

# **Federal Energy-Efficiency Budget and Energy-Efficiency Tax Incentives**

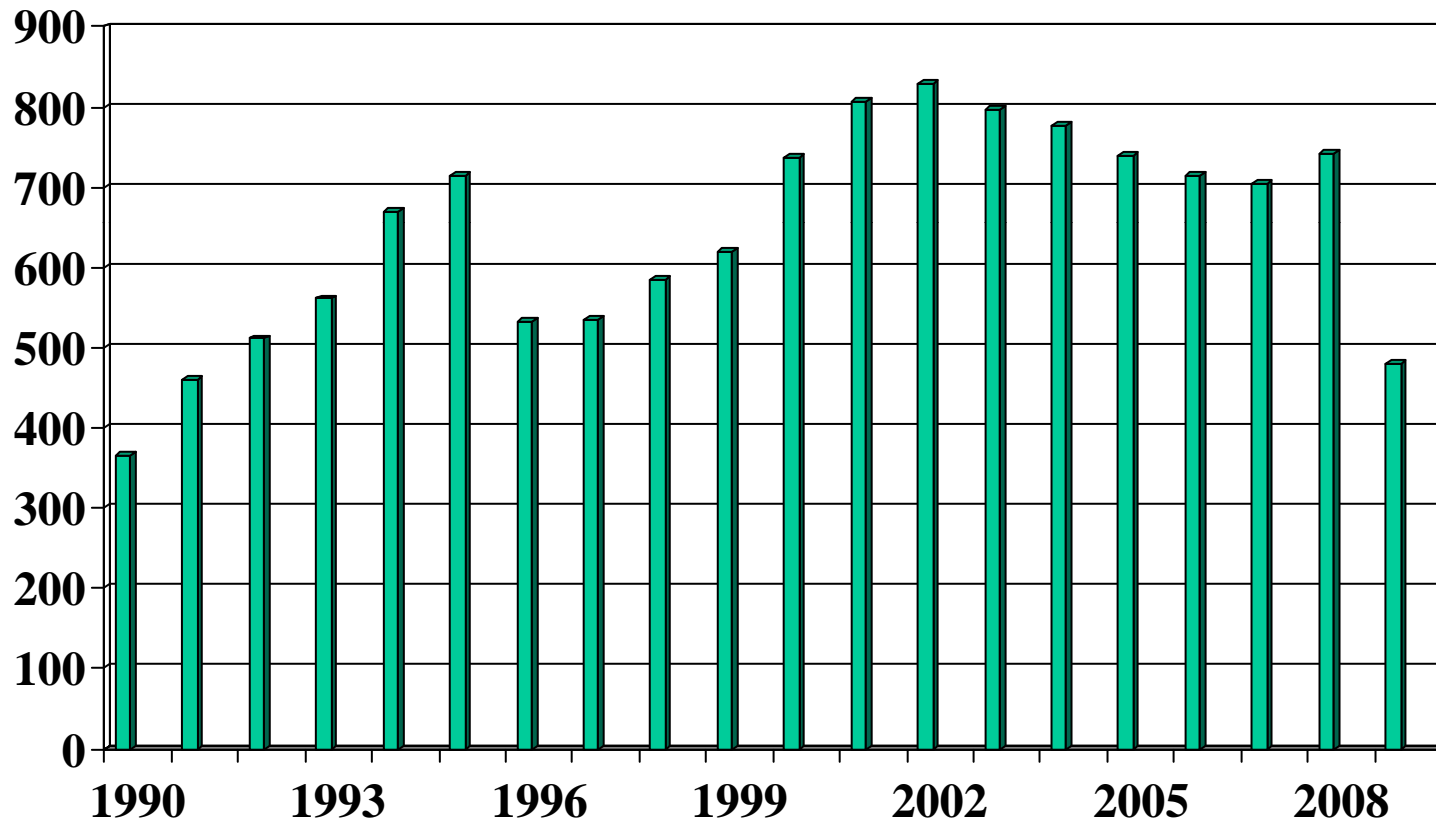
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# DOE Energy-Efficiency Spending (R&D and grants)

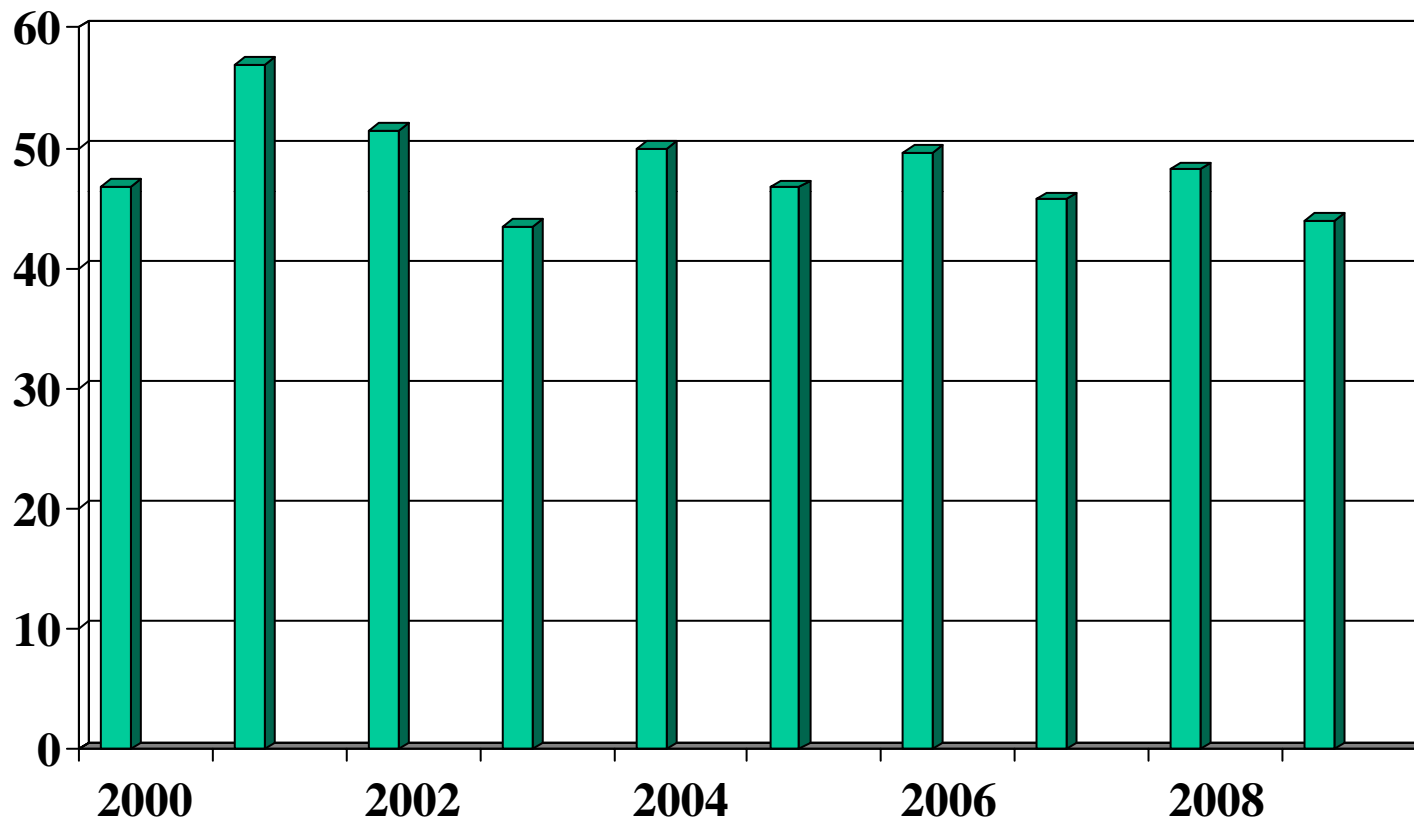


Note: Data pre- and post-2001 may not be fully comparable

Source: Lowell Ungar, Alliance to Save Energy



# EPA Energy Star Spending



Source: EPA for 2000-2007, ASE for 2008-2009



# What the Funds Go For

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- Research, development and demonstration programs
- Deployment programs (e.g. Energy Star, Rebuild America, and Clean Cities)
- State and local energy programs(e.g. Weatherization Assistance Program and grants to states)

# Program Results: The NAS Assessment

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- At the request of Congress, the National Academy of Sciences reviewed DOE's energy efficiency and fossil energy programs in 2001
- Found that a subset of efficiency programs provided net realized economic benefits of \$30 billion (1999\$), far greater than the total cost of the programs (\$7 billion over 22 years)

# Program Needs: The PCAST Assessment

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In 1997, President's Committee of Advisors on Science & Technology examined Federal energy R&D efforts:

- “The potential energy cost savings from energy efficiency across the buildings, industry and transportation sectors could be more than \$40 billion per year.”

# The PCAST Assessment (continued)

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## Conclusion:

- “After a careful analysis of budget needs, priorities, returns, opportunities and potential, the Panel recommends increases in the [R&D] budget commensurate with the potential benefits, ramping up from \$450 million in FY1998 to \$880 million in FY2002.”

# The Bush Budget for FY2009

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- R&D budget significantly below PCAST 2002 recommendation (\$429 million vs. \$880 million), and this ignores inflation
- Proposed efficiency spending at DOE down \$202 million (29%) relative to FY2008 appropriation
  - R&D and FEMP up \$23 million (6%)
  - Grants down \$224 million (79%)
- EPA Energy Star funding down \$4 million (8%)

# Winners and Losers in FY2009 Proposal

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## Winners

- Buildings tech validation & mkt introduction (Energy Star, building codes, etc.)
- Industrial cross-cutting R&D and best practices
- State Energy Program
- Hybrid vehicles and vehicle integration

## Losers

- Weatherization (zeroed out!)
- EPA Energy Star
- Advanced combustion engines
- New EISA programs
- Earmarked projects
- Section 9006 of Farm bill (zeroed out)



# Some Recommended Plus-Ups

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- Weatherization!
- Restore cuts in EPA Energy Star, Appliance Standards, Farm bill 9006
- Restore Industrial Assessment Centers and Industries of the Future (specific) to earlier levels (at least \$6.5 and \$24.2 million levels from FY 2006)
- Fund EISA priorities – e.g. commercial building initiative, CHP/recycled energy, more for building codes

# EPAct 2005 Tax Incentives

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- Designed to spur and promote advanced technologies and practices
  - New homes and buildings saving 50%
  - Highest efficiency appliances and HVAC
  - Hybrid and other advanced vehicles
  - Fuel cells and microturbines
- Designed as a 5-year initiative but EPAct 2005 generally only included first 2 years
- Also a residential weatherization provision




# Residential Tax Incentives

Provision	Incentive	Expires	2007*	Stimulus
New homes	\$1000-2000	12/2008	Not in	12/2009
Appliances	To manuf.	12/2007	12/2010	12/2009
Weatherization	10% up to \$500	12/2007	12/2008	12/2009
HVAC	\$50-300 up to \$500	12/2007	12/2008	12/2009

\*2007=tax provision negotiated in 12/2007 by House & Senate



# Commercial & Industrial Tax Incentives

Provision	Incentive	Expires	2007	Stimulus
Commercial buildings	Up to \$1.80/sf deduction	12/2008	12/2013	12/2009
Fuel cells & Microturbines	30% up to \$1000/kw 10% up to \$200/kw	12/2007	12/2016	12/2008
CHP	10%	Not in current law	12/2017	Not in 

# Vehicle Incentives

Provision	Incentive	Expires	2007	Stimulus
Passenger vehicles	Formulas	12/2010	Not in	Not in
Trucks	Formulas	12/2009	Not in	Not in
Plug-ins	Formulas	Not in	12/2010	Not in

# Tax Incentives Impacts

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- Spurred growing interest in advanced appliances, HVAC and new homes
  - ~ 8500 homes in 2006
  - Manufacturers introduced and sold new advanced appliances and HVAC equipment
  - Helped spur hybrid-vehicle introductions and sales
- Little activity so far on commercial buildings and medium-duty hybrid trucks since need time to ramp-up; IRS guidance only issued in 2007

# Impacts of Extending Tax Incentives

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- Aid transformation of market towards efficient advanced homes, buildings, appliances, HVAC equipment and trucks
- Encourage insulation, window and other weatherization upgrades to existing homes
- ACEEE estimates 2007 tax package will:
  - Reduce 2020 peak power needs by 19,000 MW
  - Produce net savings to consumers of \$84 billion (2008-2030)
  - Reduce 2020 carbon emissions by 15 MMT



# Conclusions

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- Efficiency tax incentives should be extended
  - These need more time to spur projects and products
- Restore the weatherization program
- Restore cuts in other important programs
- Fund EISA priorities