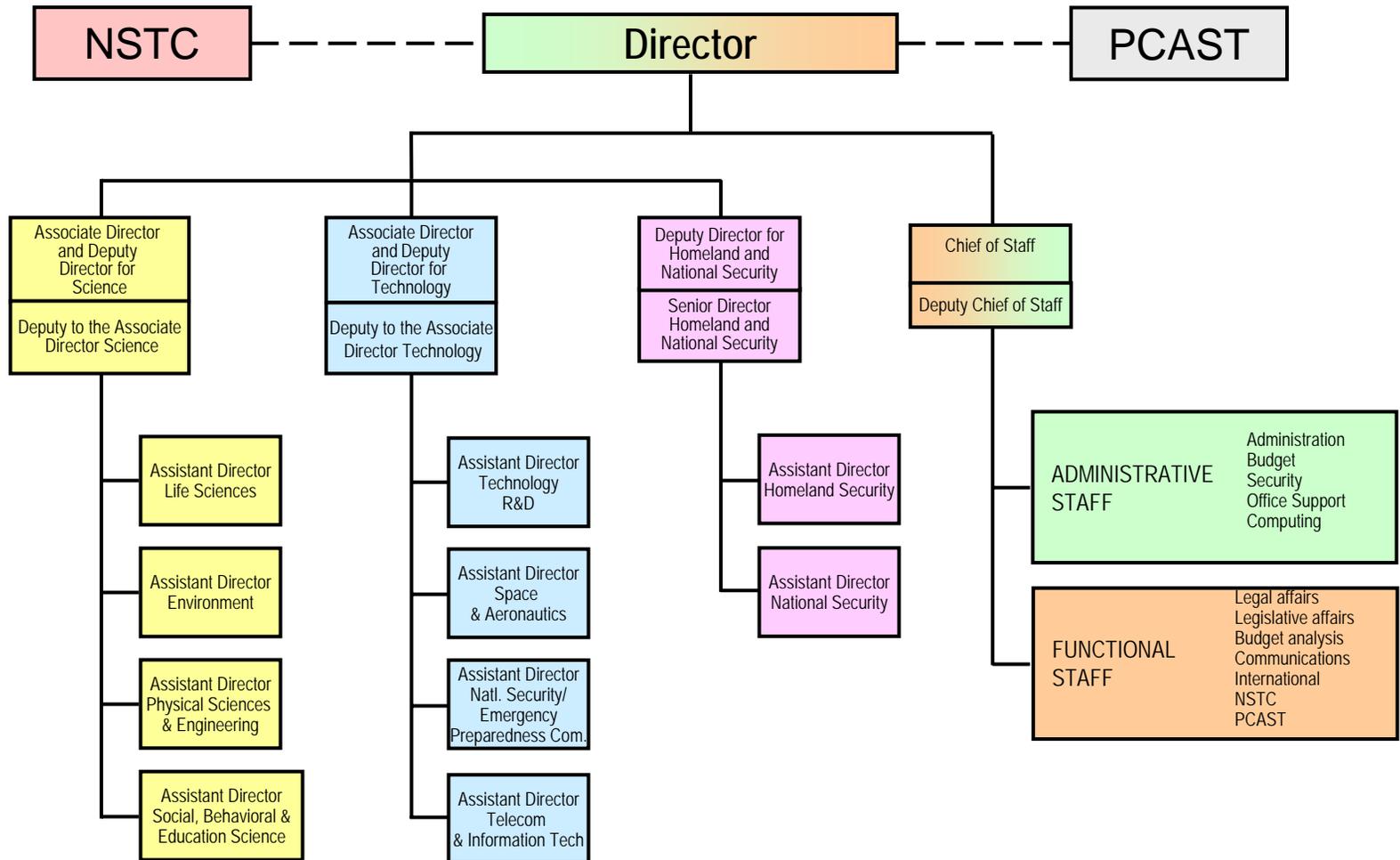
48th Annual Meeting of the APS Division of Plasma Physics

**Diane Jones
Deputy to the Associate Director for Science**

White House Office of Science and Technology Policy

November 1, 2006

OSTP FUNCTIONAL ORGANIZATION





PCAST Report – October 2002

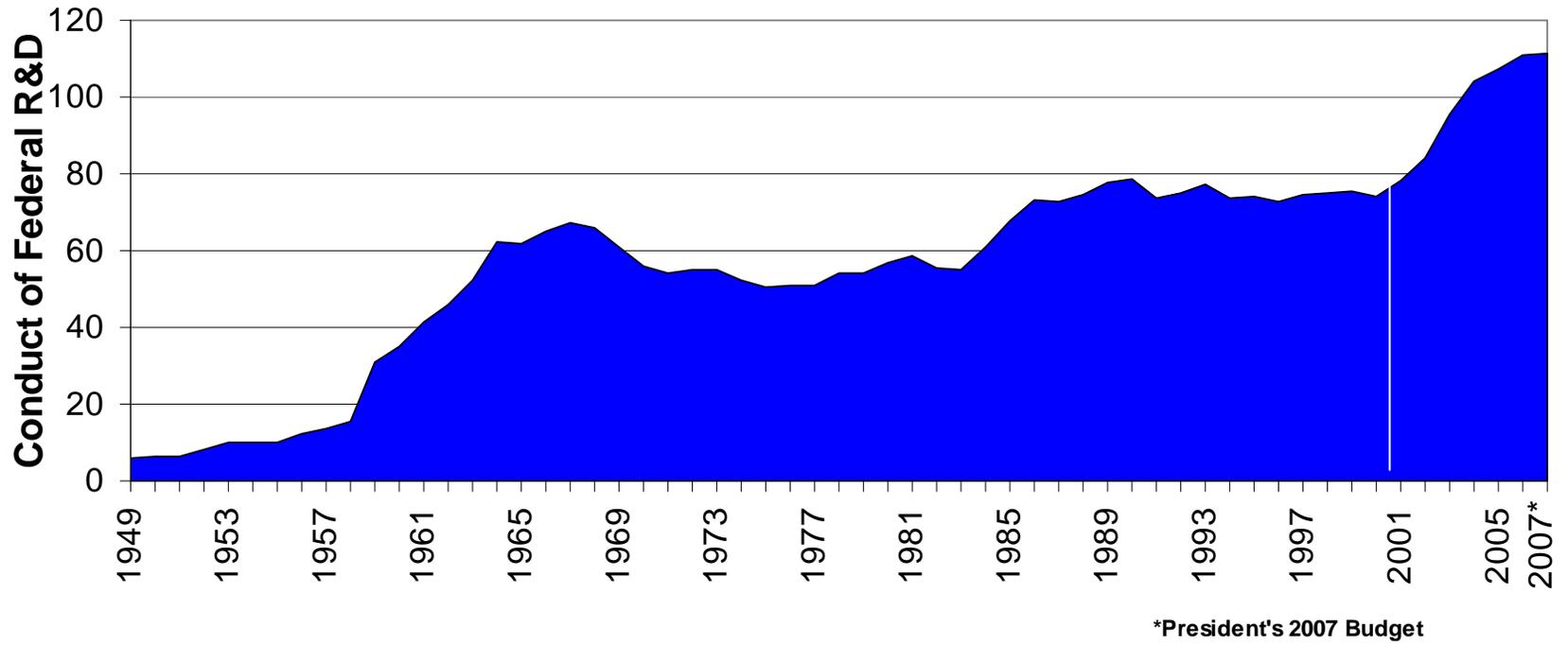
Assessing the U.S. R&D Investment

- *From 1993 to 2000, federal support for the physical sciences and certain areas of engineering remained relatively flat, and in some instances decreased. While it makes sense that biological and life sciences support has increased given fundamental advances in this field and the heightened interest in health issues, long-term breakthroughs in biological and life sciences will also rely on strengthening the physical sciences and engineering as well.*
- *International competition is stronger than ever.*

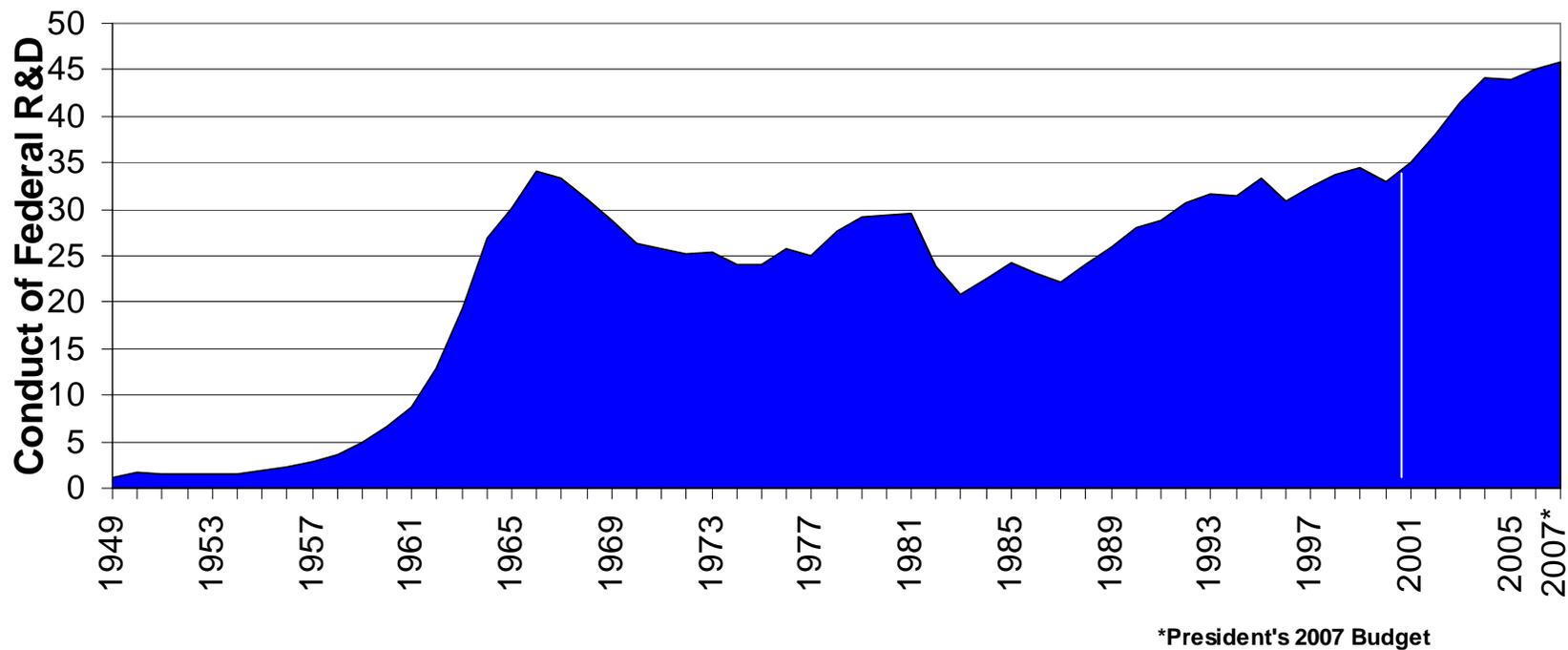
Competitiveness

- *No Child Left Behind Act*
- Funding Trends – 2001 to present
- PCAST – Science for the 21st Century – 2004
- President Bush's *A New Generation of American Innovation* - 2004
- Council on Competitiveness – 2004
- *Rising Above the Gathering Storm* – 2005

Federal R&D Spending (Outlays in billions, constant 2000 dollars)



Federal Non-Defense R&D Spending (Outlays in billions, constant 2000 dollars)



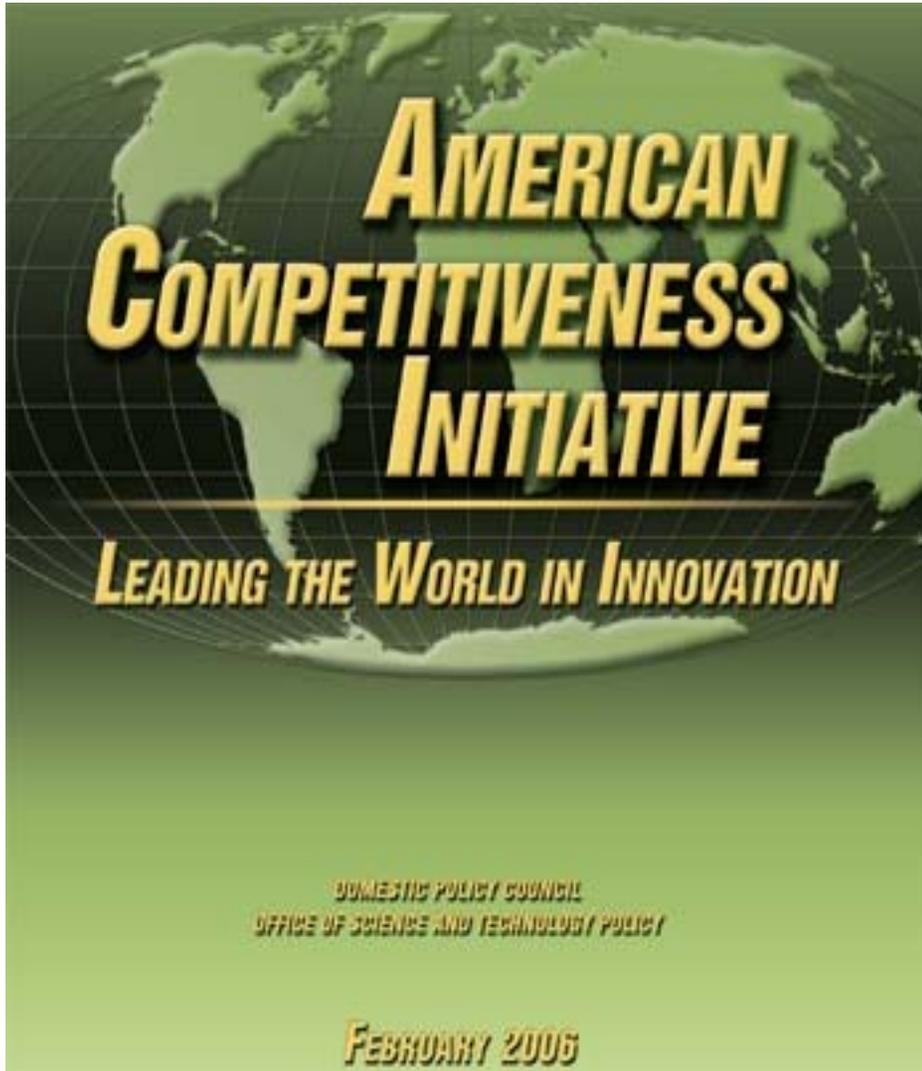
Keeping America Competitive

America's economic strength and global leadership depend on innovation. A comprehensive strategy will sustain U.S. economic competitiveness, including:

- **Federal investment in R&D;**
- **Education system that equips Americans with a strong foundation in technical subjects;**
- **Universities that provide world-class education and research opportunities;**
- **Immigration policies that attract the best and brightest to enhance entrepreneurship, competitiveness, and job creation in America;**
- **Favorable environment for private sector R&D; and**
- **Business environment that encourages entrepreneurship and protects intellectual property.**

President Bush's 2006

State of the Union Address



Research

Education

Training

R&E Tax Credit

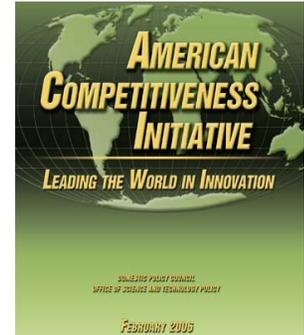
Immigration

Keeping America Competitive

Principles of ACI



- ACI is not based on fear; rather, it is based on **optimism and confidence** about the future and on trust in American entrepreneurship.
- The ACI focuses on **long term investment** – in basic research, in early stage education, in creating business conditions that encourage long term private sector investments in R&D, and in creating a research environment that attracts the best and brightest from around the world.
- The ACI is about **priorities**
 - Cutting-edge basic research that supports the development of valuable and marketable technologies, processes and techniques;
 - Large scale facilities and instruments that enable innovation;
 - Research in areas that are under funded (physical sciences/engineering) or that have a broad impact on other fields of science.

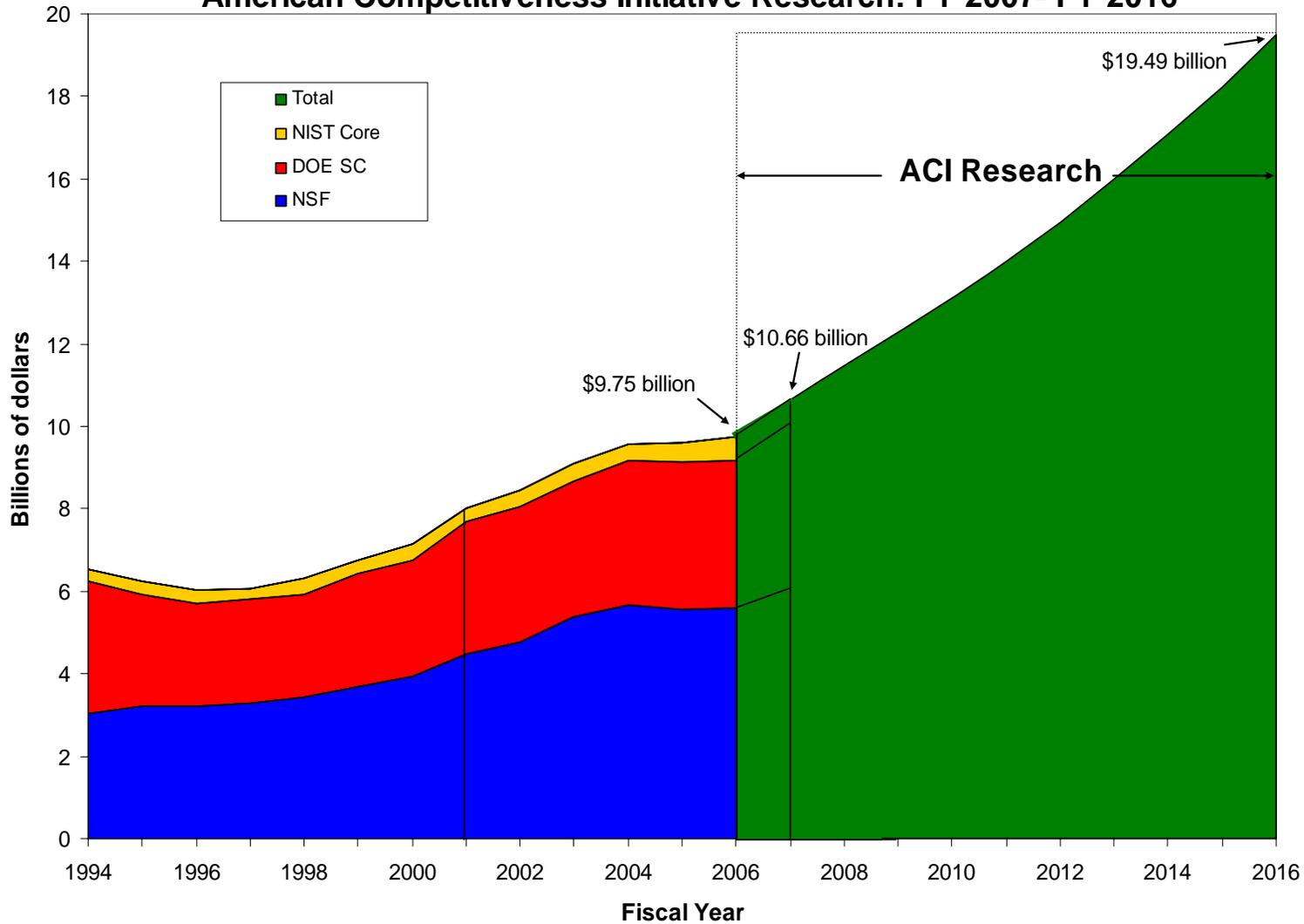


Supporting High Impact Research

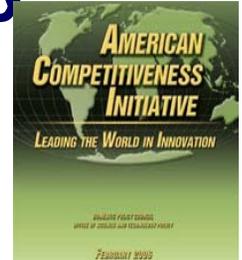
Over ten years, the ACI commits **\$50 billion** to increase funding for research and **\$86 billion** in tax incentives for R&D. In FY07, ACI commits **\$5.9 billion** for research, education, and tax incentives. ACI includes:

- **Doubling funding for research at NSF, DoE Office of Science, and DoC's National Institute for Standards and Technology;**
(**\$910M** in FY07, **\$50B** over 10 years)
- **Making the research and experimentation (R&E) tax credit permanent and working with Congress to modernize it to make it more effective.**
(**\$4.6B** in FY07, **\$86.4B** over 10 years)

American Competitiveness Initiative Research: FY 2007- FY 2016



Leading the World in Talent and Creativity



Education: Enhancing understanding of student learning & applying that knowledge to train teachers, develop curricula, & improve learning.

- Advanced Placement/International Baccalaureate Program to expand access of low-income students to AP/IB by training additional teachers.
- Adjunct Teacher Corps to encourage math and science professionals to teach high school.
- National Math Panel to evaluate empirically the effectiveness of various approaches to teaching math and to create a research base to improve instructional methods and materials.
- Math Now for Elementary School Students to promote research-based practices in math instruction and to prepare students for more rigorous math courses.
- Math Now for Middle School Students to improve math instruction for students performing below grade level.
- Evaluation of Federal STEM education programs.

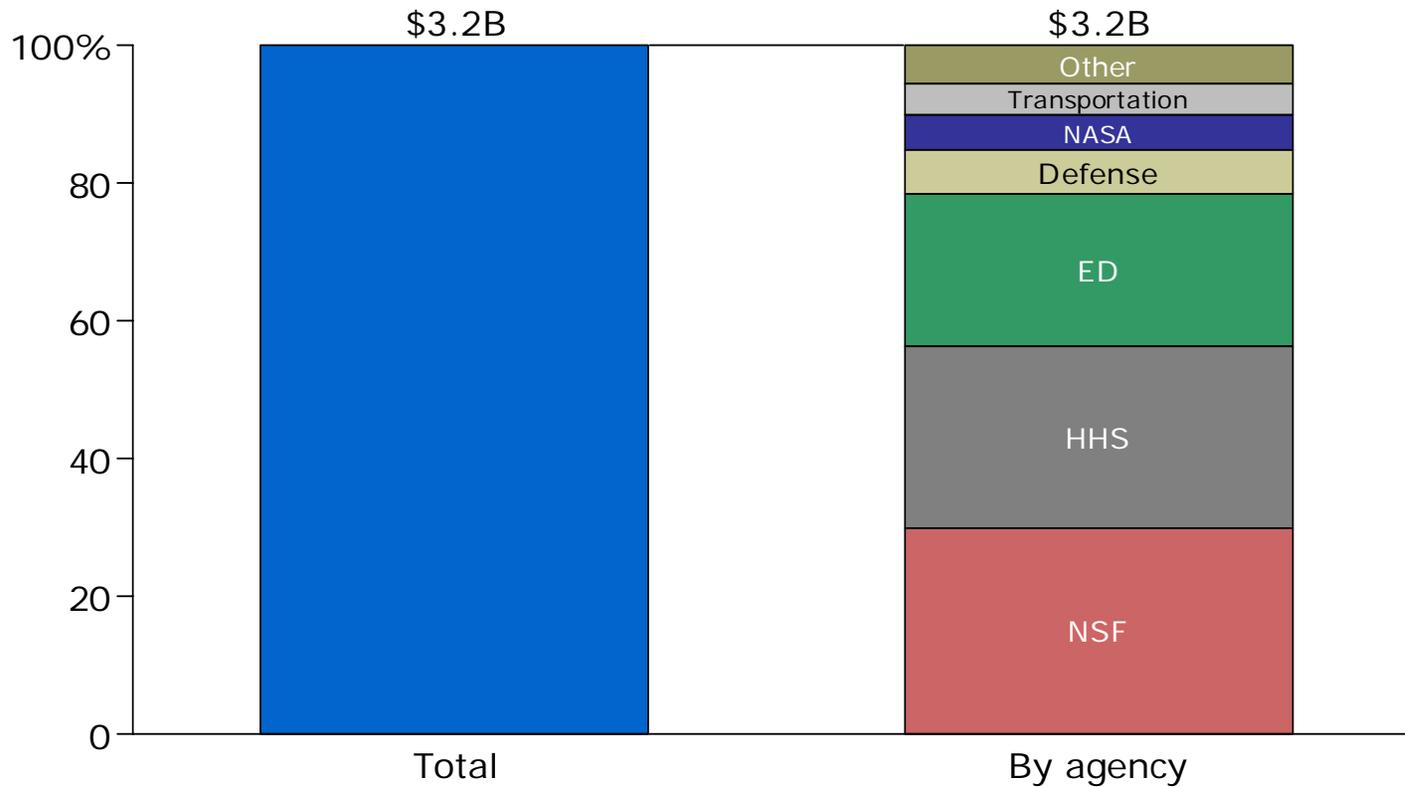
Workforce: Offering training opportunities to 800,000 workers annually, more than tripling the number of workers trained under the current system.

Immigration: Reforming immigration laws to attract & retain high-skilled workers.

Academic Competitiveness Council

PRELIMINARY

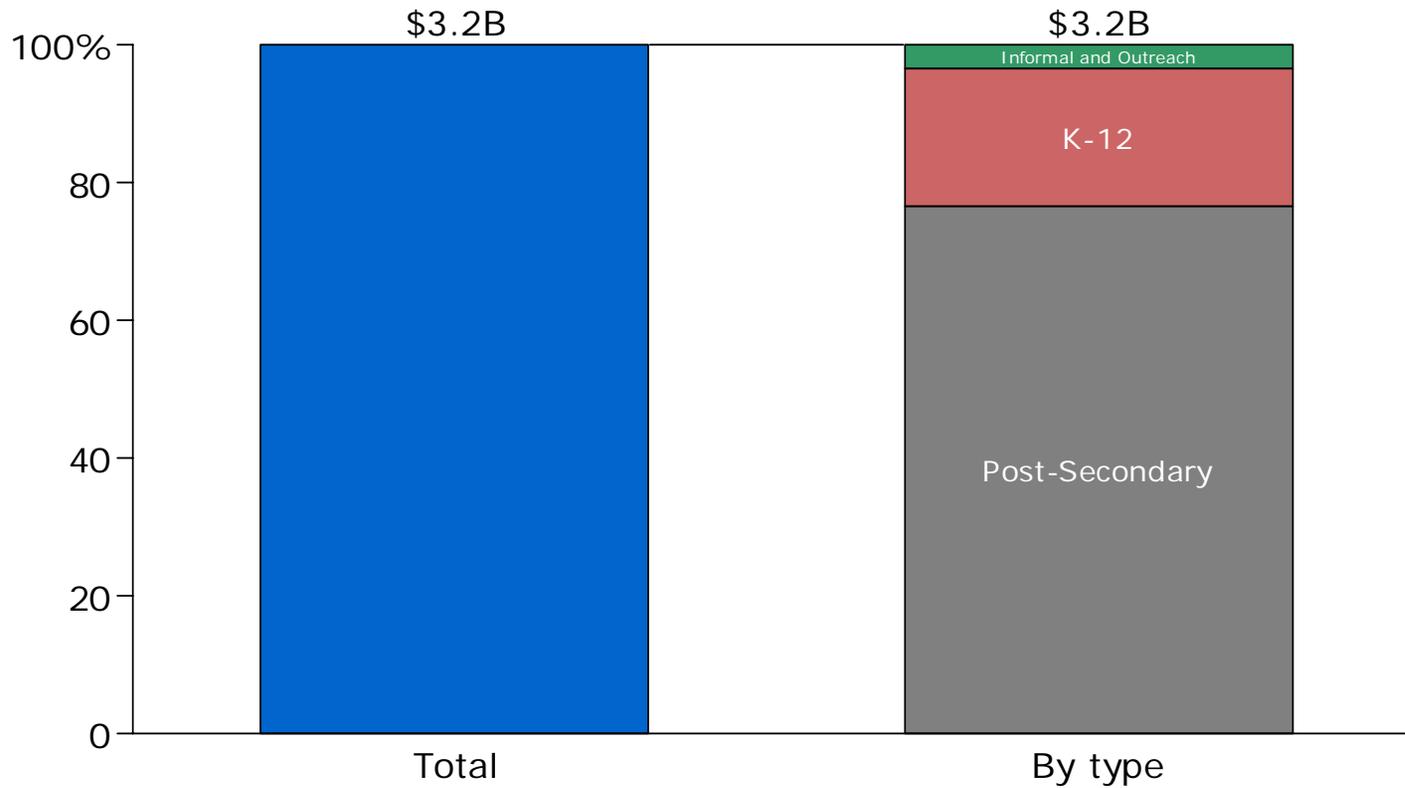
FY 2006 STEM education funding by agency, \$B



Academic Competitiveness Council

PRELIMINARY

FY 2006 STEM education funding by agency, \$B





THE WHITE HOUSE
WASHINGTON