IEA Workshop on Fuelling the Future with Energy Efficiency

U.S. DEPARTMENT OF ENERGY | Energy Efficiency & Renewable Energy

United States Policies to Unlock the Potential

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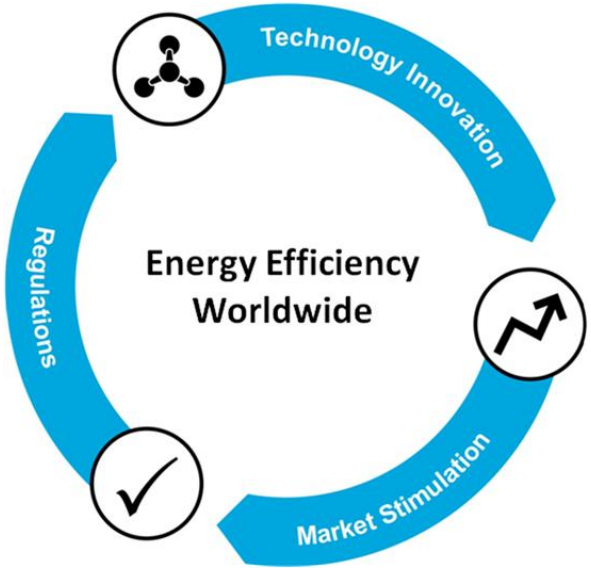
A Comprehensive Strategy to Greatly Accelerate Efficiency Gains

Technology Innovation

- Develop technology roadmaps
- Prioritize opportunities for DOE
- Solicit and select innovative technology solutions
- Collaborate with researchers and market performers
- Solve technical barriers and test innovations to prove effectiveness
- Measure and validate energy savings



Market Stimulation

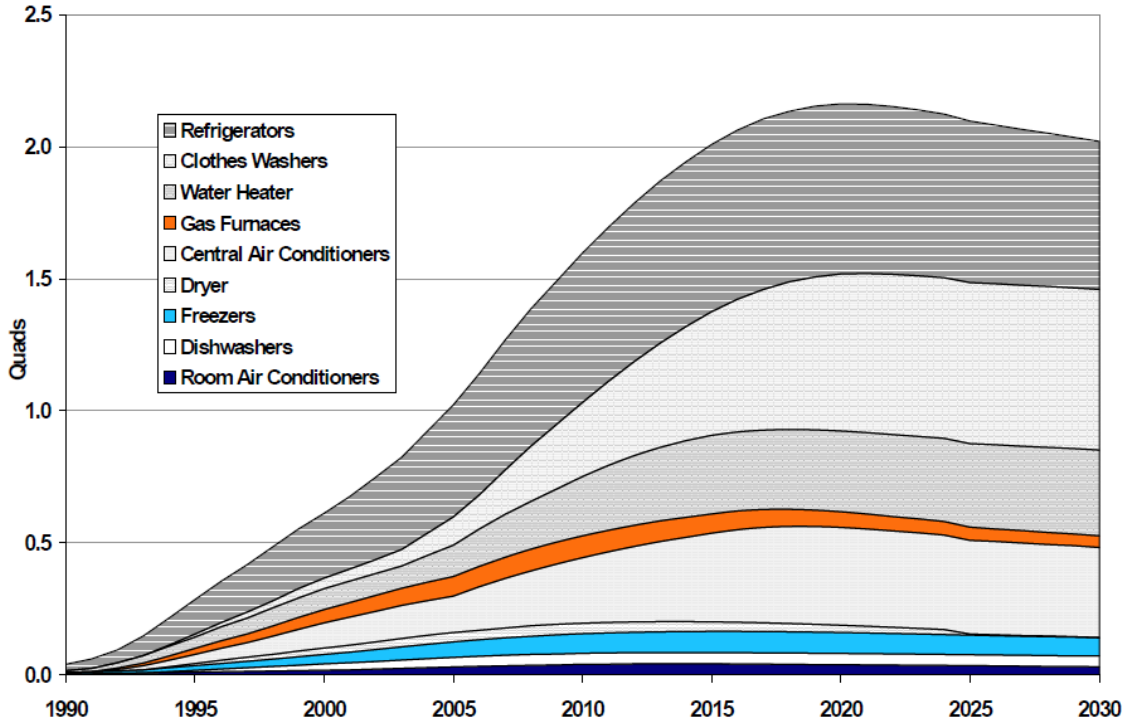
- Identify barriers to “speed and scale” adoption
- Develops solutions to policy, adoption, and financial barriers
  - Support targeted incentives and facilitate private financing
  - Identify high efficiency products
  - Communicate value of energy efficiency
  - Provide technical assistance
  - Support workforce training and certification
  - Ensure governments procure efficient products and invest in efficiency

Standards and Regulation

- Establish minimum energy use in a transparent public process- raise the efficiency bar
- Protect consumer interests
- Reduce market confusion
- Enhance industry competitiveness and profitability
- Expand portfolio of energy efficient appliances and equipment

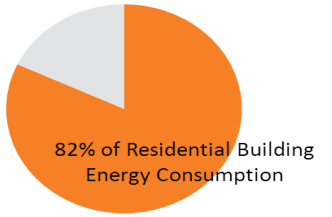
Appliance Standards are DOE's Most Effective Energy Saving Program

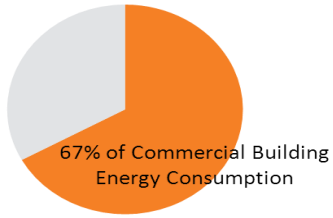
- As a result of US standards, consumers and businesses are saving $15 billion a year (net present value) as of 2010 and this is expected to nearly double by 2025
- Cumulative carbon savings by 2045 are estimated at 1,200 million tons

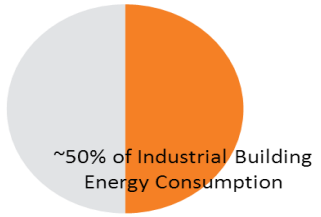


Source: Meyers http://escholarship.org/uc/item/8p26w1jq (2008)

- Over 50 products covered:

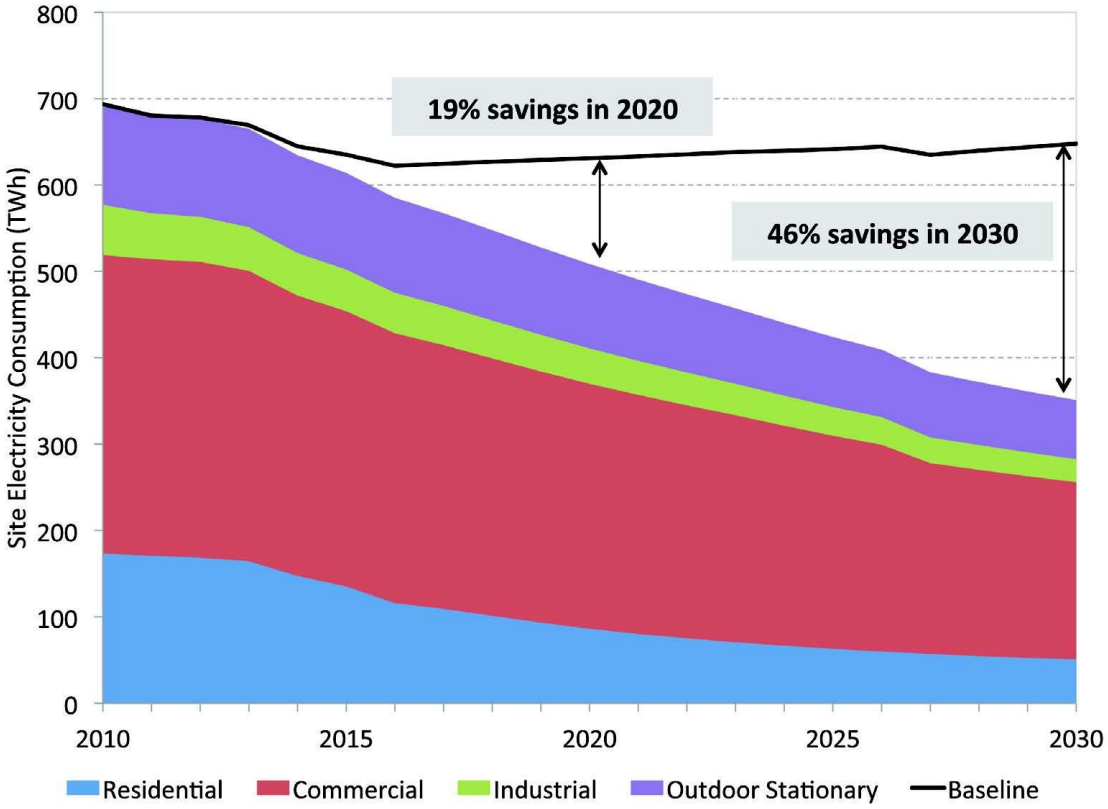






Major Impacts of New Technologies: SSL products will cut lighting energy use by 46%

Energy Savings Potential of SSL in General Illumination Applications*



Potentially reduce U.S. electricity use in half = electricity needed to power 24 million households

*DOE Report "Energy Savings Potential of Solid-State Lighting in General Illumination Applications" January 2012

Industrial Sector EE Gains: ISO 50001, Public-Private Partnerships and R&D Investments

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Market Stimulation

Superior Energy Performance Gold Certified Partner: Cook Composites and Polymers (CCP)

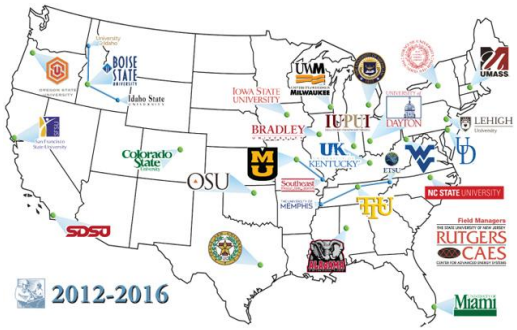
Houston facility achieved a 14.9% energy performance improvement over a two-year period:

- 31,700 million Btu saved
- $250,000 cost savings per year

Better Buildings, Better Plants Challenge:

3M has committed to improving energy efficiency at its 78 U.S. plants by 25% by 2015.

Save ENERGY Now



Codes & Standards

ISO International Organization for Standardization

Technology Innovation

Advanced Reciprocating Engine Systems

3-Phase Efficiency Targets

- 44% in 2006
- 47% by 2012
- 50% by 2013

Fig 3. Waukesha's APG1000, turbocharged and intercooled, sixteen cylinder, lean combustion gaseous fueled Enginator.
Photo courtesy of Dresser Waukesha.

Innovative Manufacturing Initiative

- Cost shared R&D in pervasive manufacturing processes and materials

Transportation Sector EE Gains: Fuel Economy Standards, Tax Credits, Labeling and R&D

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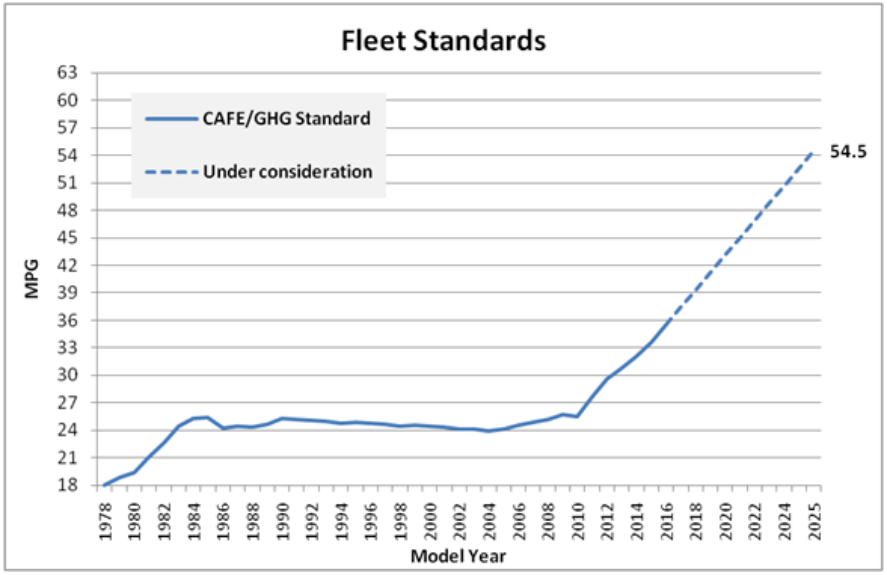
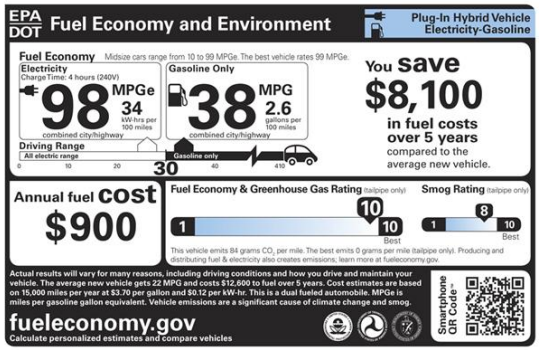
Codes & Standards



Market Stimulation

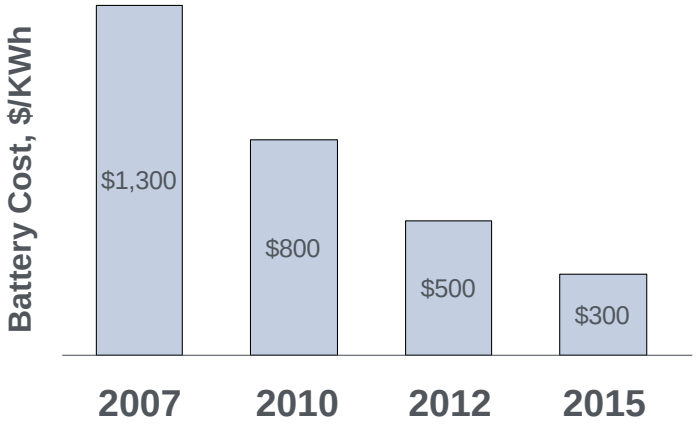
$7,500 PHEV Tax Credit

Mandatory MPG Labeling



Technology Innovation

Plug-In Hybrid Battery Cost on Track to Meet 2015 Goal of $300/kWh



Diesel engine efficiency R&D

- $123M USG investment (‘99-’07)
- 5% improvement since 2002
- 2.4 billion gallons diesel saved
- $7.6B cost savings

Thank You