The FY 2011 Federal R&D Investment

Patrick J Clemins
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AAAS R&D Budget and Policy Program
http://www.aaas.org/spp/rd

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The FY 2011 Budget

- $3.8 trillion total budget, $1.3 trillion unified deficit
- $1.4 trillion discretionary spending (0.5% increase)
  - $671 billion nondefense spending (3.4% decrease)
- Rescuing the Economy
- A Foundation for Economic Growth and Job Creation
  - Small business initiatives
  - Investing in science and basic research
- Restoring Responsibility
  - Three year non-security discretionary funding freeze
Trends in Discretionary Spending
outlays in billions of constant FY 2010 dollars

FY 2010-2015 data are budget projections.
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The FY 2011 Federal R&D Investment

- $147.7 billion, 0.2% increase from FY 2010
  - Basic Research – $31.3 billion, 4.3% increase
  - Applied Research – $30.3 billion, 6.9% increase
  - Development – $81.5 billion, 3.5% decrease
  - Equipment and Facilities – $4.6 billion, 0.6% decrease
- $81.7 billion for defense R&D, 3.9% decrease
- $66.0 billion for non-defense R&D, 5.8% increase
- 0.8% decrease in constant dollars from FY 2010
- 0.4% increase in constant dollars since FY 2004
Total R&D by Agency, FY 2011
budget authority in billions of dollars

DOD, $77.5
HHS (NIH), $32.2
DOE, $11.2
NASA, $11.0
NSF, $5.5
USDA, $2.4
DHS, $1.0
All Other, $6.7

Total R&D = $147.7 billion

Source: OMB R&D budget data, agency budget justifications, and other agency documents.
R&D includes conduct of R&D and R&D facilities.
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FY 2011 R&D Budget Request
Percent Change from FY 2010

Source: OMB R&D budget data, agency budget justifications, and other agency documents.
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Funding Shifts

- Defense, −$3.3b
- Nondefense, +$3.6b
- Development, −$2.9b
- Research, +$3.2b
Funding Shifts

- NASA Constellation
  -$3.1b over 3 yrs to...
  - Near earth orbit through private industry
    +$6.1b over 5 yrs
  - Heavy Lift and Propulsion
    +$559m
  - International Space Station
    +$812m, 35.1% over 3 yrs
Funding Shifts

- Dept of Energy
  - Fossil, −$53m
  - Nuclear, −$122m
- EERE, +$35m
- Electric Grid, +$22m
- Office of Science, +$172m
- ARPA-E, +$273m
Funding Doubling for Basic Research

- National Science Foundation
  - 8.0% increase to $7.4 billion
  - R&D – 8.3% increase to $5.5 billion
Funding Doubling for Basic Research

- DOE Office of Science
  - 4.6% increase to $5.1 billion
  - R&D – 3.8% increase to $4.6 billion
Funding Doubling for Basic Research

- National Institute of Standards and Technology
  - 7.3% increase to $919 million
  - R&D – 21.7% increase to $706 million

![Bar graph showing NIST funding from 1991 to 2011]
R&D Investment Priorities

● New Industries and Jobs
  ● Advanced materials and manufacturing methods
  ● $6.1 billion over 5 years for commercial earth orbit

● Cleaner Energy
  ● $155 million (6.8%) increase for DOE Energy R&D

● Healthier America
  ● $956 million (3.1%) increase for National Institutes of Health

● Enhanced Security
  ● DOD Basic Research – 6.7% increase to $2.0 billion
US Dept of Agriculture

- Total R&D
  - -$143 million, -5.5%

BUT...

- Earmarks
  - $230 million in R&D
- AFRI (Total Budget)
  - +$166m to $429m, +63.4%
STEM Education

- $3.7 billion, +$32 million from FY 2010
- K-12 Education
  - $450m at Dept of Ed, $63m at NASA, $41m at NSF
- RE-ENERGYSE (Undergraduate)
  - $19 million for NSF, $55 million for DOE
- Undergraduate Diversity
  - $103m for NSF (+14%)
- Graduate Fellowships
  - +16% NSF, +5% NIH, +4% DOD, $15m at DOE
Next Steps

- Congress currently holding budget briefings for agencies
- Congress will pass a budget resolution and determine 302(a) and (b)s
- Congress needs to pass 12 appropriation bills, ideally by Sept. 30, the end of FY 2010.
For More Information…

The AAAS R&D web site is http://www.aaas.org/spp/rd

The AAAS Forum on Science and Technology Policy is May 13–14, 2010 in Washington, DC