HOW SHOULD THE WHITE HOUSE OFFICE OF SCIENCE AND TECHNOLOGY POLICY BE ASSESSED?

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CSTP Seminar
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Bottom Line (Up Top): Criteria for Assessing OSTP

- Yes:
  - Saying no to bad ideas
  - Early warning system
  - Crisis response/public reassurance
  - Policy entrepreneurship
  - Improving policy implementation
- No:
  - OSTP titles/funding/staff
  - R&D spending
  - Public confidence in S&T

Preface: S&T Advice to POTUS Before Sputnik

- Founders: Franklin and Jefferson
- NAS, 1863
- NRC, 1916
- Presidents have included:
  - Former generals
  - One political science Ph.D. (Wilson)
  - Two engineers (Hoover and Carter)
- Vannevar Bush advised FDR, 1940-1945
  - But this arrangement was not sustained after WWII

Formal Authorities

- Letter from President Eisenhower to James Killian, December 2, 1957: establishes duties of science advisor
- Reorganization Plan #2, March 29, 1962: establishes OST within EOP
- Reorganization of EOP, January 26, 1973: abolishes OST
- National Science and Technology Policy, Organization, and Priorities Act, May 11, 1976 (P.L. 94-282): establishes OSTP

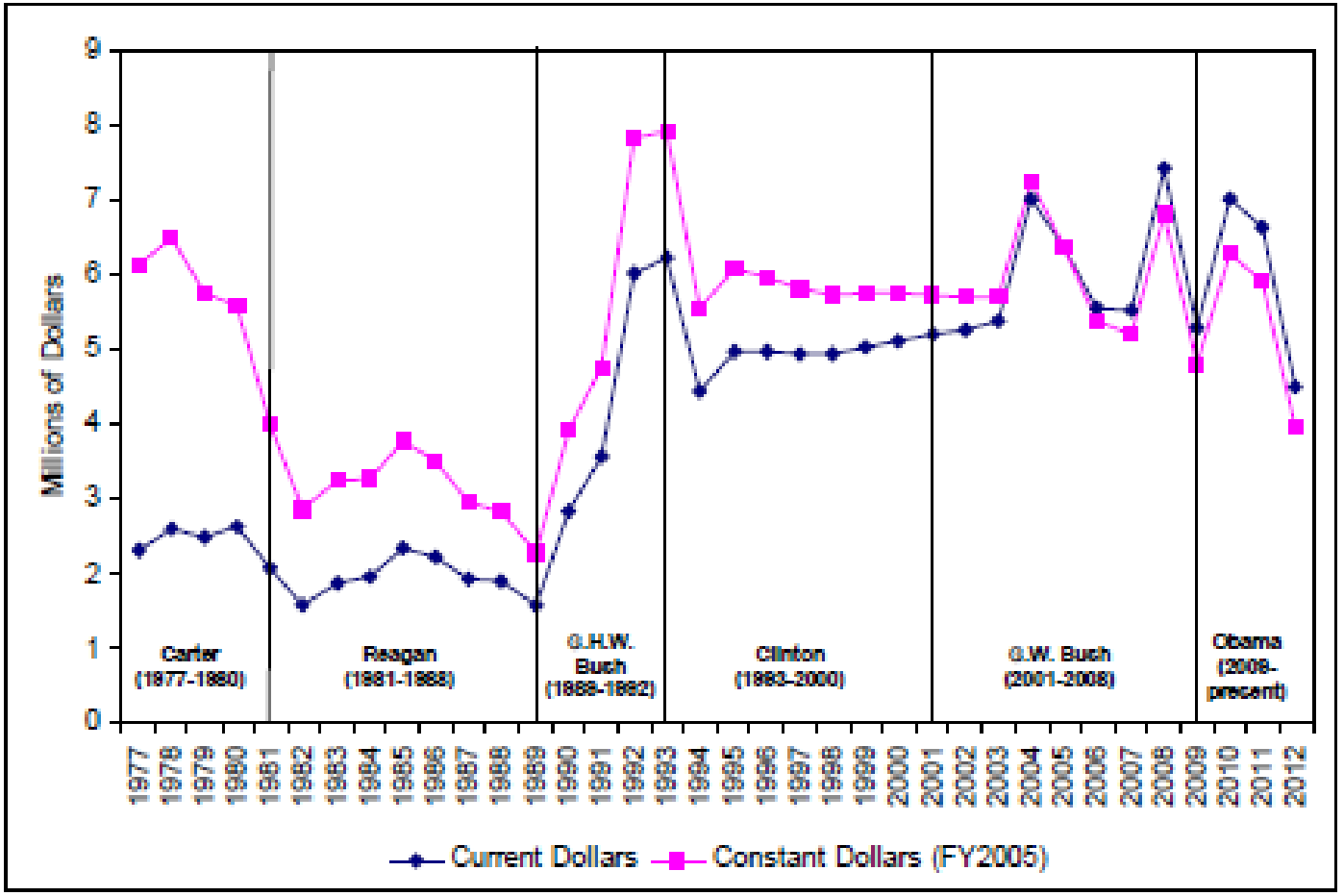
Executive Office of the President

- Office of Management and Budget
- Policy Councils (NSC, NEC, DPC)
- Liaison Offices (OPE, Comms, etc.)
- Personal Offices (First Lady, OVP, etc.)
- Specialized Offices (OSTP, CEA, CEQ, USTR)

Names and Titles of PSAs

President	Advisor	Title
Eisenhower	James Killian	Assistant
	George Kistiakowsky	Special Assistant
Kennedy	Jerome Wiesner	Special Assistant, Director
Johnson	Donald Hornig	Special Assistant
Nixon	Lee DuBridge	Science Adviser, Director
	Edward David	Science Adviser, Director
Ford	Guy Stever	Science Adviser, Director
Carter	Frank Press	S&T Adviser, Director
Reagan	George Keyworth	Science Adviser, Director
	William Graham	Science Adviser, Director
Bush (41)	D. Allan Bromley	Assistant, Director
Clinton	Jack Gibbons	Assistant, Director
	Neal Lane	Assistant, Director
Bush (43)	Jack Marburger	Science Adviser, Director
Obama	John Holdren	Assistant, Director

Figure 2. OSTP Funding, FY1977-FY2012

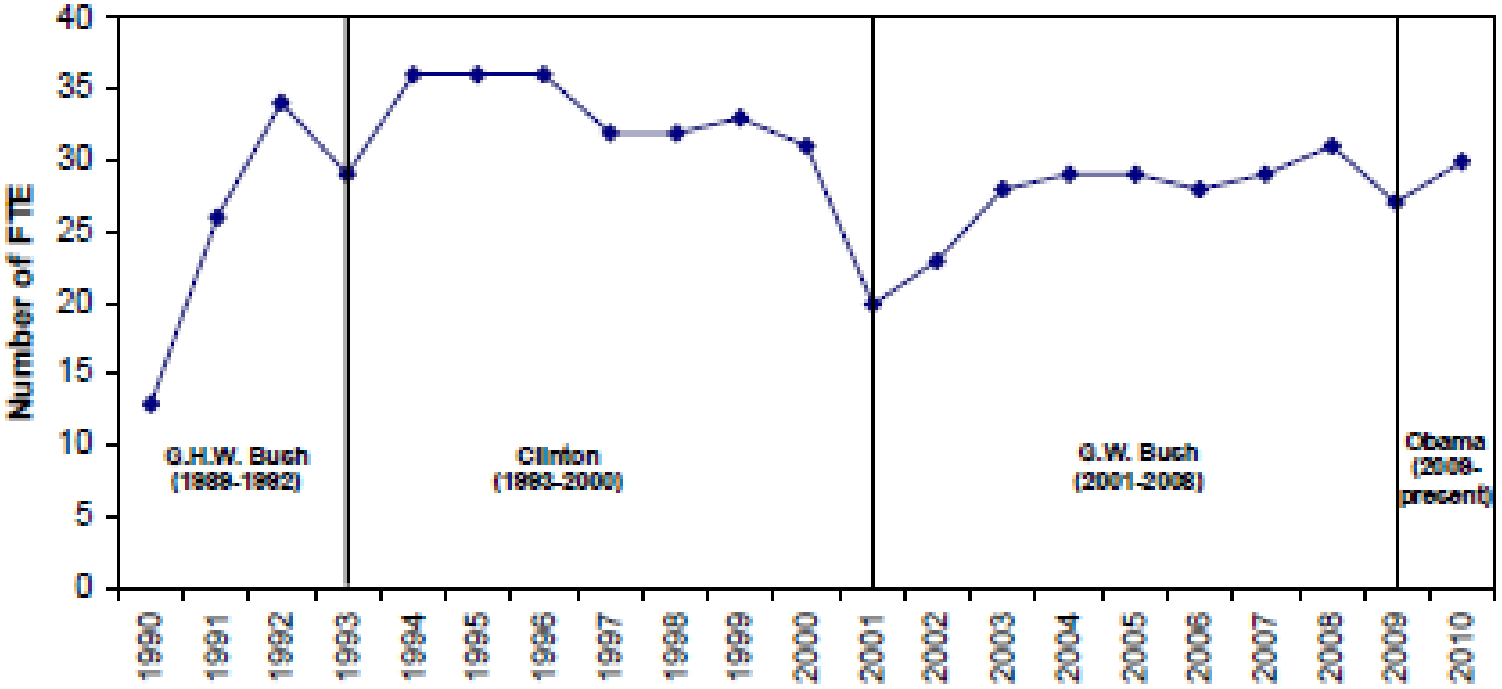


Source: Congressional Research Service. Data from OMB Public Budget Database, congressional appropriation acts, and committee reports, FY1977-FY2012.

Notes: With the exception of FY2008, funding for STPI not included. In FY2008, Congress explicitly appropriated to OSTP $2.240 million for STPI. If the STPI funding is omitted, FY2008 funding for OSTP is $5.184 million in current dollars. The continuing resolution provides FY2013 funding through March 27, 2013, at essentially same rate as in FY2012 rate.

Source: CRS 2012

Figure 3. OSTP Staffing FY1990-FY2010



Source: Congressional Research Service. Data is from U.S. Office of Management and Budget, *Budget of the United States Government, Appendix*, FY1979-FY2009. (Note that actual staffing numbers are provided two years later. For example, to determine actual staffing in FY2007, one must review the FY2009 budget request.). The OMB did not provide this data for FY2001. Estimate for this fiscal year based on information provided by OSTP. (E-mail communication between CRS and OSTP on August 18, 2008).

Notes: Data reported is in full-time equivalents (FTE, the amount of effort from one full-time employee over one year) and may not equal number of staff. Data does not include staff or FTEs funded by agencies other than OSTP. Data includes full-time equivalent of holiday and overtime hours.

Source: CRS 2012

OSTP

- Approx. 100 staff (“political”, “permanent,” detailees, fellows, “volunteers”)
- Director of OSTP is also the “science advisor” (assistant to the president)
- Four divisions, headed by associate directors (science, technology, environment, international) + deputy director for policy

Presidents Council of Advisors on S&T (PCAST)

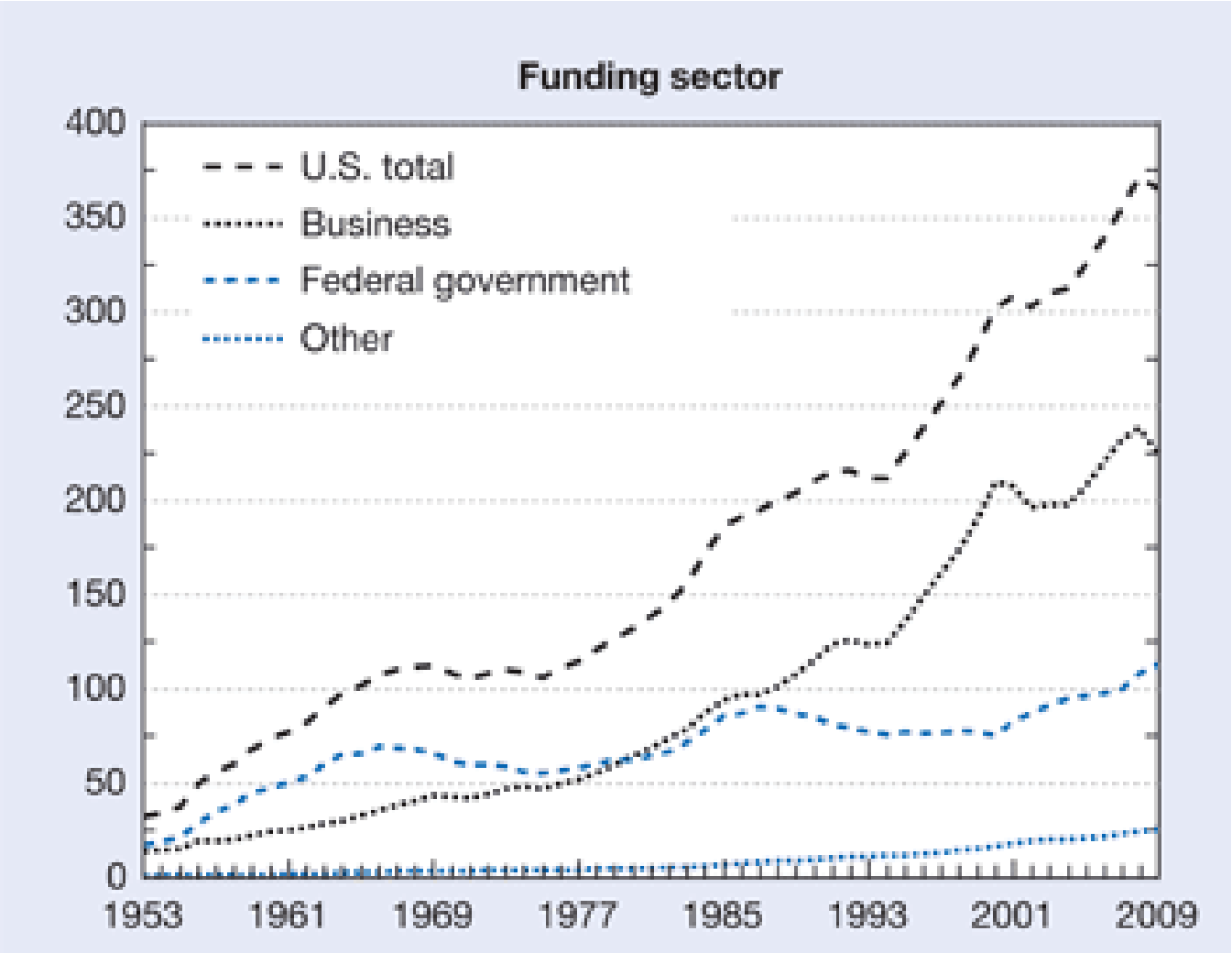
- Formalized external source of advice
  - Federal Advisory Committee Act
  - Reports and recommendations
- Non-governmental membership
  - Academics
  - Businesspeople
  - Investors

National Science and Technology Council

- Formal interagency coordination mechanism
  - Principals
  - Deputies
  - Staff
- Subcommittees:
  - STEM education
  - Environment, natural resources and sustainability
  - Science
  - Technology
  - Homeland and national security

R&D Spending: National and Federal

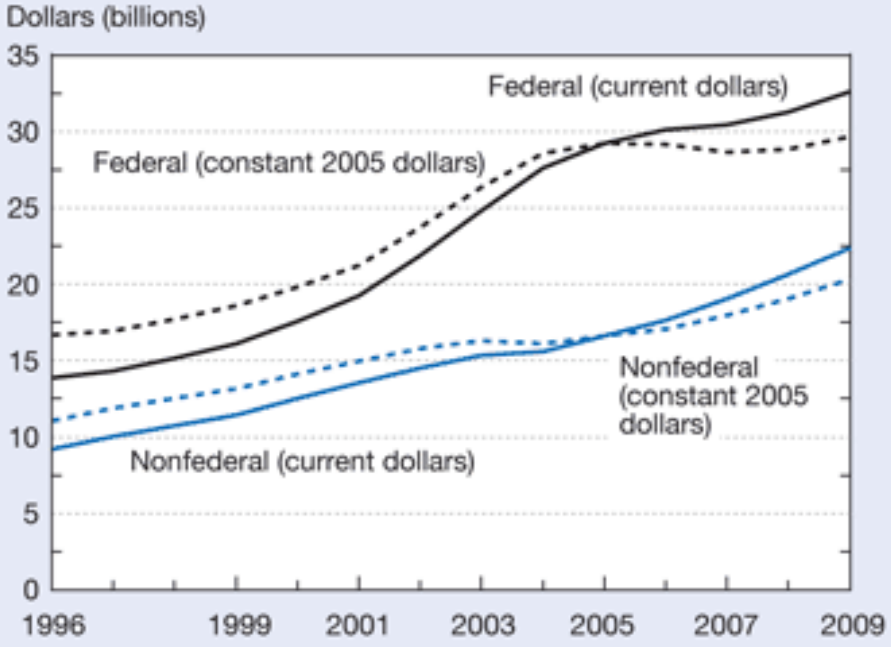
Billions of constant 2005 dollars



Source: *Science and Engineering Indicators 2012*, figure 4-4

Federal Support for Academic R&D

Figure 5-3
Federal and nonfederal funding of academic R&D expenditures: 1996–2009

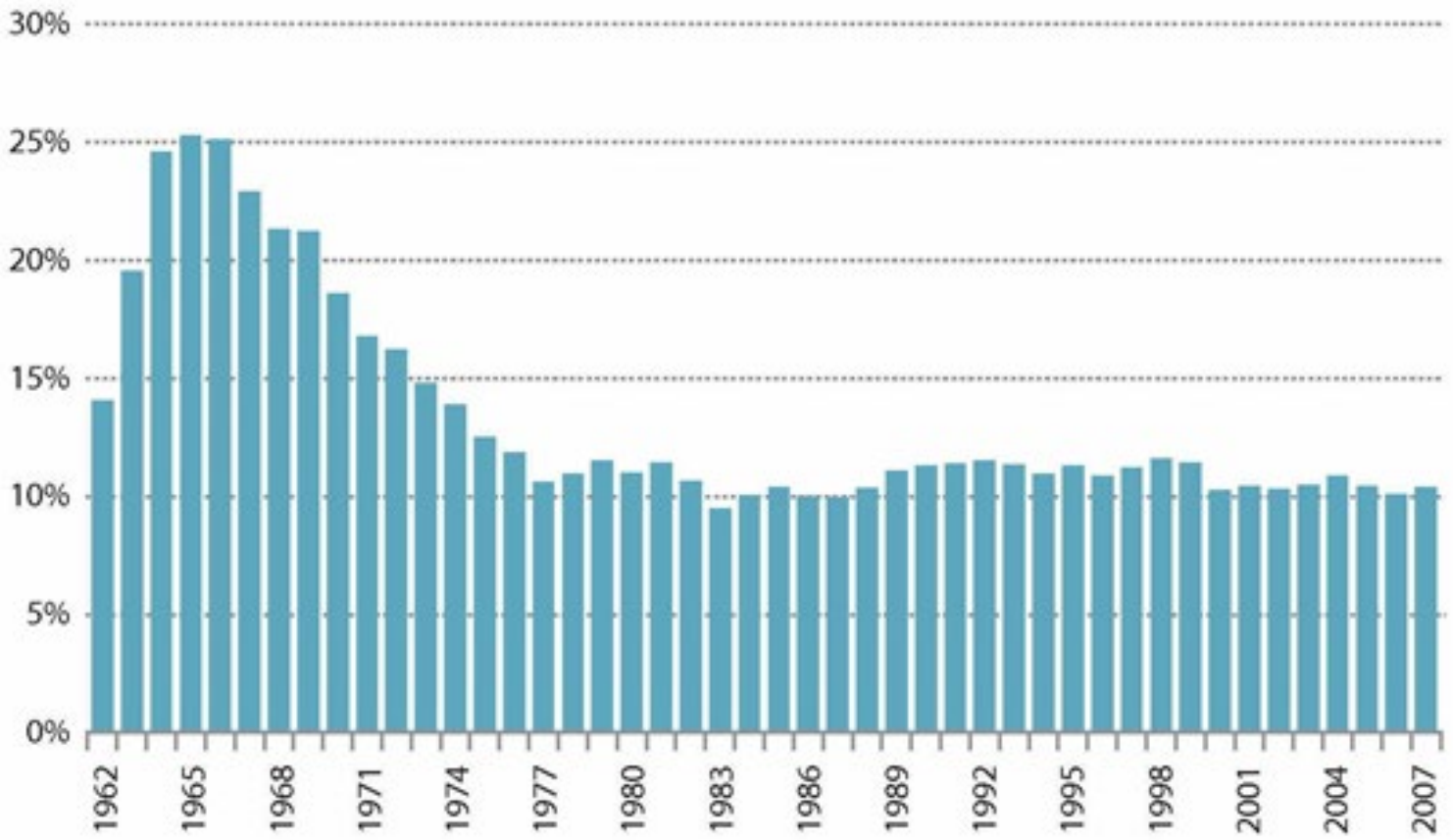


NOTES: Science and engineering R&D; non-S&E R&D not included. See appendix table 4-1 for gross domestic product implicit price deflators used to convert current dollars to constant 2005 dollars.

SOURCE: National Science Foundation, National Center for Science and Engineering Statistics, Survey of Research and Development Expenditures at Universities and Colleges. See appendix table 5-2.

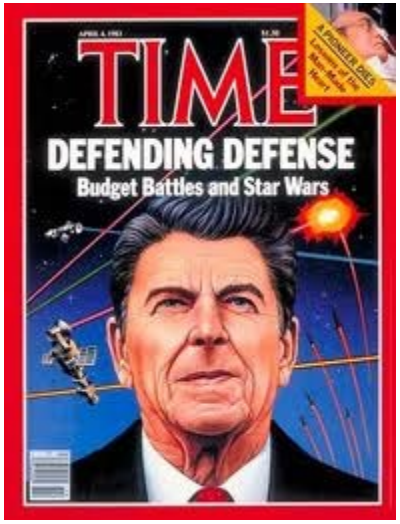
Science and Engineering Indicators 2012

Figure 1: Non-defense R&D as Percent of Federal Non-defense Discretionary Spending, FY 1962–2007

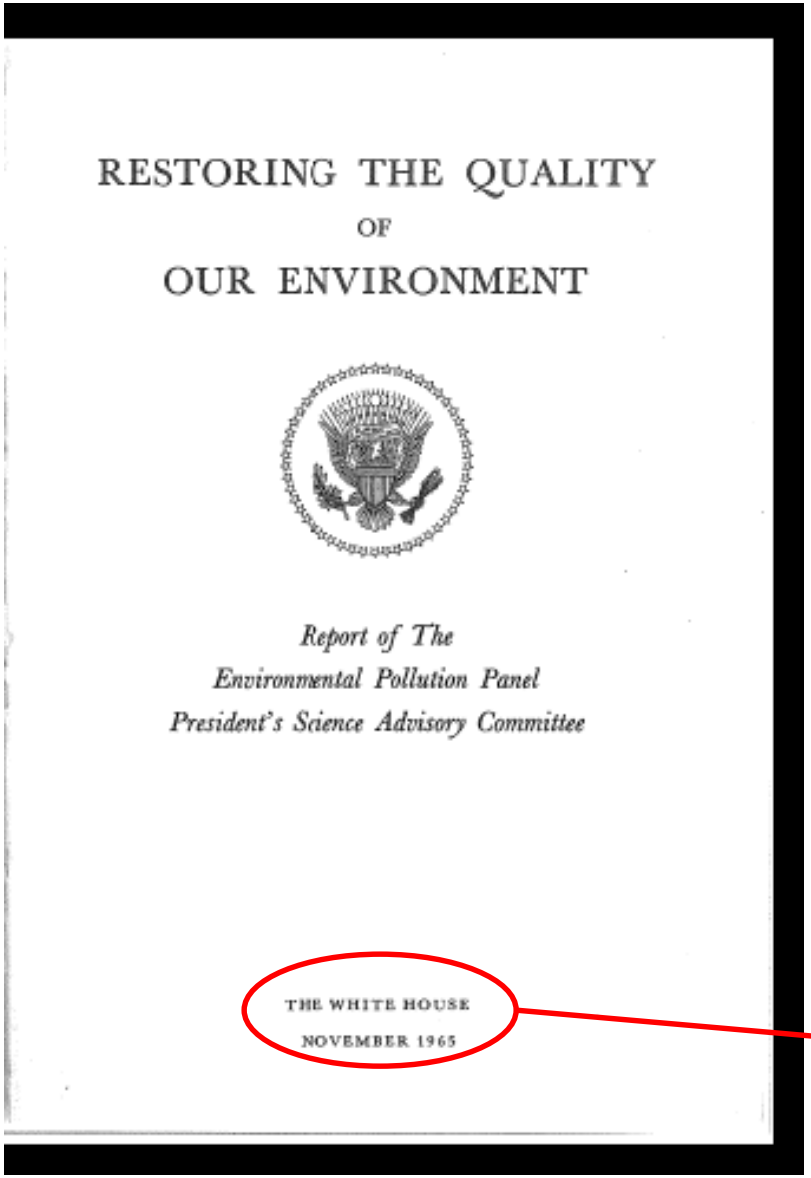


Source: Sarewitz, *Issues in Science and Technology* (2007)

Shooting Down Bad Ideas



Early Warning System


RESTORING THE QUALITY

OF

OUR ENVIRONMENT

Report of The
Environmental Pollution Panel
President's Science Advisory Committee

THE WHITE HOUSE
NOVEMBER 1965

"Man is unwittingly conducting a vast geophysical experiment….By the year 2000 the increase in atmospheric CO_2 will be close to 25%. This may be sufficient to produce measurable and perhaps marked changes in climate…" The White House November 1965

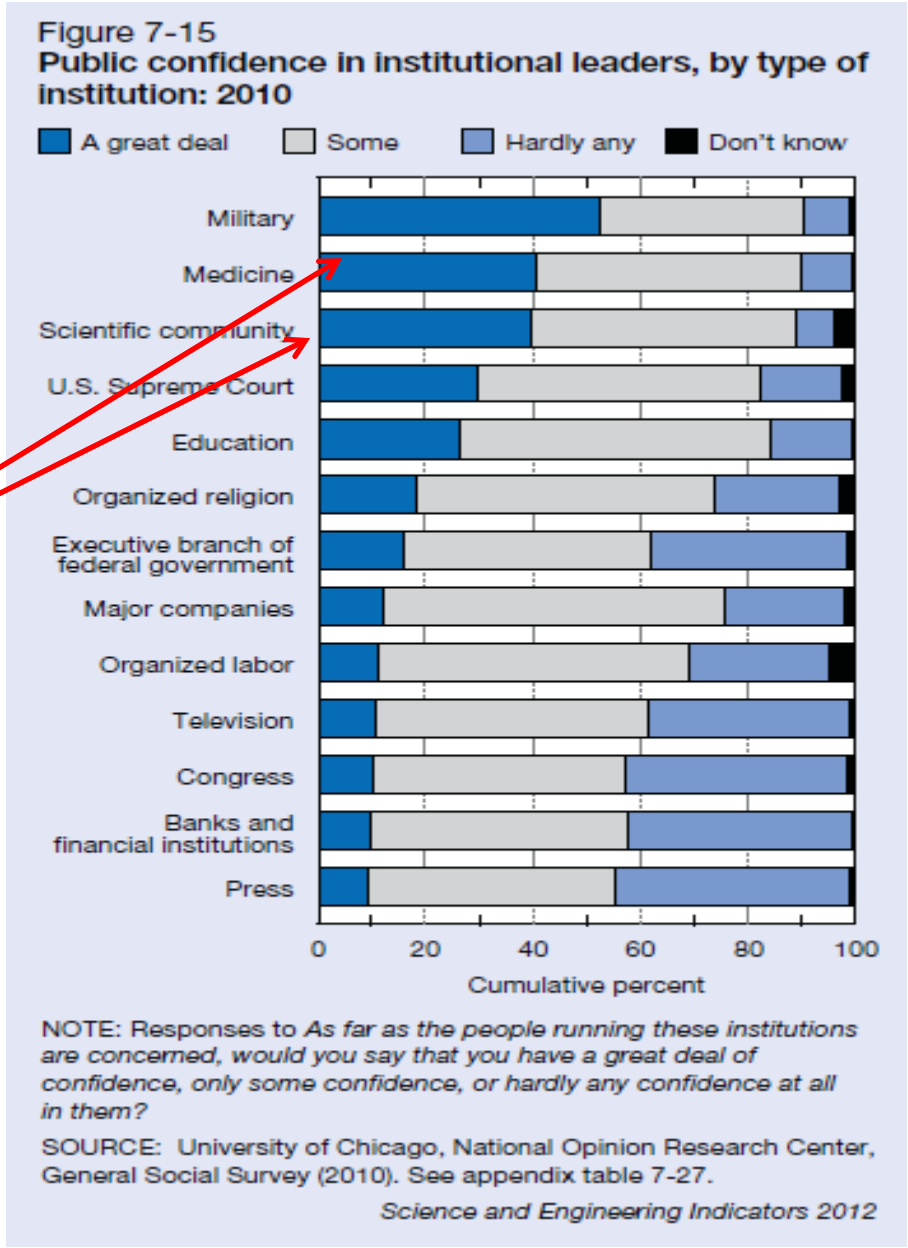
Responding to Crises

Fukushima Daiichi No 1 plant after a blast at the power station following Japan's earthquake and tsunami.

Source:
The Guardian,
March 12, 2011

Reassuring the Public

40% of Americans express “a great deal of confidence” in the leaders of both medicine and science.
Less than 10% express “hardly any” confidence”



Source: *Science and Engineering Indicators 2012*

Maintaining Public Confidence in S&T

Figure 7-11
Public assessment of scientific research: 1979–2010

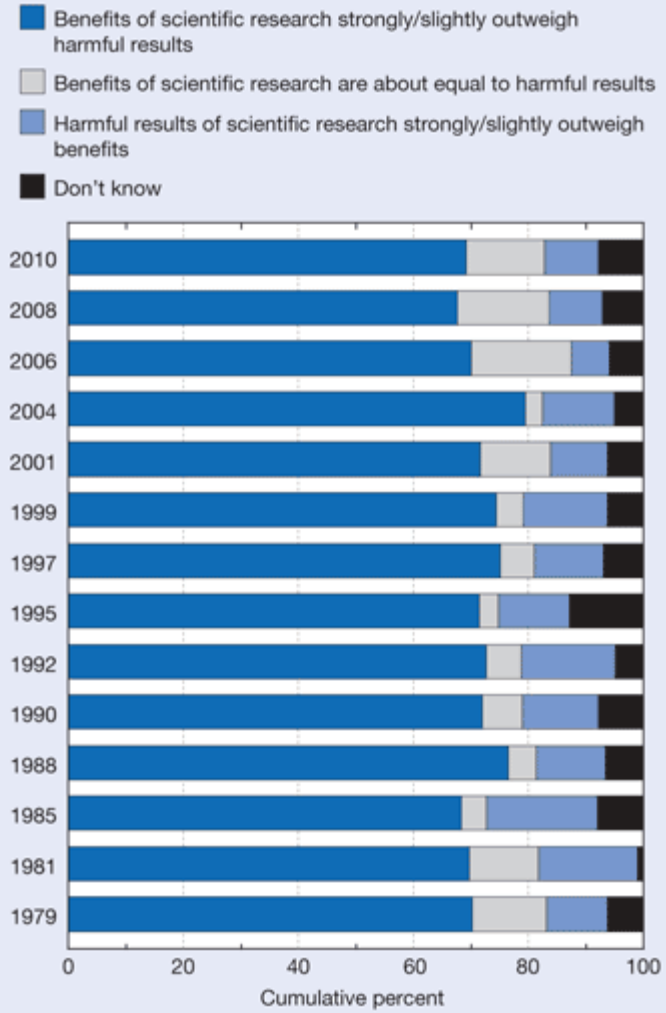
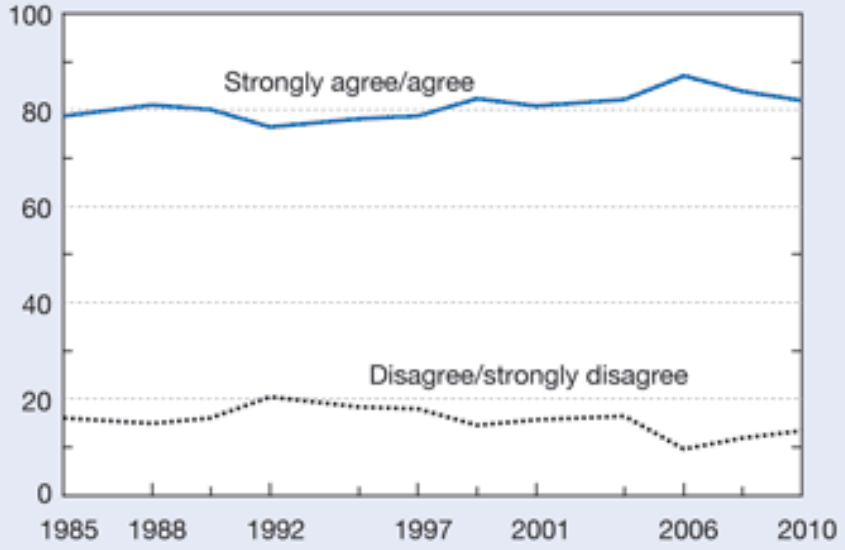


Figure 7-12
Public opinion on whether government should fund basic scientific research: 1985–2010



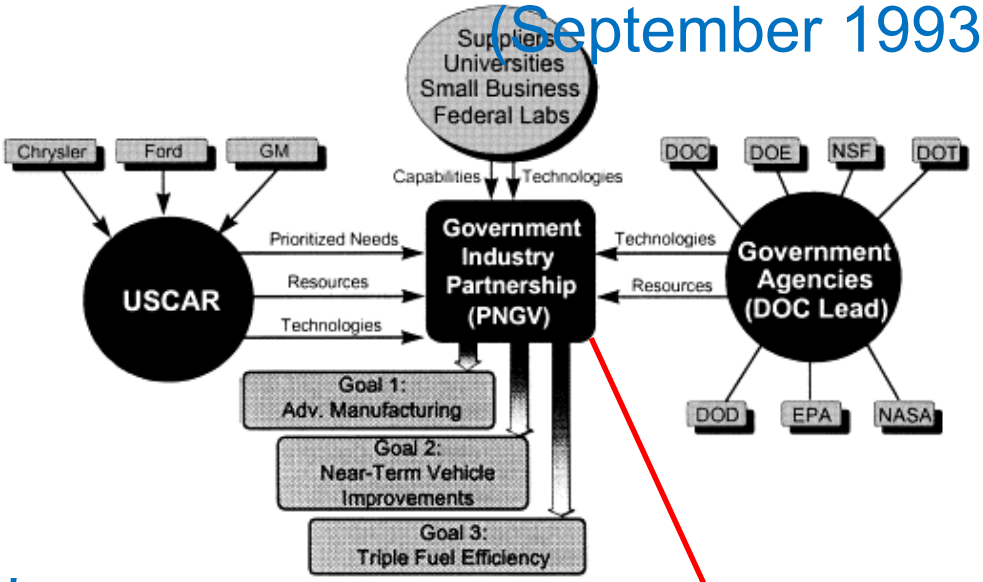
Source: *Science and Engineering Indicators 2012*

Policy Entrepreneurship

President Eisenhower calls for negotiations on a nuclear test ban treaty, August 22, 1958

Source: Eisenhower Library

Partnership for a New Generation of Vehicles (September 1993)



PNGV

Source: *Journal of Power Sources* (1998)

Improving Policy Implementation

THE FEDERAL SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS (STEM) EDUCATION PORTFOLIO

THE NATIONAL NANOTECHNOLOGY INITIATIVE

Research and Development Leading to a Revolution in Technology and Industry

A NATIONAL STRATEGIC PLAN FOR ADVANCED MANUFACTURING

THE NETWORKING AND INFORMATION TECHNOLOGY RESEARCH AND DEVELOPMENT PROGRAM

TRUSTWORTHY CYBERSPACE: STRATEGIC PLAN FOR THE FEDERAL CYBERSECURITY RESEARCH AND DEVELOPMENT PROGRAM

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