Science Policy in the Obama Administration: A First Look

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AAAS
ADVANCING SCIENCE, SERVING SOCIETY

Presentation Outline

- A few words about AAAS
- Background, campaign, transition
- Obama science policy initiatives
- Budget & priorities
  - FY 2009 & stimulus
  - Proposed budget for FY 2010
- What comes next?

- A few words about AAAS

A Few Words About AAAS

- World's largest multidisciplinary scientific society (includes all fields) – independent, not part of government
- $90 million budget - income from dues, advertising, grants
- Founded in 1848; membership of 125,000
- "Voice of science" to government, society – but does not lobby
- Publisher of the weekly journal *SCIENCE* (over one million readers)
- Programs in policy, education, science diplomacy . . .


Science
5 June 2009 | $10
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Protein
Dynamics
AAAS

- A few words about AAAS
- Background, campaign, transition

Science Policy: The Past 8 Years

- Some budget growth (but uneven)
- Alienation of the scientific community
- Science not high on agenda
- Administration showed lack of interest in, respect for scientific data and expertise
- Science advisor downgraded
- Other constituencies received higher priority

Science in the 2008 Campaign

- Science received more attention than usual (but not one of the top issues)
- Scientists very interested, science organizations followed campaign closely
- Proposal for “Science Debate 2008”
- Candidates’ “brain trusts”
- AAAS candidates’ forum

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AAAS Events & Links

Science and Technology in the 2008 Presidential Election

- S&T in the Election
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Candidate S&T Positions

These profiles represent the S&T platforms of each candidate for president during the 2008 campaign. For each candidate, we compiled a summary of the positions and/or platforms on key science and technology (S&T) issues across five thematic areas: Competitiveness & Innovation; STEM Education & Workforce; Better Health for Americans; Energy & Environment; and National & Homeland Security. The material provided was collected from official campaign websites and other resources as noted. We've retained these profiles as a means of referencing the positions and intentions each candidate expressed during the campaign.

Republicans

John McCain

Senator John McCain is the senior Senator for Arizona, representing the state since 1986, and was the Republican nominee for president. Senator McCain's running mate was Governor Sarah Palin of Alaska.

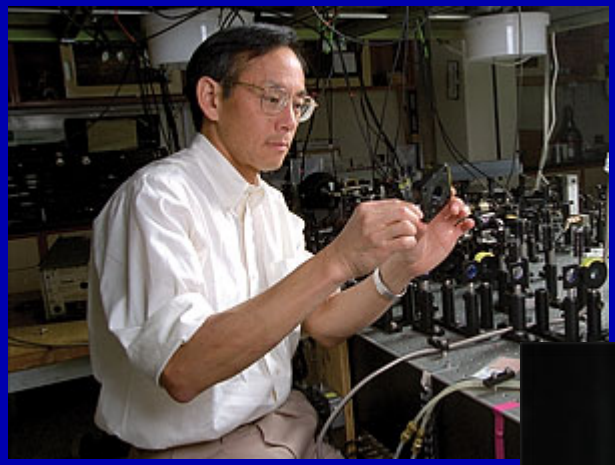
Democrats

Barack Obama

President-Elect Barack Obama is the junior Senator for the state of Illinois elected in 2005. Senator Obama's Vice-President-Elect is Senator Joseph Biden of Delaware. Senator Biden's campaign profile is listed with the former candidates.

The Transition

- Change.gov (John Podesta – co-chair)
- Policy Working Groups
  - Energy & Environment
  - Technology, Innovation & Government Reform
- Early appointments to key science positions
  - Steven Chu (Nobel laureate) → Energy
  - John Holdren (climate change expert) → OSTP
  - Jane Lubchenco (marine ecologist) → NOAA



Jane Lubchenco

- A few words about AAAS
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- Obama science policy initiatives

Obama's First 100 Days (+42)

- Inaugural Address: ". . . restore science to its rightful place"
- Several notable actions:
  - Executive Order on stem cell research
  - Memo on scientific integrity
  - Climate change plan
- Signing of "Recovery Act" at Denver Museum of Science & Nature (17 February)
- April 27 speech at National Academy of Sciences


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Obama and International Science

- Visa Policy Changes
  - Reduce backlog of applications
  - Speed processing of applications requiring security review
- Science Diplomacy (Cairo speech)
  - Regional S&T fund
  - Science envoys
  - Centers of excellence

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The Budget and Government Priorities

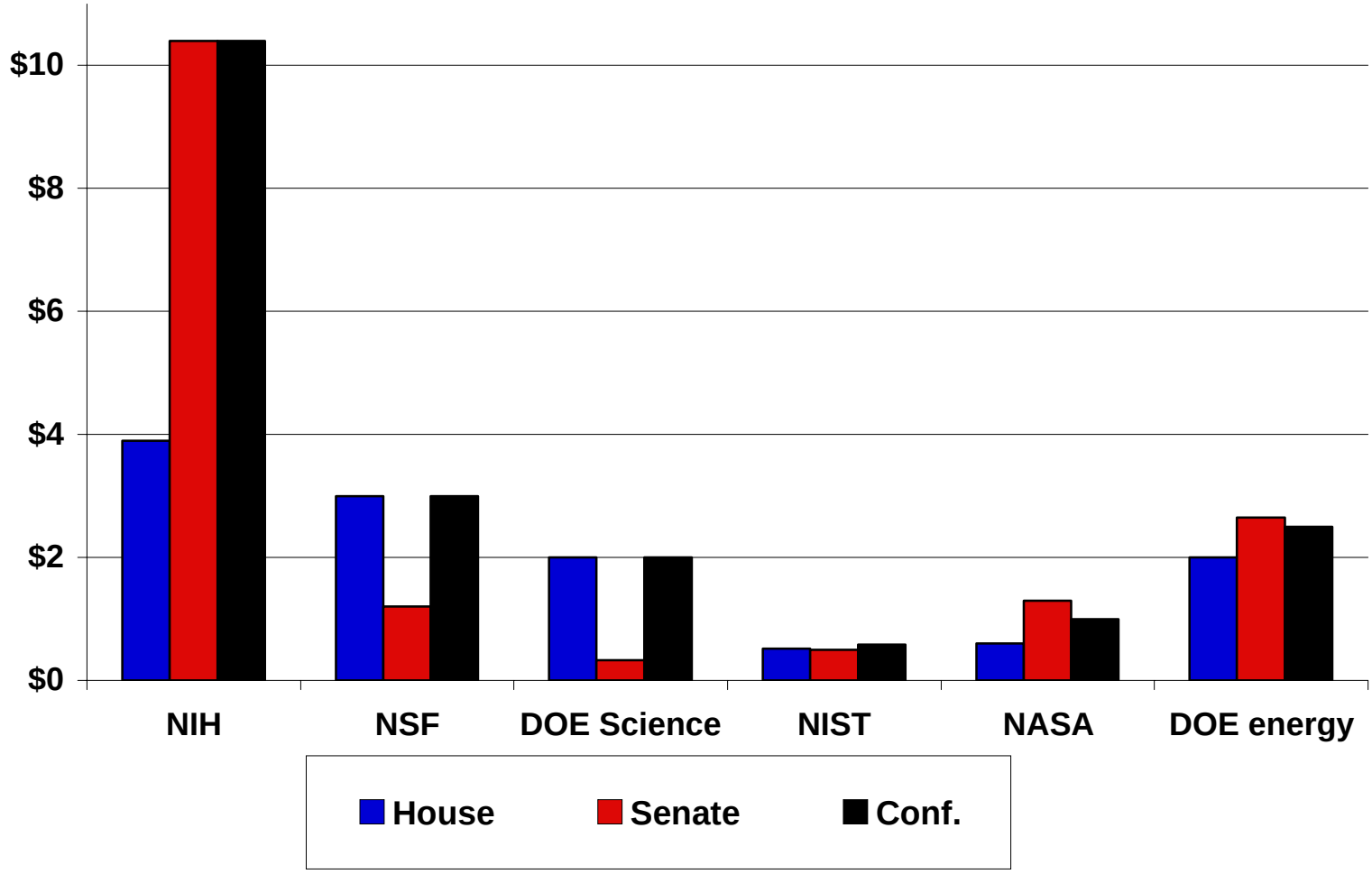
- Budget is the key to policy
- Complex budget process decides how government's money is spent
- Federal budget has major impact on health of U.S. science & technology
- Government spends >$140 billion on R&D
- Federal funds support 60% of university R&D (also fellowships, loans, etc.)
- R&D funding decisions part of budget process

2009: A Very Unusual Year

- ARRA, the stimulus bill, signed Feb. 17, before regular FY 2009 appropriations were final
- A huge supplement to the budget passed BEFORE most of the original budget!
- Contains over $20 billion for R&D
- Unprecedented increase for some science agencies – e.g., NIH (36%)
- Conference committee chose *higher* of House & Senate, or even more

2009 Supplemental Recovery Funding for R&D (House, Senate, and Final bills)

(budget authority in billions of dollars)



Source: AAAS analysis of R&D in House and Senate stimulus appropriations bills.

R&D in the Recovery Act ("The Stimulus Bill")

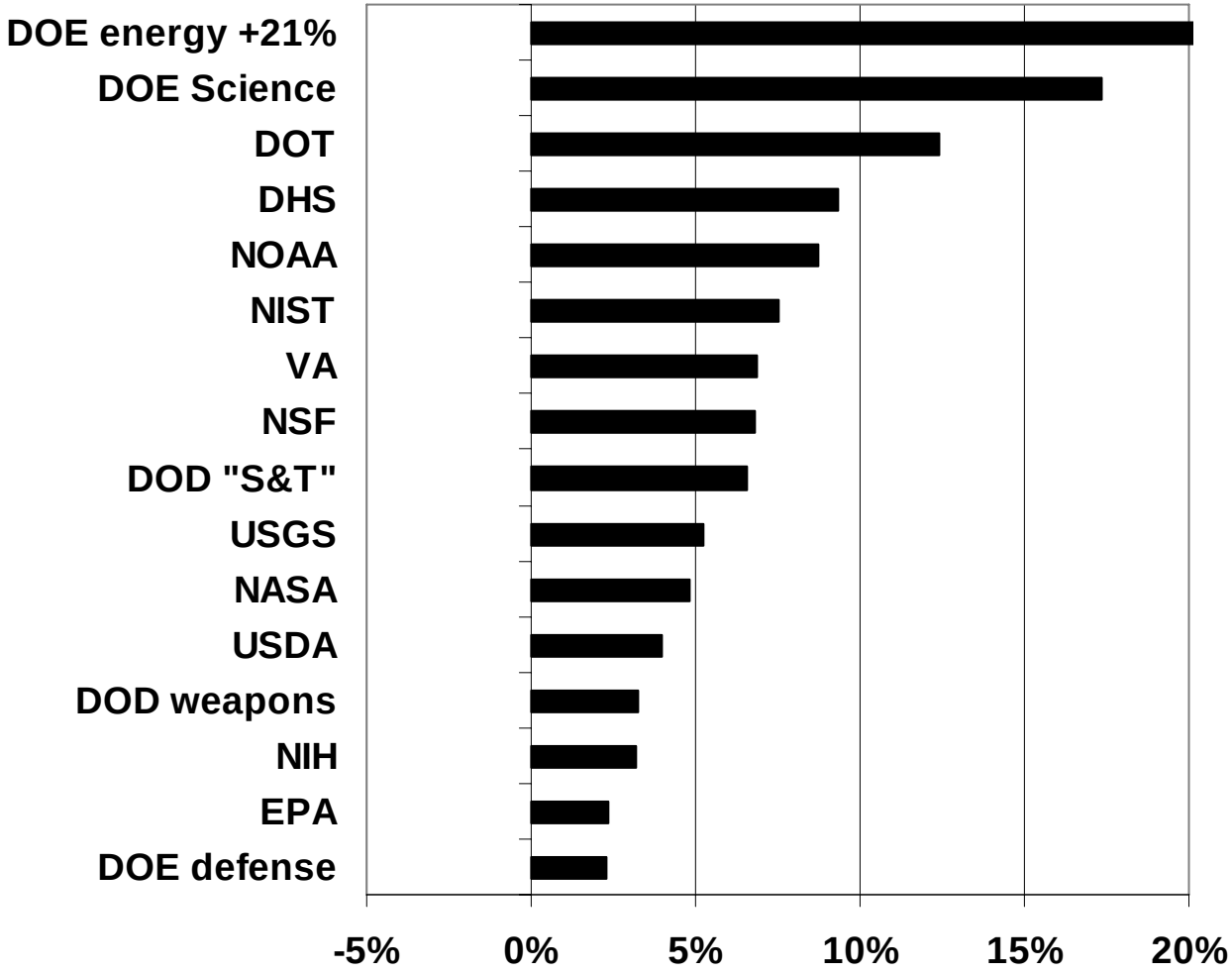
- Four major R&D priorities: innovation & competitiveness-related basic research, biomedical research, energy R&D, climate change
- Basic competitiveness research: NSF, DOE science, and NIST on track to double over 7 to 10 years, as promised in Obama campaign and America COMPETES Act
- Energy & climate also high priorities: $3.5 B for DOE energy R&D, $400 M for NASA climate, $830 M for NOAA
- Agencies got FY 2009 money, can obligate the funds through Sept. 2010, but goal is to spend the money quickly

R&D in Regular FY 2009 Appropriations

- Democrats in Congress waited out President Bush – final appropriations include significant increase in domestic discretionary spending
- Even without stimulus every major R&D agency receives an increase above inflation
- Most FY 2009 R&D numbers greater than request (except NSF, DOE science, DOE & DOD weapons)
- DOE is big winner – large increases in energy & science portfolios, in both regular budget & stimulus
- America COMPETES Act agencies return to 10-year doubling track

FY 2009 R&D Appropriations (as of 2/09 excl. stimulus)

Percent Change from FY 2008 (as of FEBRUARY '09)

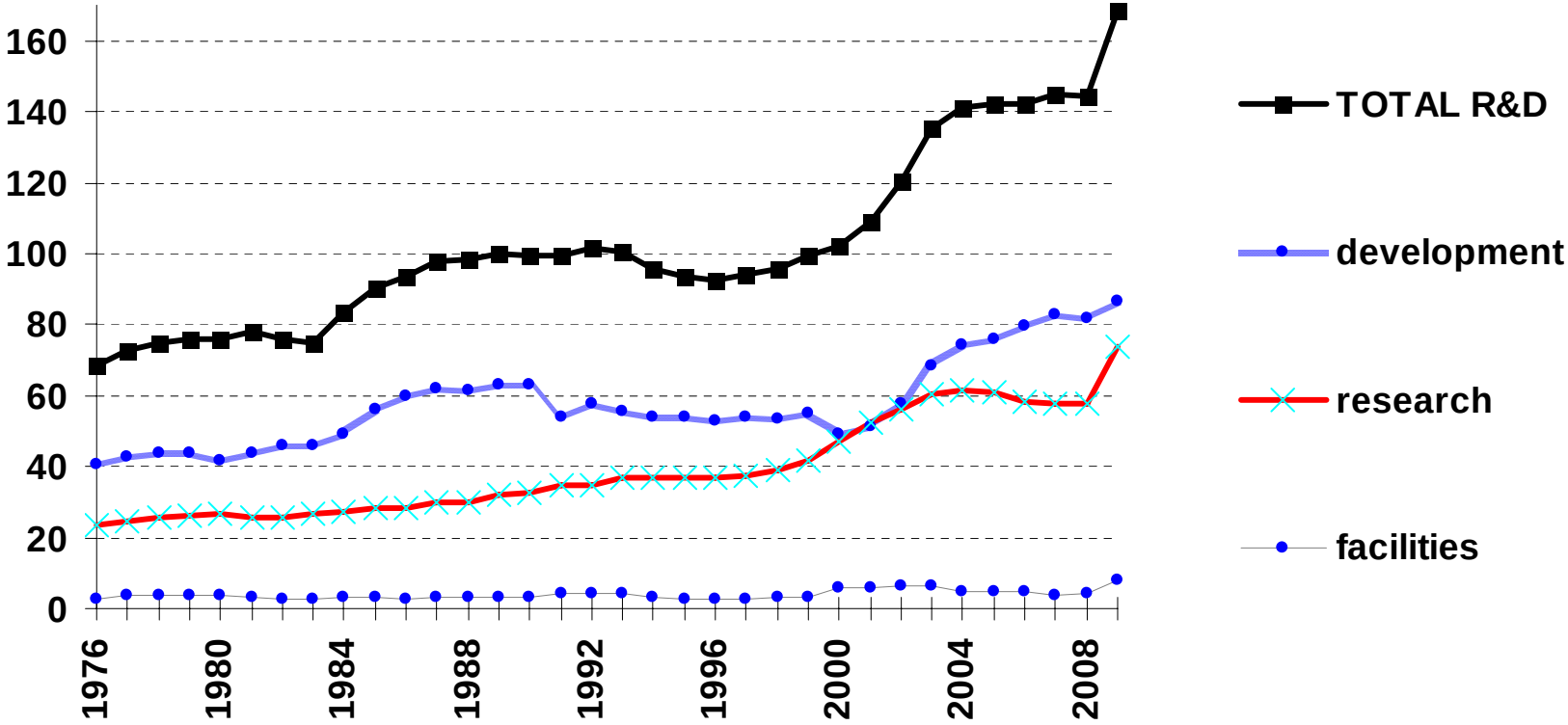


Source: AAAS estimates of R&D in the FY 2009 omnibus / continuing resolution.
Excludes supplemental (stimulus) appropriations in ARRA (P.L. 111-5).
DOD "S&T" = DOD R&D in "6.1" through "6.3" categories plus medical research.

AAAS

Trends in Federal R&D, FY 1976-2009 (2/09, incl. stimulus)*

in billions of constant FY 2008 dollars

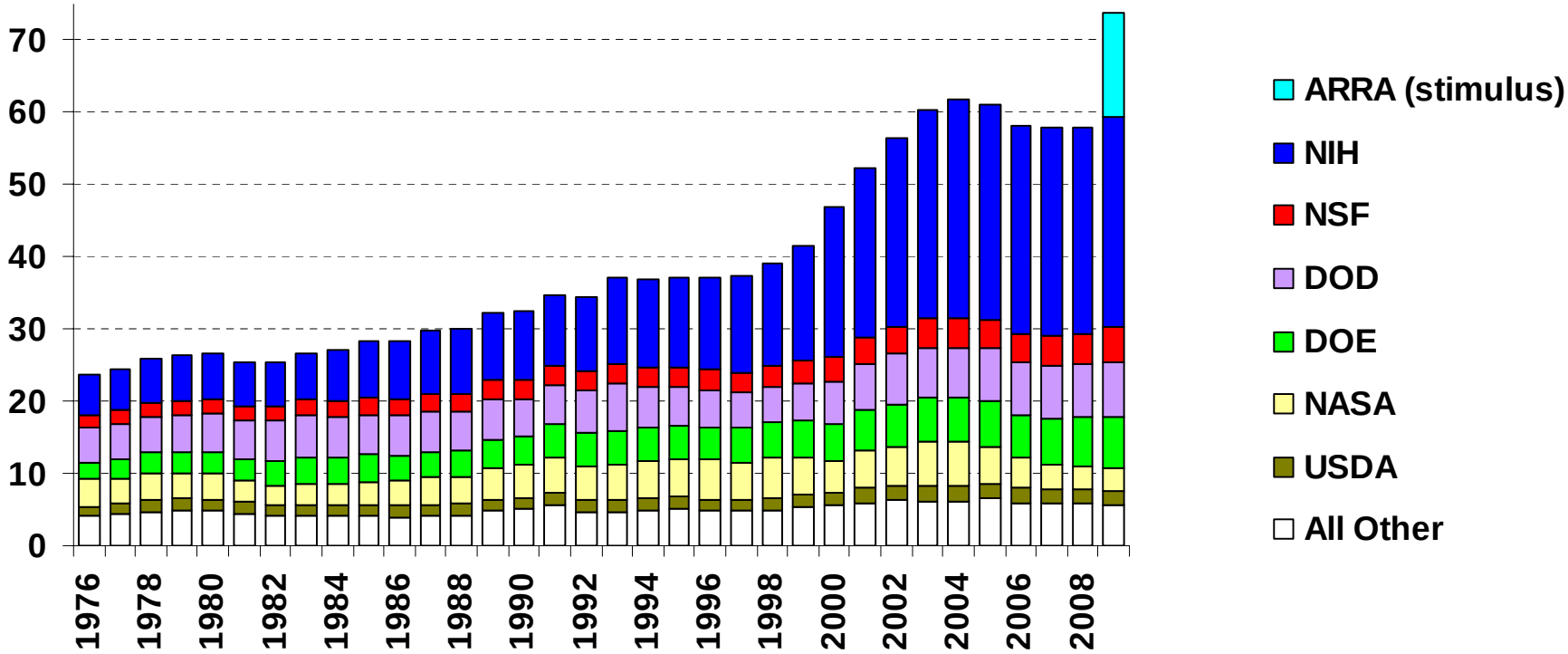


Source: AAAS analyses of R&D in annual AAAS R&D reports. * FY 2009 figures are latest AAAS estimates of FY 2009 appropriations, including emergency stimulus (HR 1). R&D includes conduct of R&D and R&D facilities. Data to 1984 are obligations from the NSF Federal Funds survey. GDP figures are from OMB, Budget of the U.S. Government FY 2009. FEB. '09 REVISED

AAAS

Trends in Research by Agency, FY 1976-2009 (as of 2/09)*

in billions of constant FY 2008 dollars



Source: AAAS analyses of R&D in annual AAAS R&D reports.
* FY 2009 figures are latest AAAS estimates of FY 2009 appropriations, including emergency stimulus (HR 1). Research includes basic research and applied research. 1976-1994 figures are NSF data on obligations in the Federal Funds survey. FEB. '09 REVISED

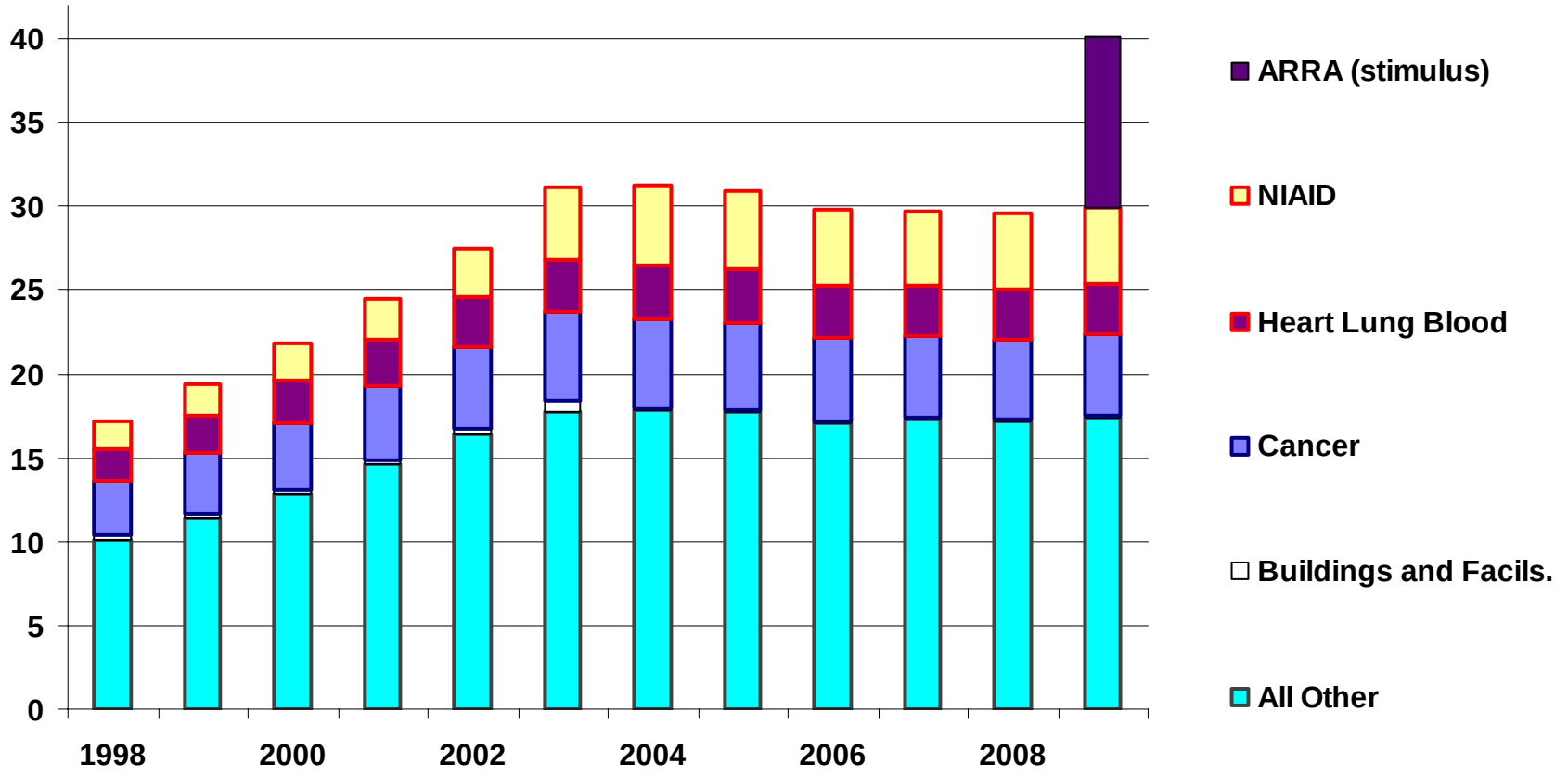
AAAS

Stimulus Impacts on Research

- Federal funding for research will see real increases in 2009 (sustained into 2010) after 4 years of real declines
- Unprecedented federal support for academic facilities and instrumentation and federal labs
- NSF and NIH grant proposal success rates will improve dramatically
- Bill specifies generally how agencies will spend their stimulus money, but agencies differ on implementation

National Institutes of Health Budget by Institute, 1998-2009

(budget authority in billions of constant FY 2008 dollars)



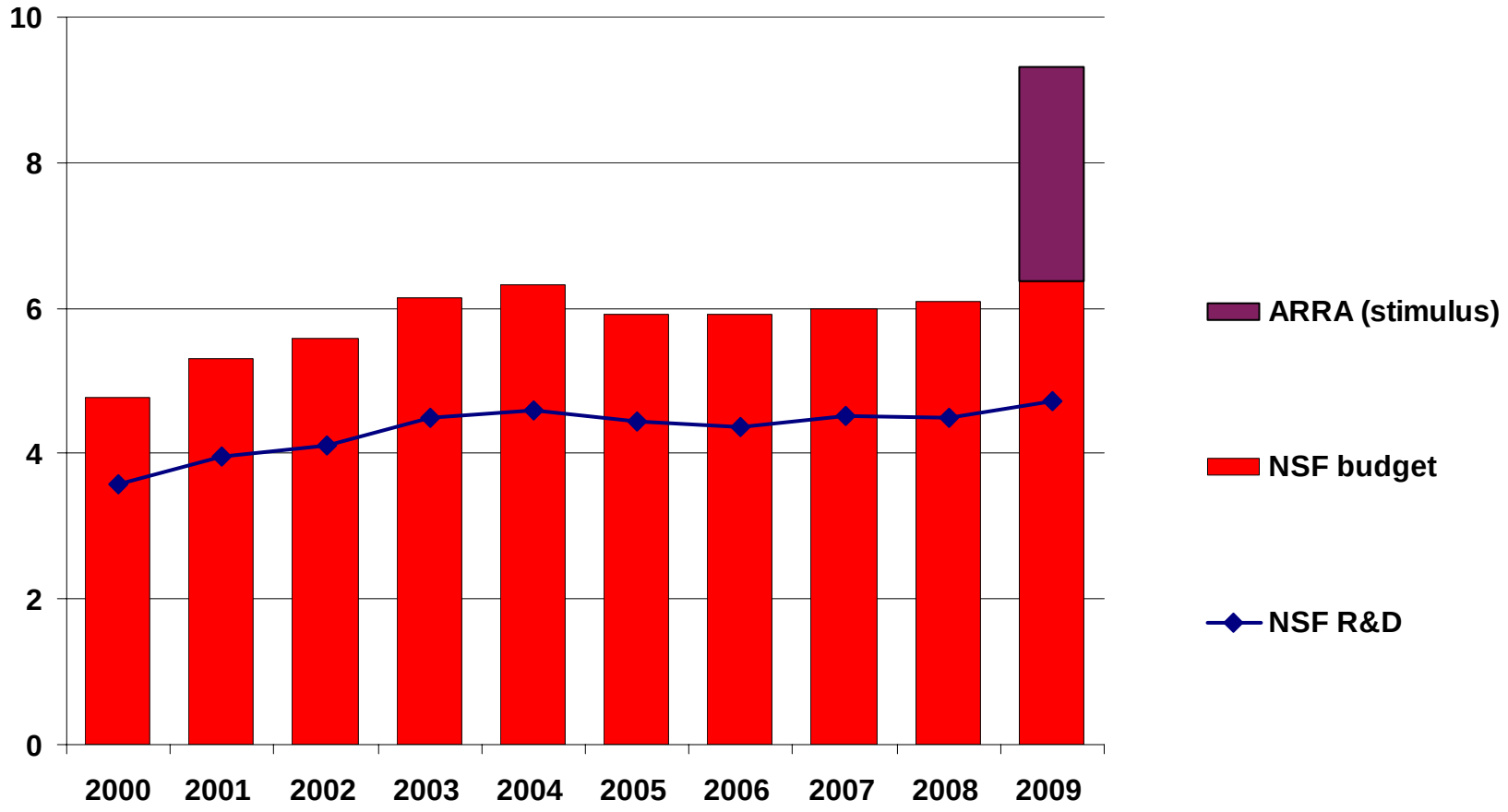
Source: AAAS R&D reports from NIH budget documents 1996-2008. * 2009 figures are AAAS estimates of 2009 omnibus appropriations, including stimulus appropriations in HR 1. Adjusted for inflation using OMB's GDP deflators. FEB. 09

How NIH Will Use $10.4 B Stimulus

- To be spent over two years
- $8.2 B for research priorities ($7.4 B to institutes and common fund); $800 M to director's office
- $1 B for extramural construction, repairs, alterations
- $300 M for shared instrumentation, other capital equipment
- $500 M for NIH buildings & facilities
- $400 M for comparative effectiveness research (part of $1.1 B HHS program)

National Science Foundation Budget, FY 2000-2009 (as of 2/09)*

(budget authority in billions of constant FY 2008 dollars)



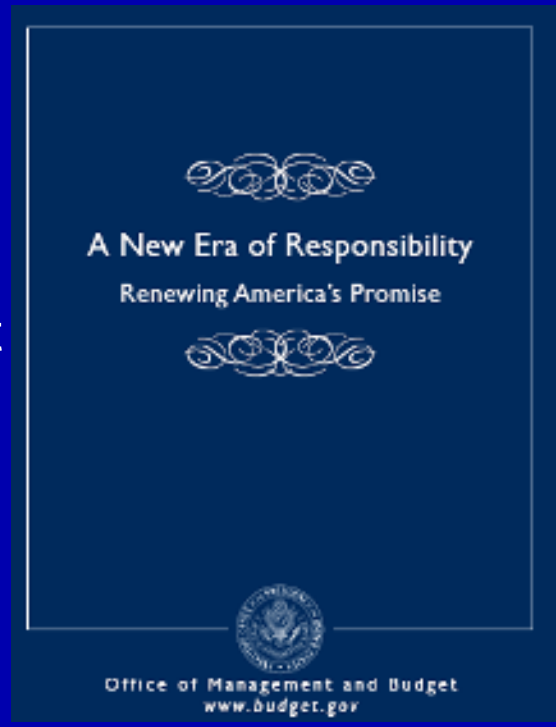
Source: National Science Foundation, AAAS, and latest AAAS estimates of FY 2009 appropriations. Includes supplemental (stimulus appropriations) in Public Law 111-5. FY 2009 NSF R&D line excludes stimulus R&D.

NSF Stimulus Allocations ($3 Billion)

- $2 B for “highly rated research proposals which could not otherwise be funded because of budget constraints…”
- $200 M – “shovel ready” major research equipment and facilities construction (NSB approved)
- $300 M – major research instrumentation, $200 M – academic research infrastructure
- $100 M – education: $60 M – Noyce Scholarships, $25 M – math-science partnerships; $15 M – new professional science master’s program
- All grants under ARRA – standard grants with duration up to 5 years

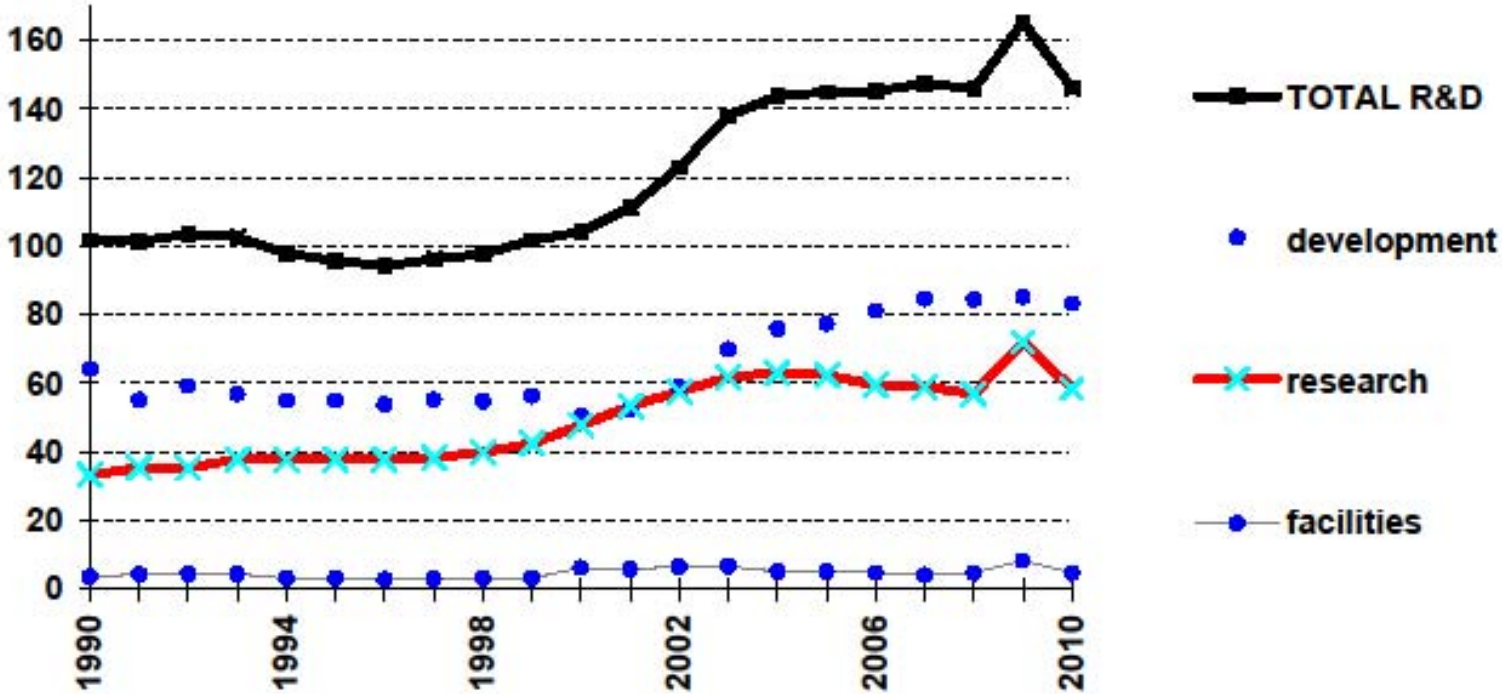
President's FY 2010 Budget

- Obama's proposal – requires congressional approval
- Budget outline released in February, full budget on May 7
- R&D: investing in the sciences, health care, energy & climate, and security continue to be high priorities
- Including Recovery Act (stimulus), FY 2009 and 2010 will be largest R&D budgets in history



Trends in Federal R&D, FY 1990-2010

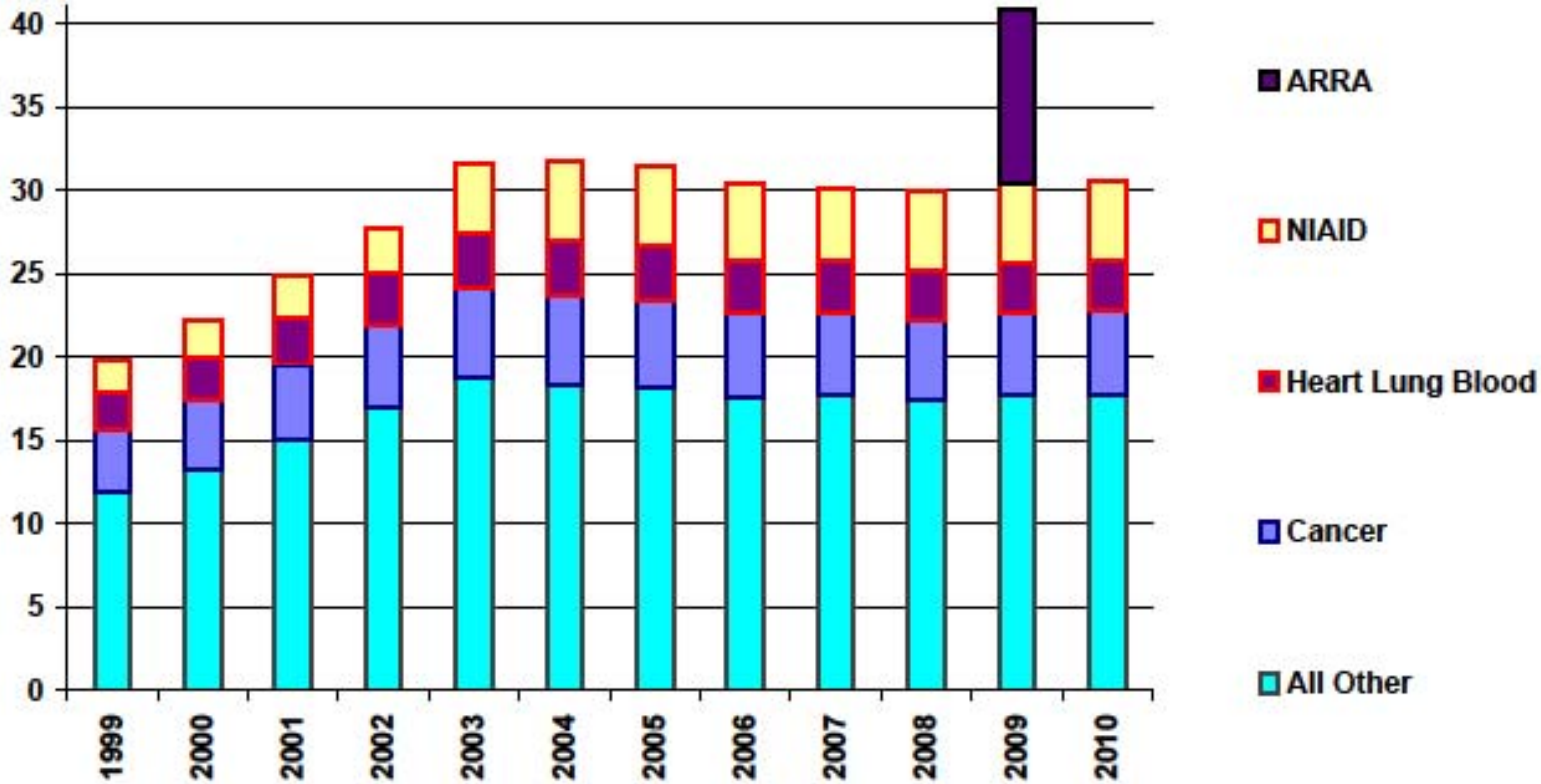
in billions of constant FY 2009 dollars



FY 2009 figures include Recovery Act appropriations.
Research includes basic research and applied research.
MAY '09 OSTP

National Institutes of Health Budget with Select Institutes, 1999-2010

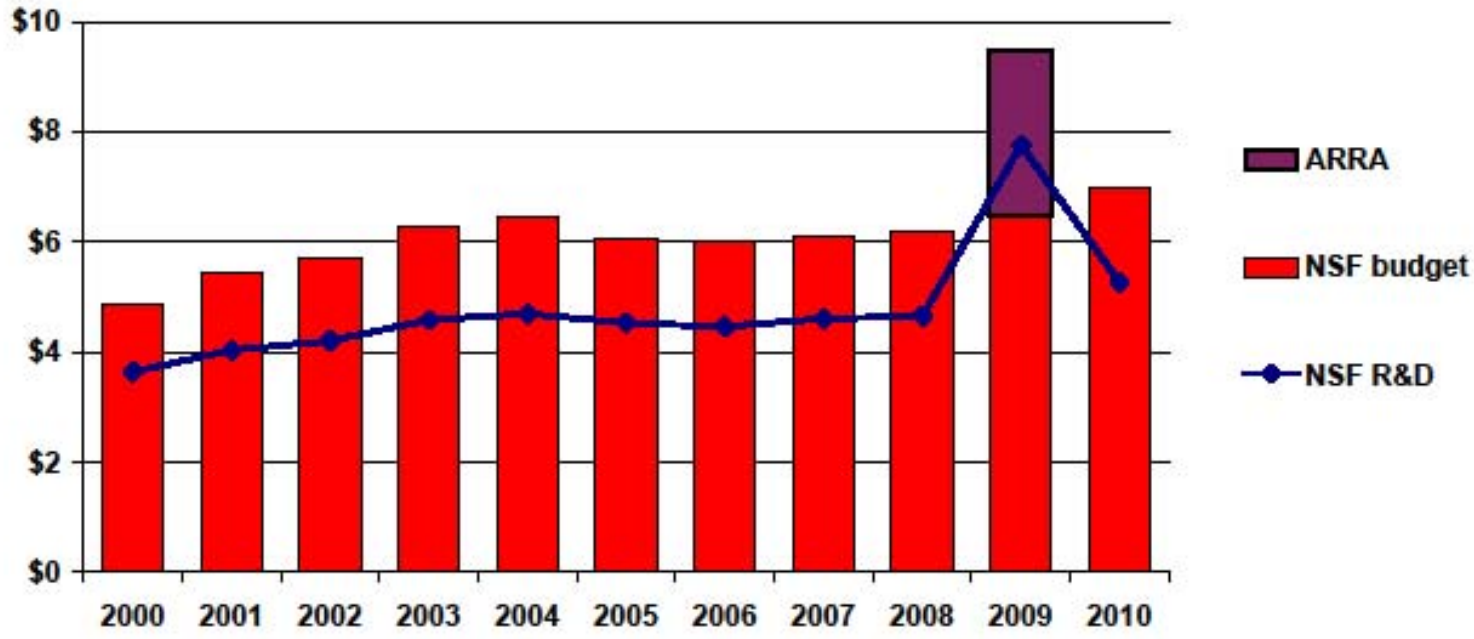
(budget authority in billions of constant FY 2009 dollars)



MAY '09 OSTP

National Science Foundation Budget, FY 2000-2010

(budget authority in billions of constant FY 2009 dollars)



FY 2010 is budget request.
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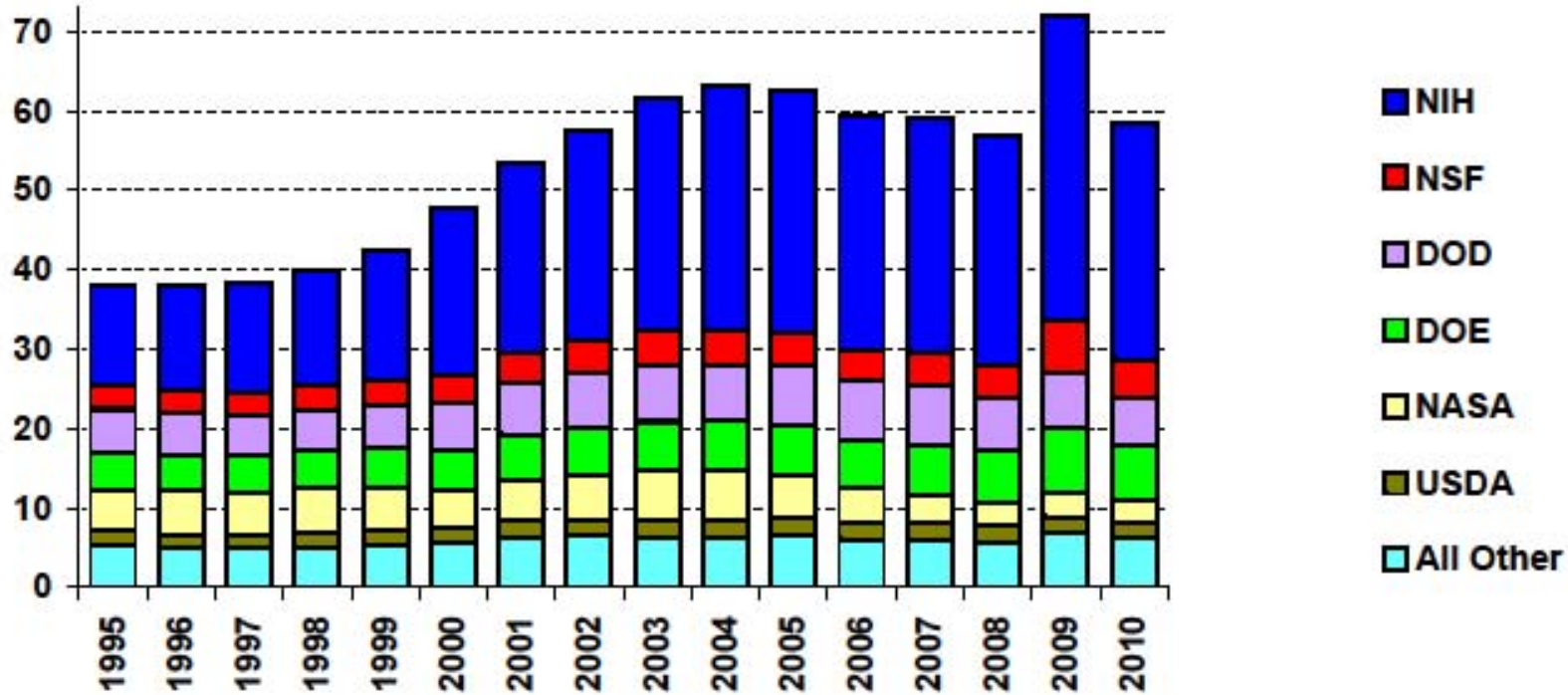
Trends in Research by Agency, FY 1995-2010

in billions of constant FY 2009 dollars



FY 2009 figures include Recovery Act appropriations. Research includes basic research and applied research.

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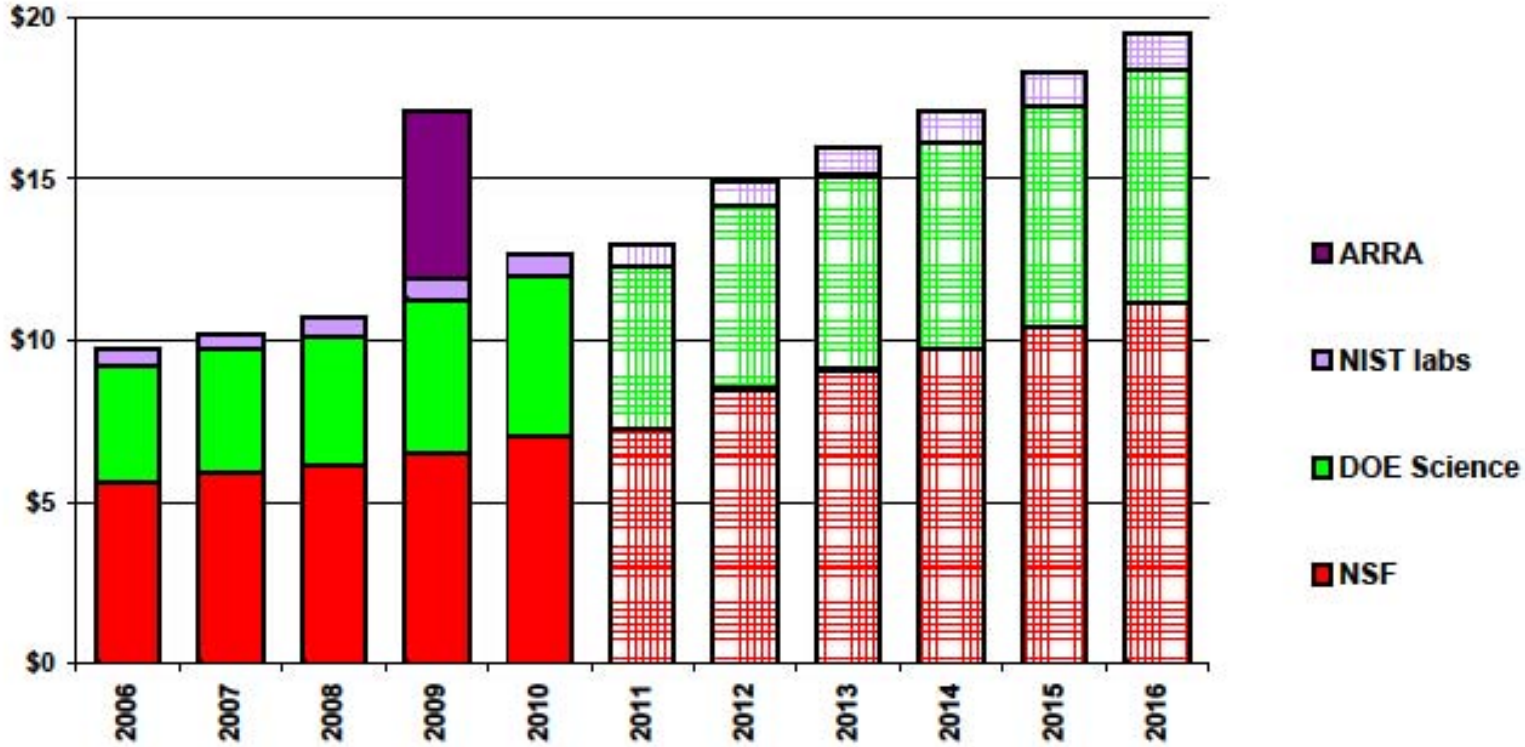
President's Plan for Science and Innovation, FY 2006-2016 (basic research doubling)

(budget authority in billions of current dollars)



2006-2009 figures are enacted budget authority; 2011- 2016 figures are projections in the 2010 budget.

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What Comes Next?

- Congress reviews proposed FY 2010 budget, passes appropriations
- President's NAS speech set goal of 3% R&D/GDP
- Concerns:
  - Questions about how quickly and how effectively R&D stimulus funding will be spent? Accountability?
  - Long term outlook for sustained growth for research funding? What happens in 2011 and beyond?

- Space policy – human space flight vs robotic exploration (Augustine Commission)
- Much depends on economic recovery
- Science is a second tier issue – R&D funding follows overall discretionary spending
- Obama giving science special attention because it's essential to his top priorities

Thank you for your attention!

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http://www.aaas.org/spp/rd