

# Energy Efficiency: Beyond the Wish

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ALLIANCE TO  
**SAVE ENERGY**

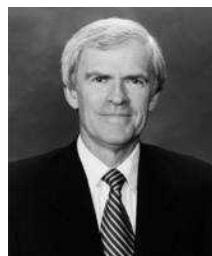
*Creating an Energy-Efficient World*



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# About the Alliance

- Mission: To advance energy efficiency world-wide through policy, education, research, technology deployment, market transformation and communication initiatives.
- Chaired by Senator Mark Pryor (D-AR) and James Rogers (CEO, Duke Energy) with strong bi-partisan congressional, corporate & public interest leadership.





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# About the Alliance (cont'd)

- Mission: To advance energy efficiency world-wide for a better economy, enhanced energy security and an improved environment.
- NGO coalition of 135+ prominent business, government, environmental and consumer leaders.
- Headquartered in Washington, D.C. with operations in Eastern Europe, South Africa, Mexico, India and several states in the U.S. Staff of 50+

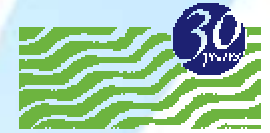


# Everyone's talking about energy efficiency



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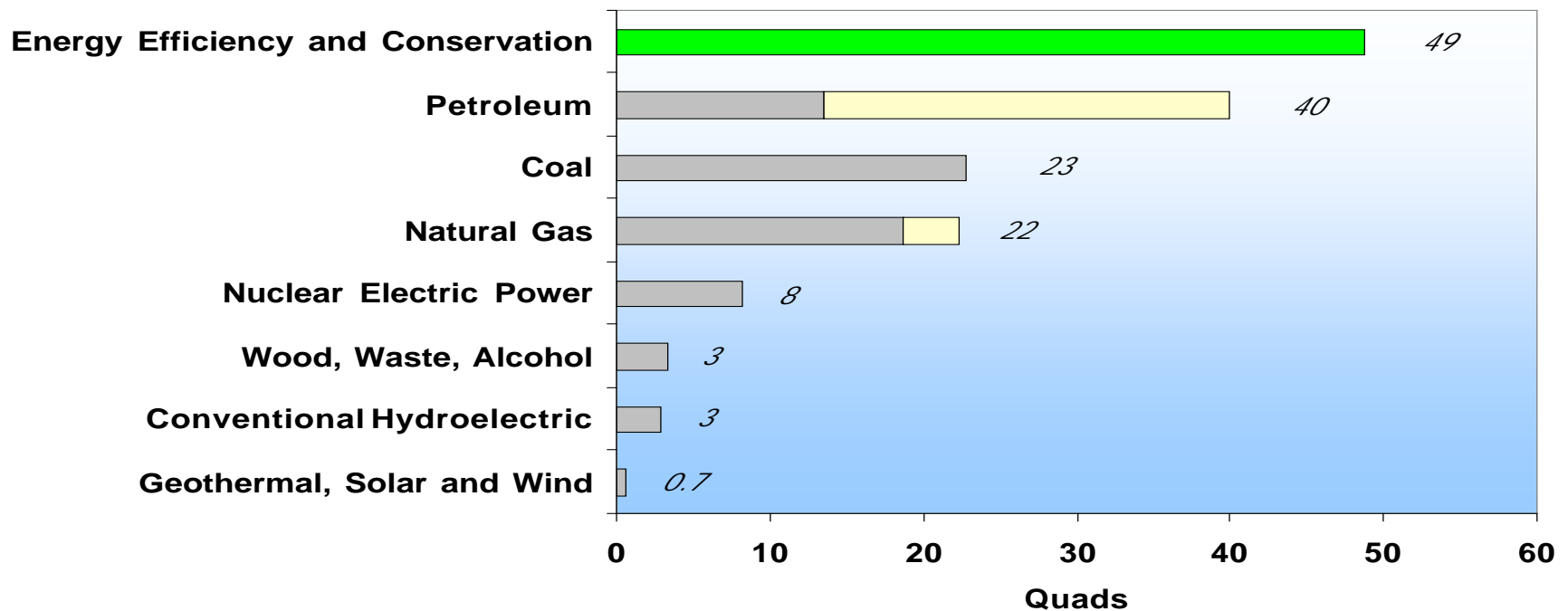
- Secretary Bodman
  - "The biggest source of immediately available 'new' energy is the energy that we waste every day."
- National Petroleum Council ("Hard Truths")
  - "The study demonstrates that energy efficiency is a very near-term energy resource, and tapping it is essential to national energy strategy." (Dan Yergin, Vice Chair of Study)
- Jim Rogers (CEO, Duke Energy)
  - Energy efficiency is "the fifth fuel"
- Senator McCain
  - "We need to dispel the image of conservation that entails shivering in cold rooms, reading by candlelight, and lower productivity. Americans have it in their power today to contribute to our national security, prosperity and a cleaner environment."



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# America's First Fuel

**America's Greatest Energy Resource**  
*Energy Efficiency and Conservation Improvements Since 1973  
Have Reduced Annual Energy Consumption by 49 Quads*



Alliance to Save Energy  
November 2007

■ 2006 Domestic Production      ■ Net Imports

# Enormous Savings



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- Energy Efficiency and conservation  
AVOIDING roughly **2.5 billion tons** of CO2  
annually
- Roughly **\$400 billion** energy  
savings per year









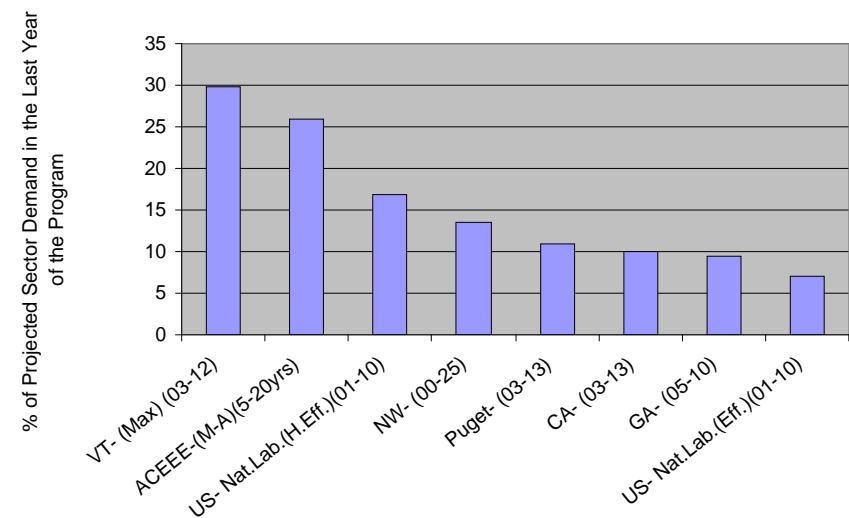


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# EE potential is uncertain

- A lot of opinions
- Assumption dependent
  - Energy prices, weather, technology, market barriers, policies, etc
- Not that much different from supply side resource estimates
  - Supply depends on demand and vice versa
- Learn by doing
  - Where do we want to go?
  - How do we get there?

Achievable Potential for Electricity Savings in the Residential Sector



Alliance to Save Energy 2007; Numbers in parentheses represent the years in which energy efficiency programs are implemented.



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# A lot of policy lately

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- 1990s
  - *EPAAct 1992*
  - *Some codes and standards*
  - *Labeling*
  - *“3 points of light and 997 dim bulbs”*
- So far in the 21<sup>st</sup> Century
  - *EPAAct 2005*
  - *Energy Independence and Security Act of 2007 (EISA)*
- States and utilities
  - *\$3 billion annual spending - was less than a billion in late 90s*
  - *Each year’s investment will save roughly 75 billion kwh (if programs live up to claims)*



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# Potential Impacts

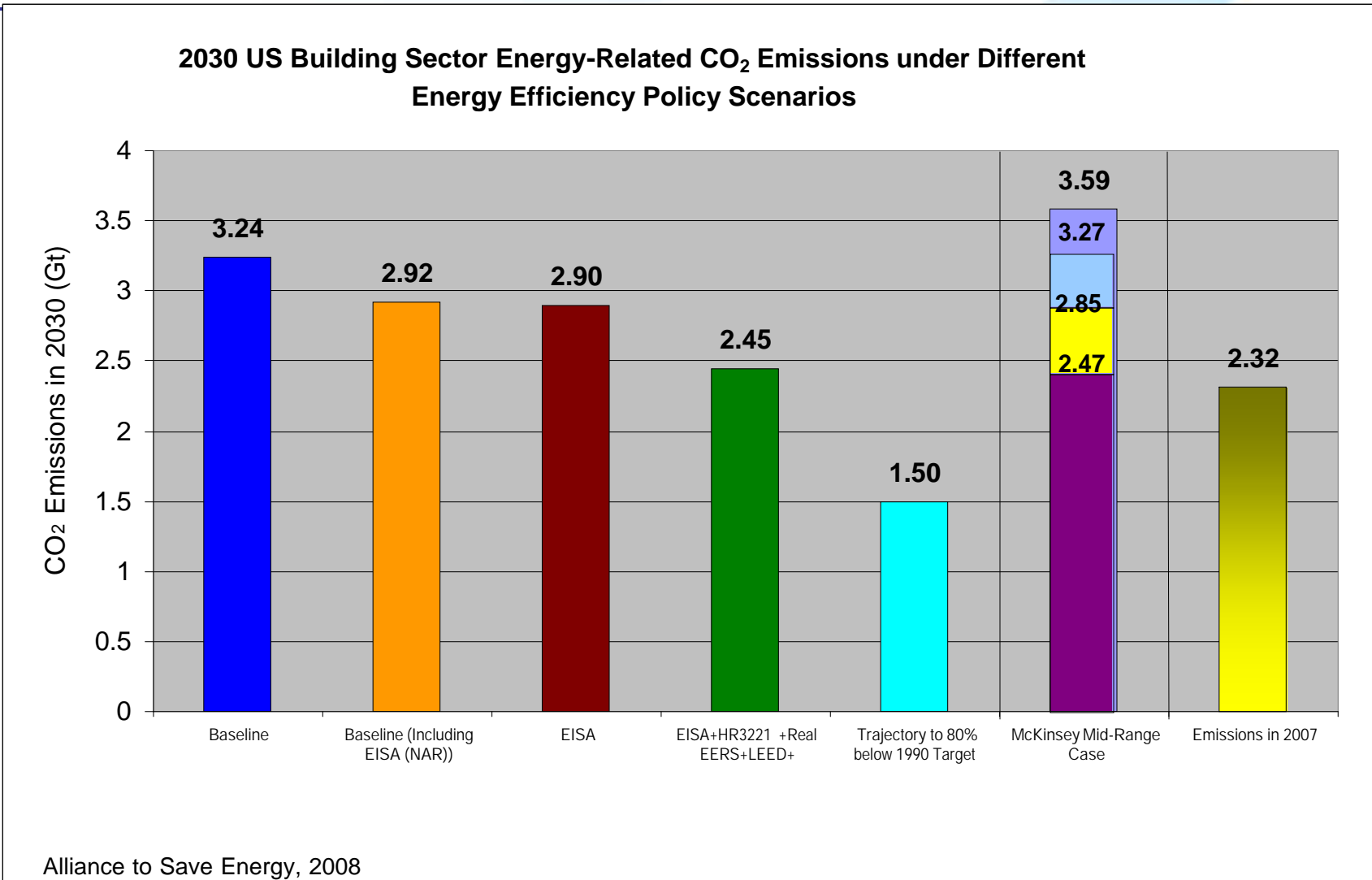
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- Energy Policy Act of 2005 will by 2020:
  - Reduce U.S. energy use by 2%
  - Reduce electricity demand by 4%
  - **Reduce CO2 by 3%**
  - Reduce oil use by 0%
  
- Energy Independence and Security Act of 2007 will by 2030
  - Reduce U.S. energy use by 7%
  - Reduce electricity demand by 5%
  - **Reduce CO2 by 9%**
  - Reduce oil use by 10%



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# A lot, but not enough





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# Get the Prices Right!

- Prices matter
- But how much?
  - *Large changes vs small changes in price*
  - *Perceived permanence of high prices*
  - *Will prices rise faster than incomes?*
  - *Availability of substitutes incl. EE*
- We don't really know, but higher prices won't INCREASE energy use

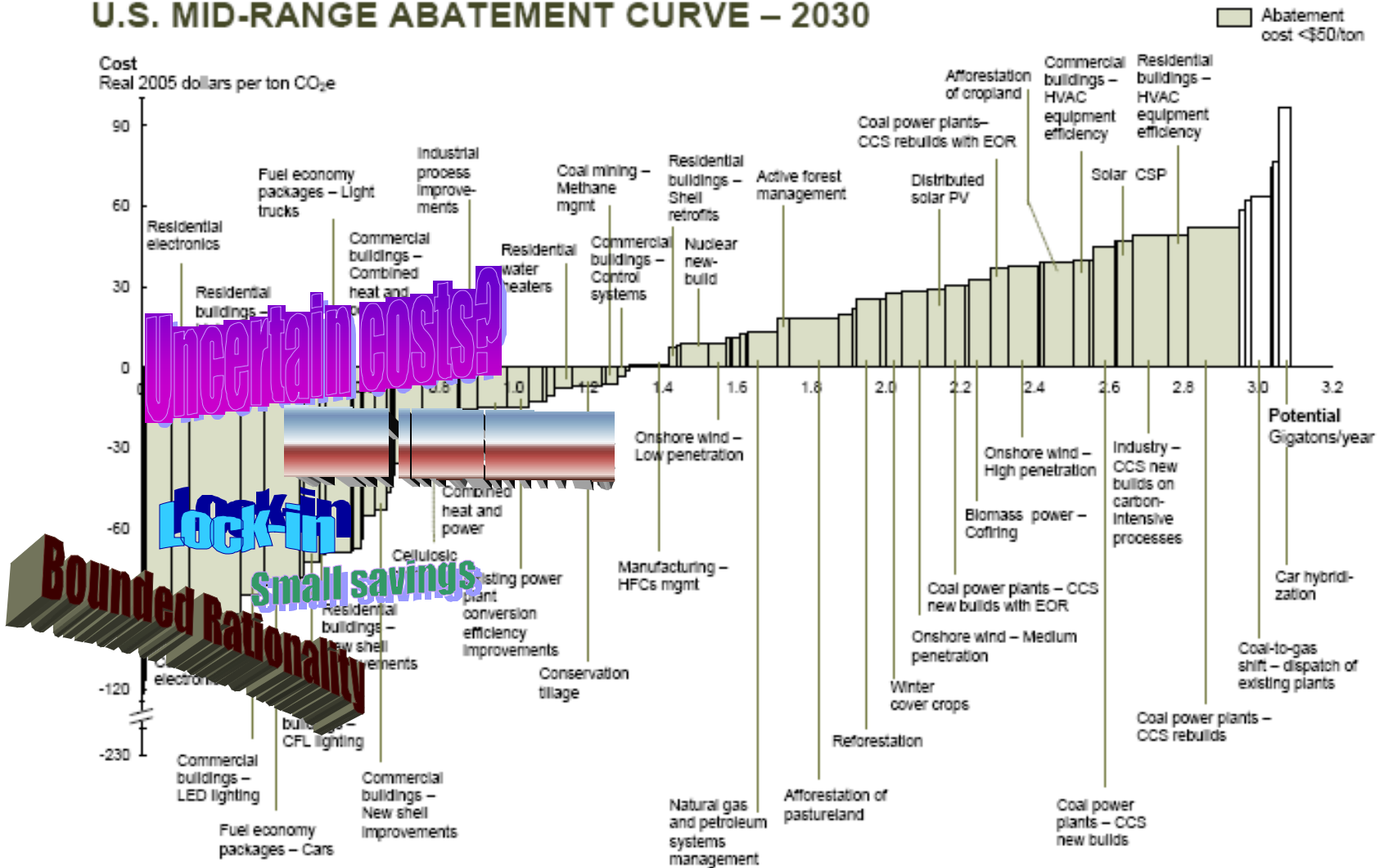
	Res AC	Com AC	Res Gas
Short Run	.24	.21	.12
Long Run	.32	.97	.36

**Source:** M.A Bernstein and J. Griffin, **Regional Differences in the Price-Elasticity of Demand for Energy**, RAND Corporation Santa Monica, California, February 2006

# Non-Price Barriers to EE

Exhibit B

## U.S. MID-RANGE ABATEMENT CURVE – 2030



Source: McKinsey analysis





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# Prepare to Address Barriers

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- Get prices right
  - Policy design issues
- Match policies to barriers
  - Regulations will address most barriers and should be adjusted to reflect higher prices
  - Rebates/tax incentives may not address non-price barriers
  - R&D, public education, technical assistance, M&V
  - Hard to know what barriers until carbon price is in place
- Scalability of programs
  - Will require people and money (same as energy suppliers)





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# Keeping it real

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- EE cheapest, easiest, cleanest – but not free and not always easy
  - No nuclear waste, but some hassle
  - No fear of climate change, but there is fear of disrupted operations
  - Costs of measures low, but ability to get people to implement is TBD.
- But it's necessary
- Don't let EE be just a slogan!

For More Information:

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