



# **Energy Policy: The Demand Side**

**ASEE Engineering Deans PPC  
February 9, 2016**

**Lowell Ungar  
Senior Policy Advisor**

# Outline

- Energy demand is as important as energy supply
- Energy efficiency policies are key to national energy strategy
- Current federal actions may help

# American Council for an Energy-Efficient Economy (ACEEE)

Nonprofit 501(c)(3) that acts as a catalyst to advance energy efficiency policies, programs, technologies, investments & behaviors

- *Research*: buildings, industry, utilities, transportation, economic analysis & behavior
- *Policy*: national, state, & local
- *Outreach*: conferences and publications
- Nearly 50 staff based in D.C.



# Celebrating 20 Years of Achieving Energy Efficiency through Market Transformation

National Symposium on Market Transformation

Baltimore, MD • March 20-22,

2016

## Hot Topics:

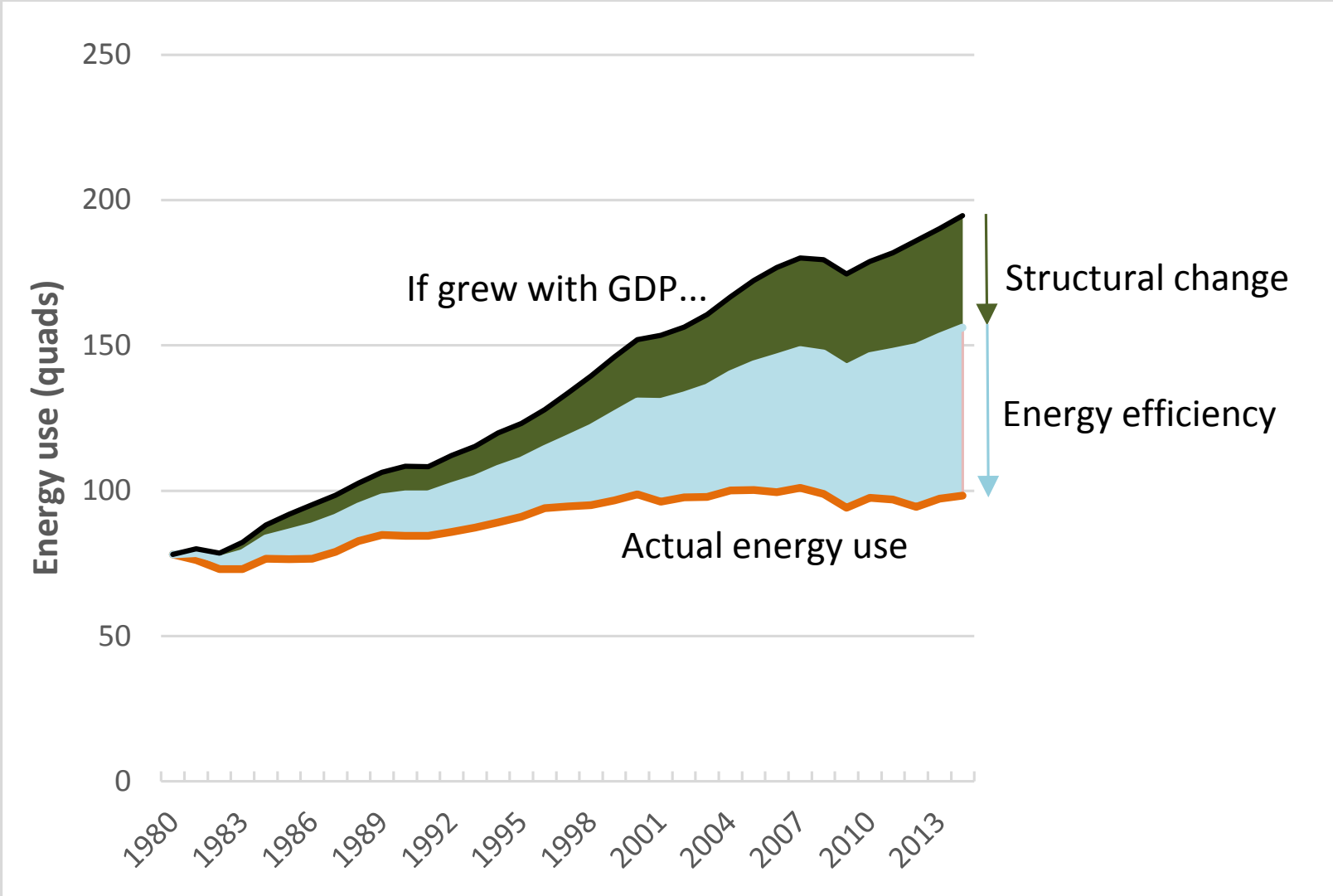
- Zero Net Energy Buildings
- Combined Heat and Power
- Evaluation, Measurement, & Verification
- Data Analytics
- Connected Lighting & Controls
- Plug Load Management
- Demand Response & Distribution System Grid
- Affordable Housing
- Community Strategies

[aceee.org/conferences](http://aceee.org/conferences)

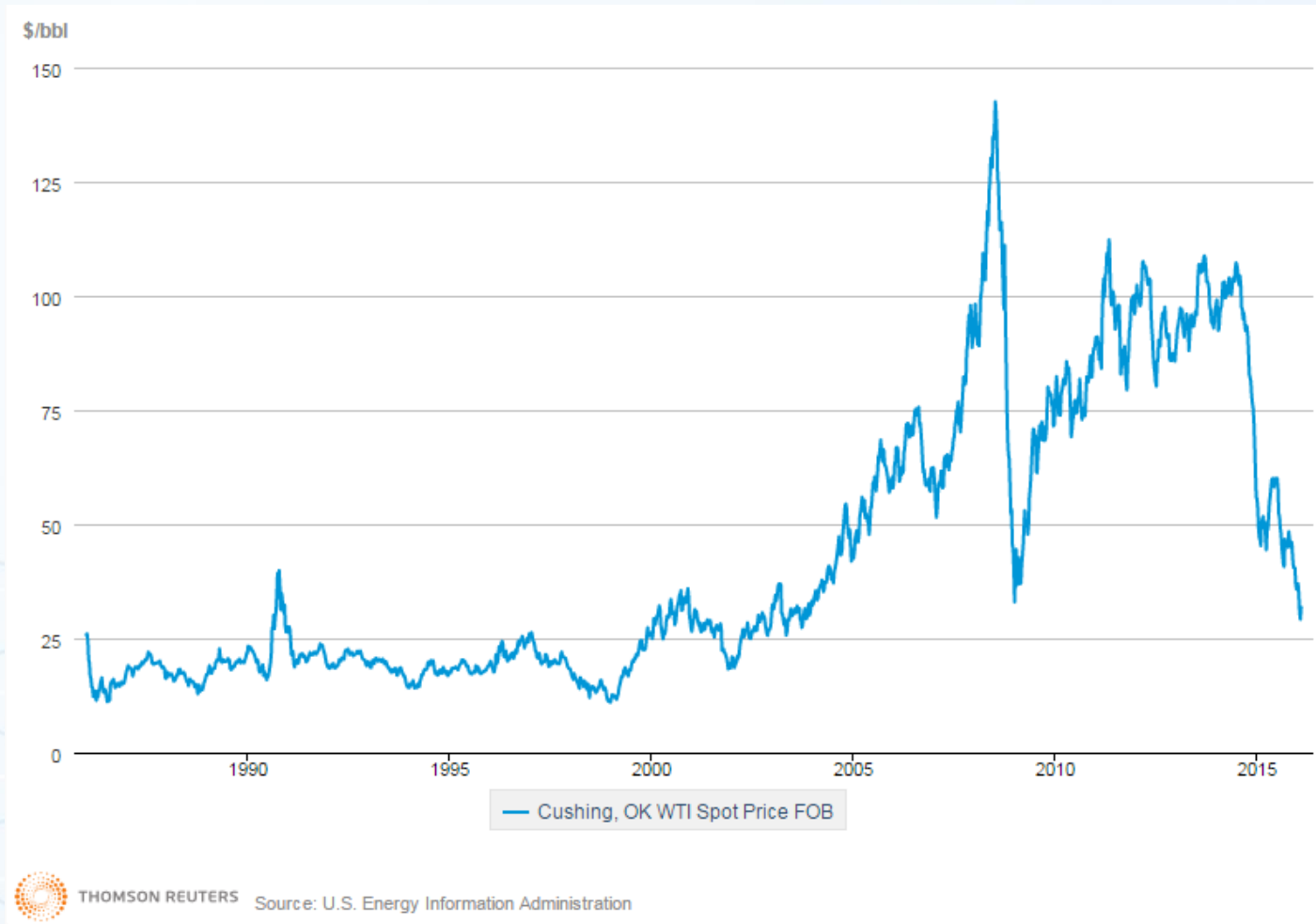


For: Policymakers • Contractors • Agencies • Utilities • Researchers • Advocates

# Energy Efficiency Savings



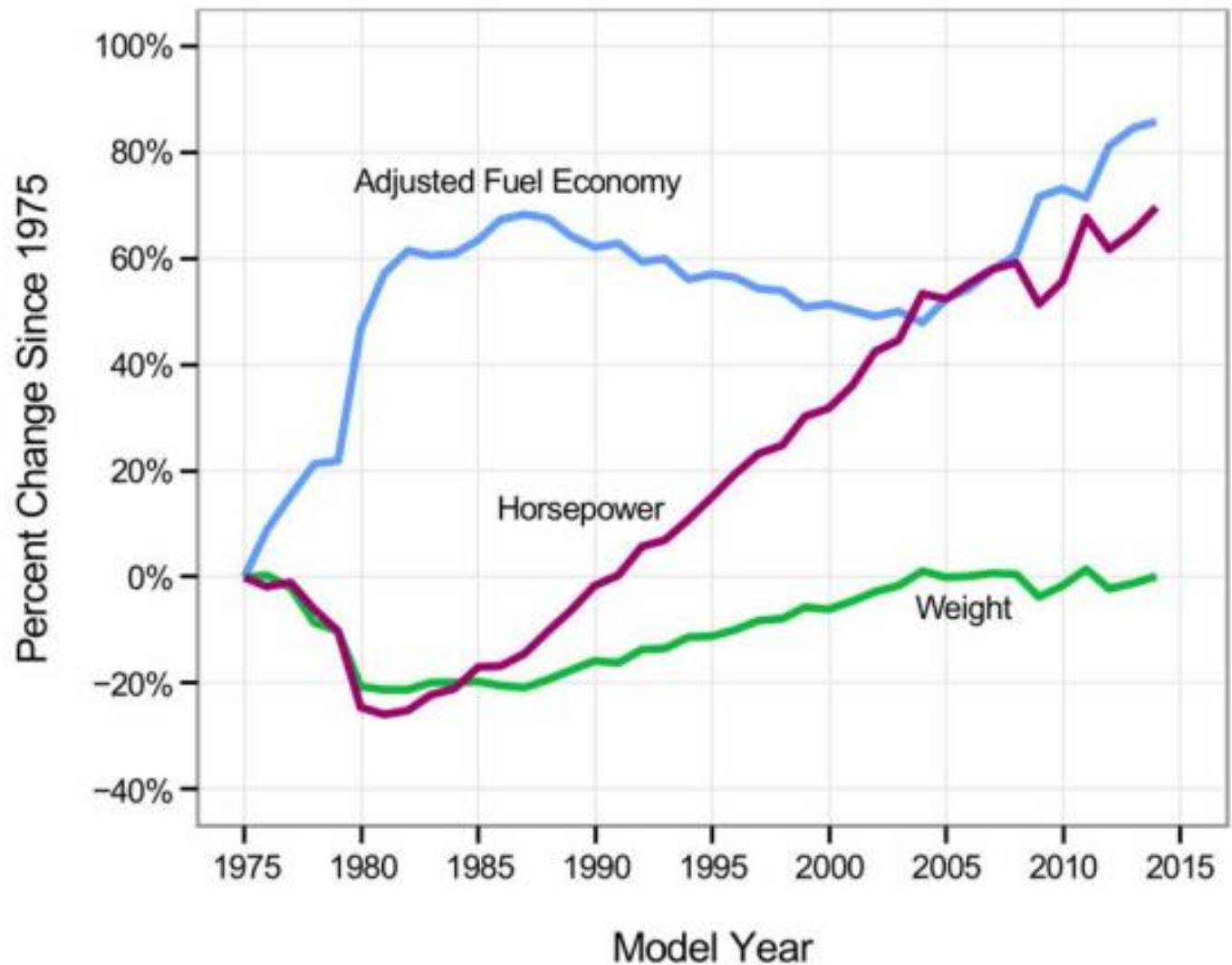
# Energy News: Oil Prices



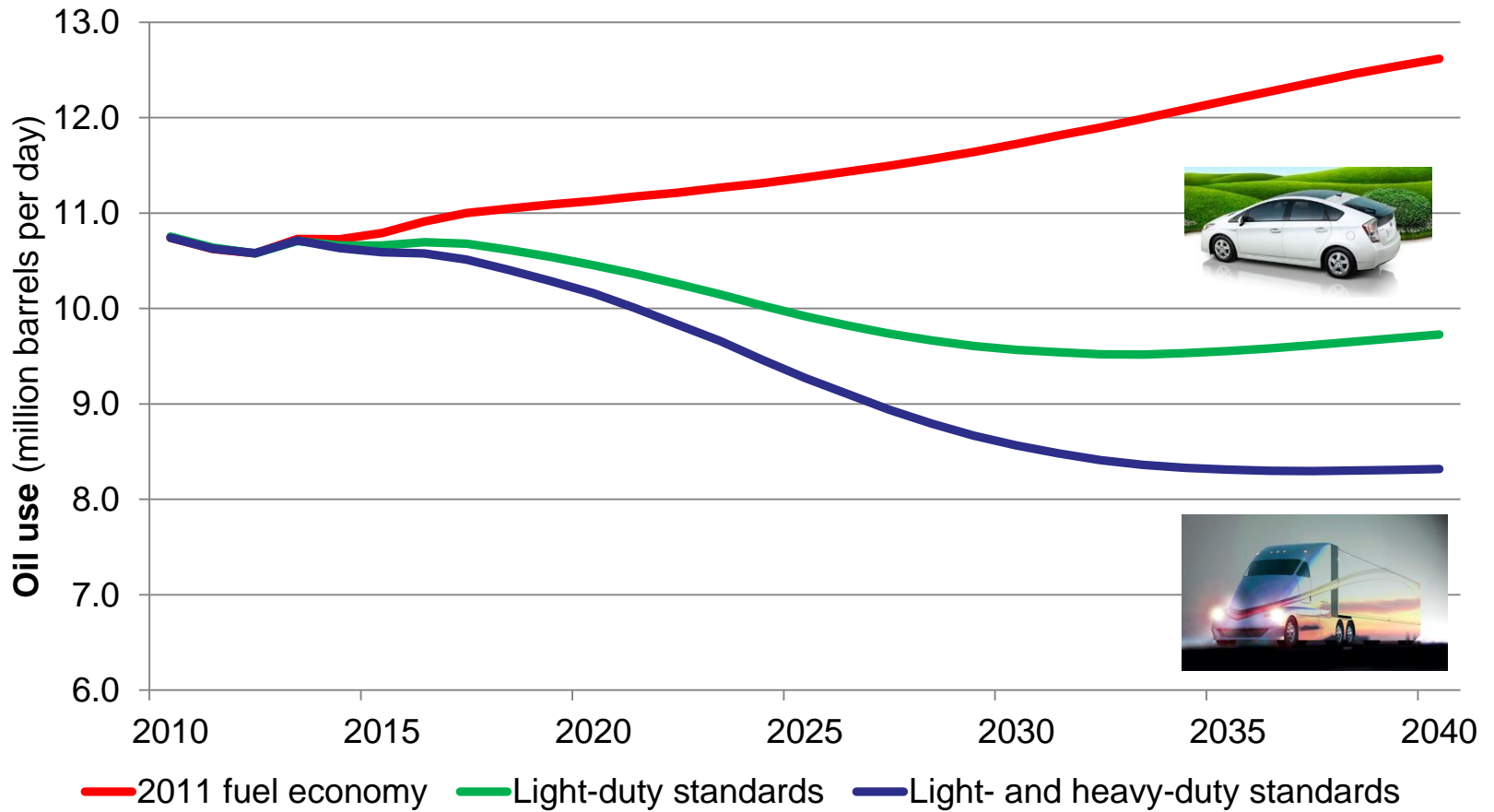
THOMSON REUTERS

Source: U.S. Energy Information Administration

# Vehicle Standards



# Oil Savings from Standards





# Energy News: Utility Angst

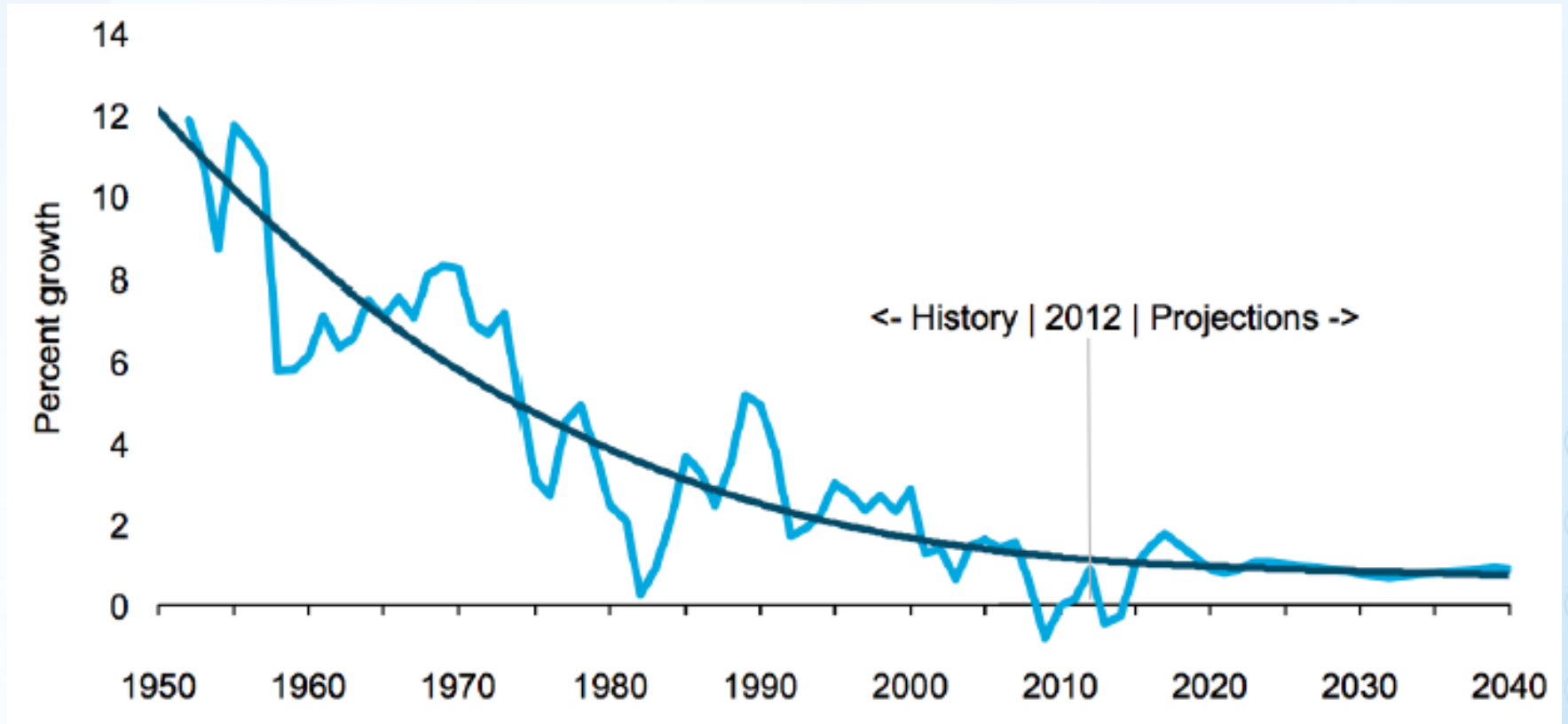
Will Solar Cause A 'Death Spiral' For Utilities?

THE UTILITY BUSINESS MODEL:  
EVOLUTION OR REVOLUTION?

Rate Design &  
Distributed PV:  
A Complex Debate  
That Must Evolve

**The End of the Electric Utilities?  
The Industry Thinks So Too**

# Real Change is in Demand

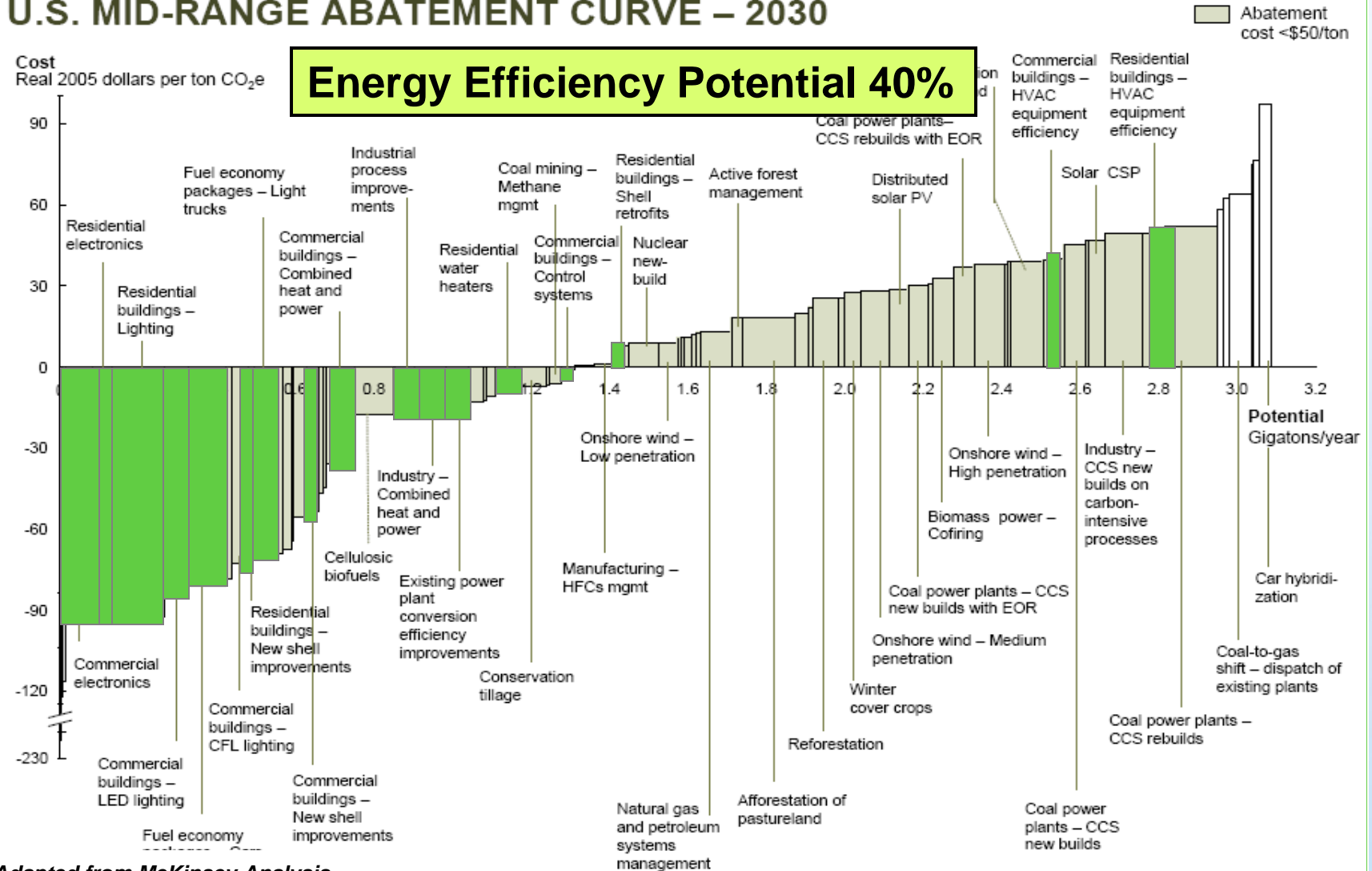


# Energy News: Climate Change



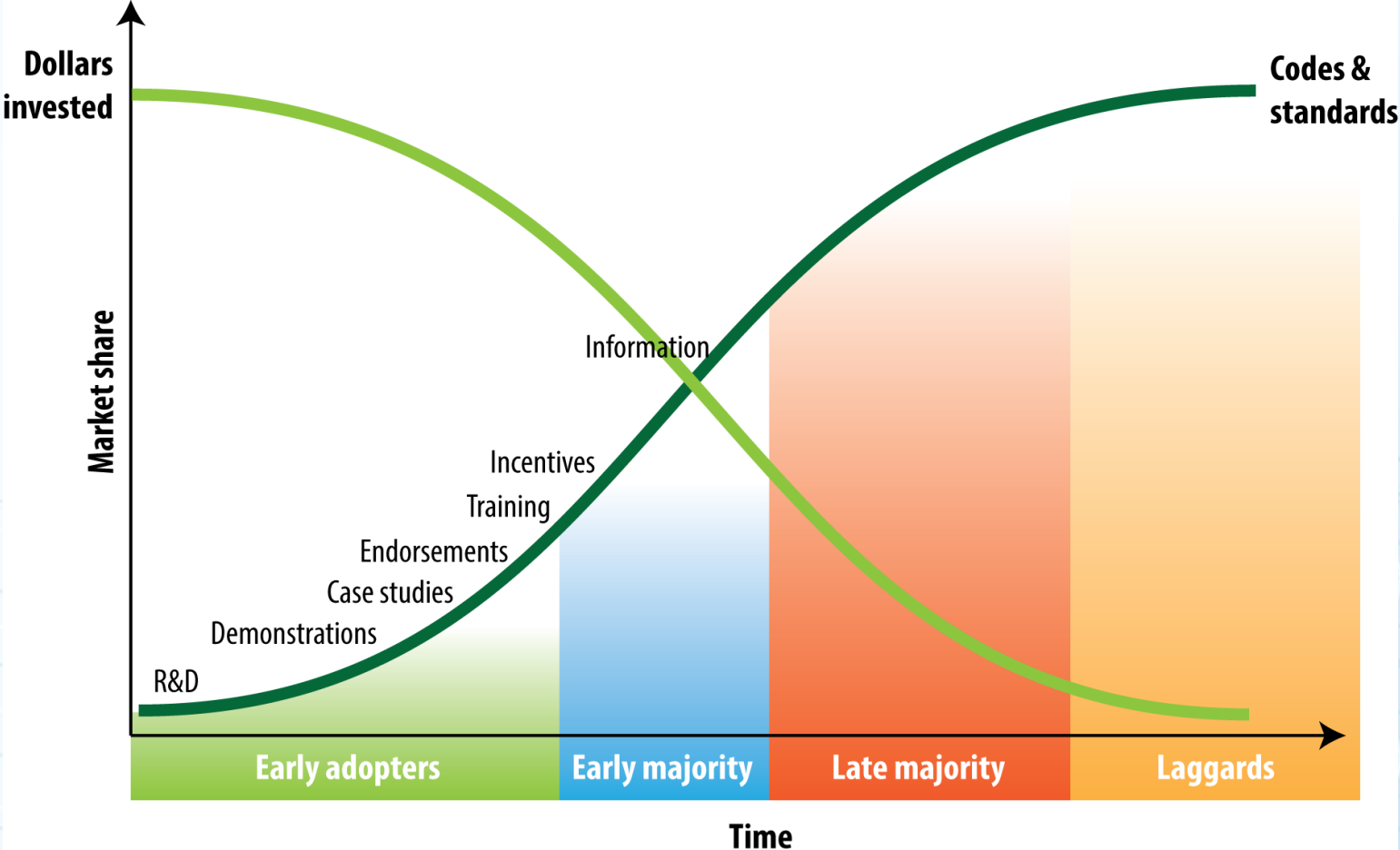
# Efficiency Key to CO<sub>2</sub> Reductions

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

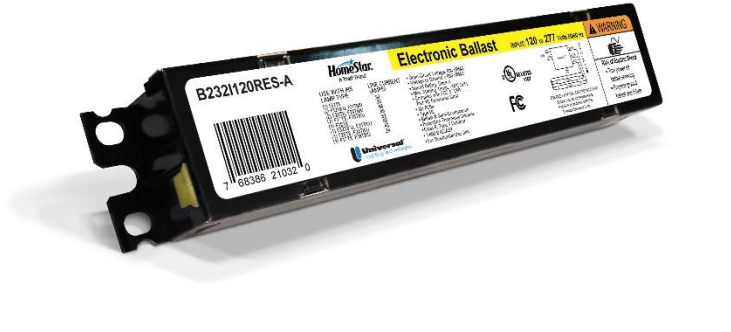
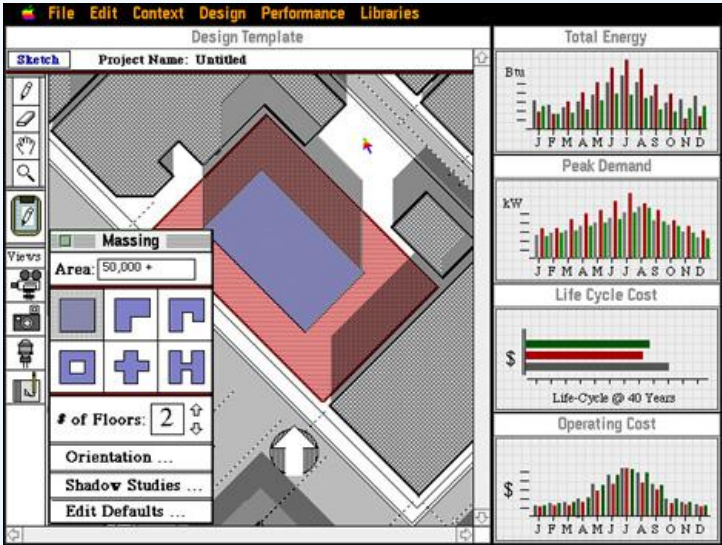
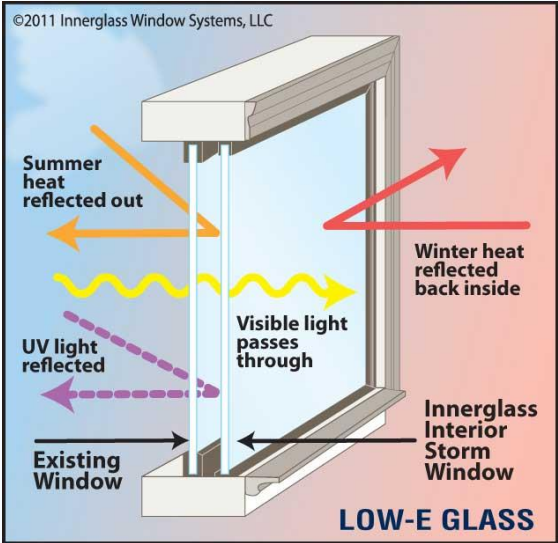


Adapted from McKinsey Analysis

# Policies and Programs



# Research and Development



# Intelligent Efficiency

INTEGRATED, RELIABLE, and SMART.

## ***People-Centered Efficiency***

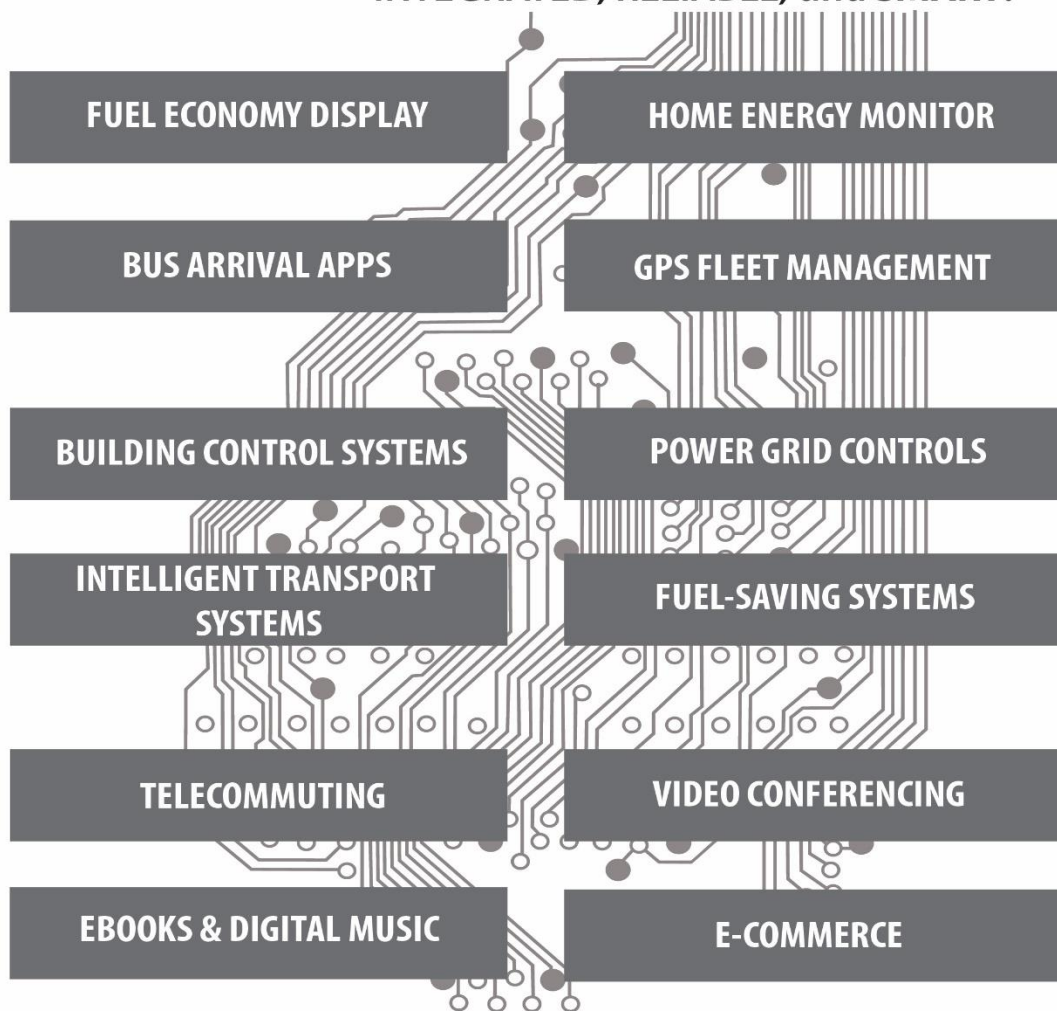
Providing real-time information and management tools that enable users to lower energy consumption in response to changing information

## ***Technology-Centered Efficiency***

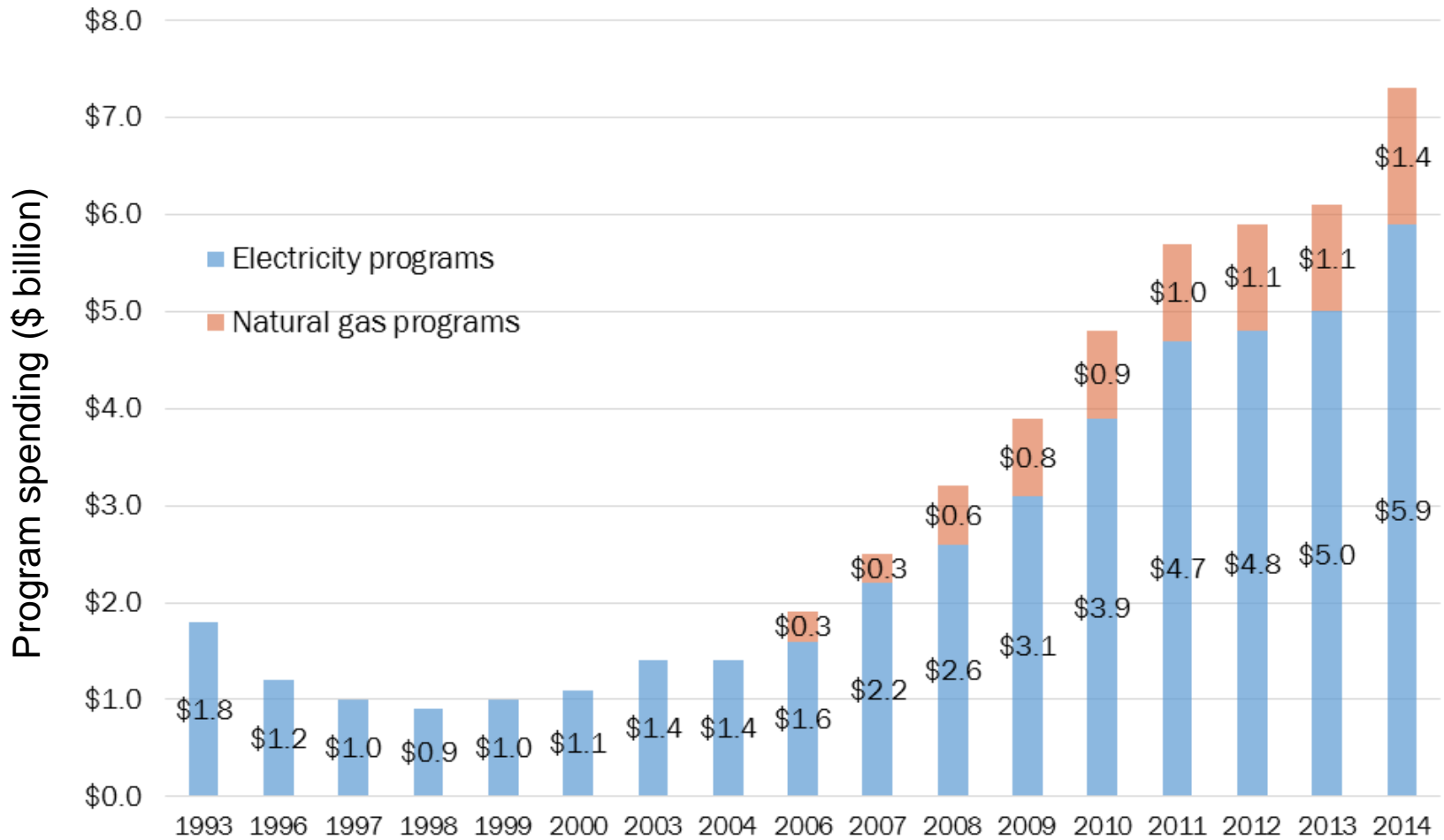
Using sensors, controls, and software to automate and optimize energy use

## ***Service-Oriented Efficiency***

Shifting behavior and organizational structures to reduce energy-intensive activities



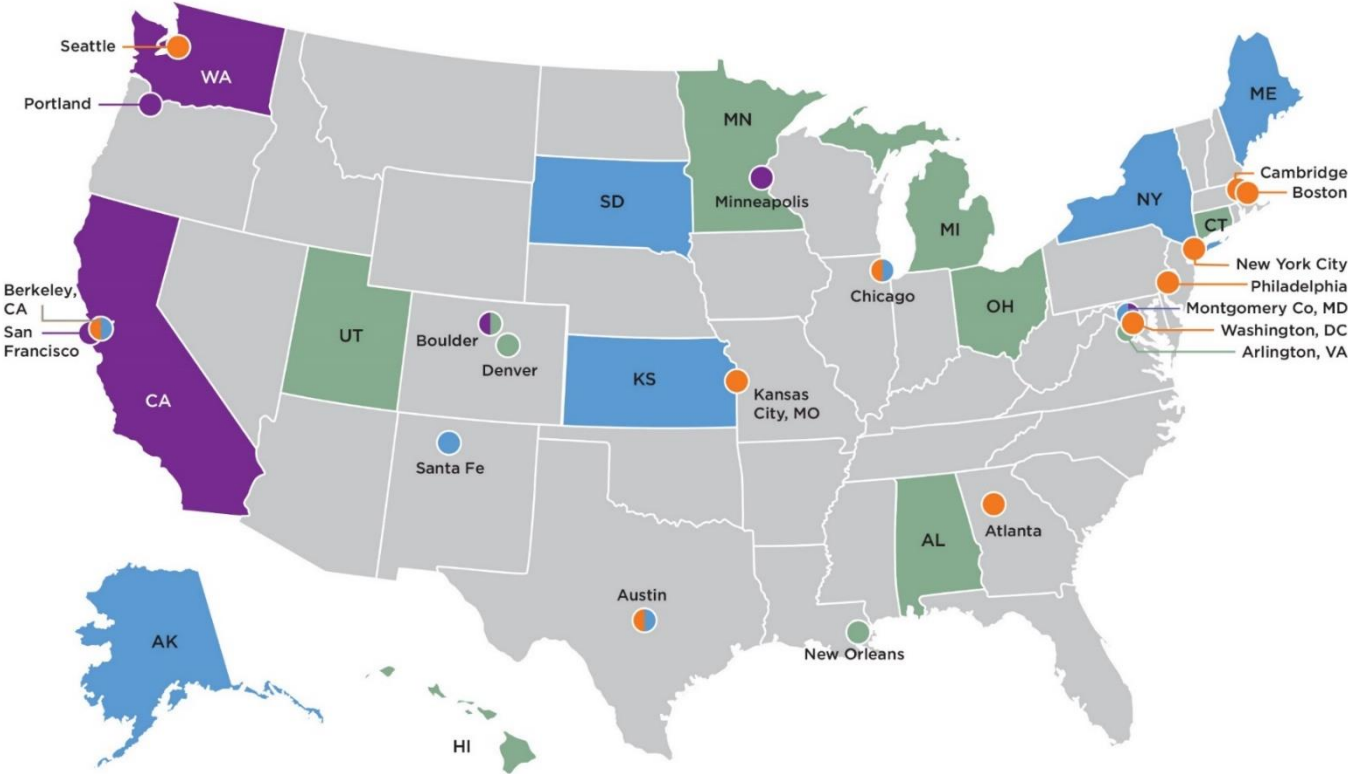
# Utility Energy Efficiency Programs





# Building Energy Benchmarking

U.S. Building Benchmarking and Transparency Policies



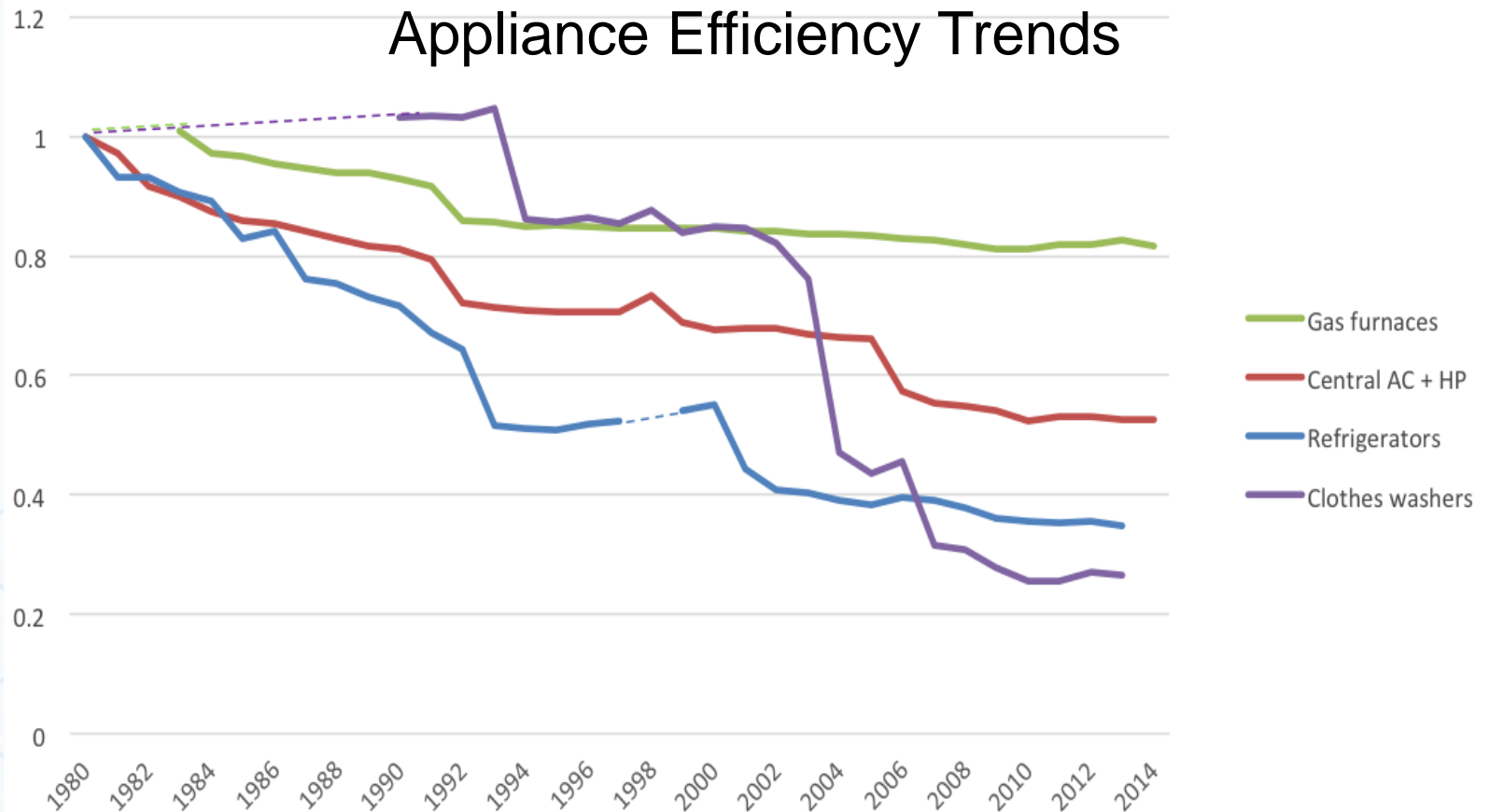
Building Rating  
SHARING TRANSPARENCY FOR A MORE EFFICIENT FUTURE

IMT  
INSTITUTE  
FOR MARKET  
TRANSFORMATION

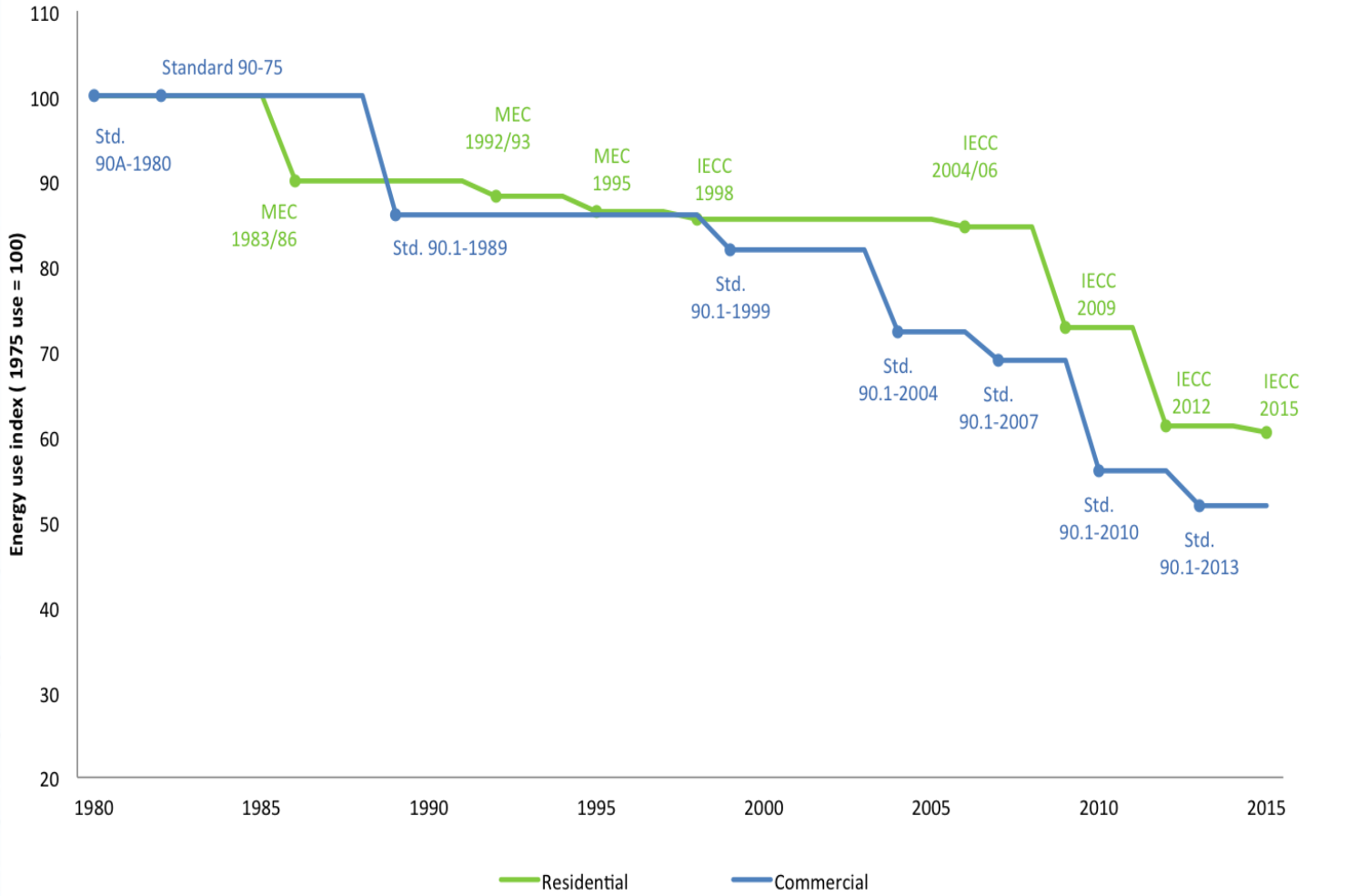
- Commercial policy adopted
- Commercial & multifamily policy adopted
- Public buildings benchmarked
- Single-family transparency adopted

© Copyright 2014 Institute for Market Transformation. Updated 11/2015

# Appliance and Equipment Efficiency Standards



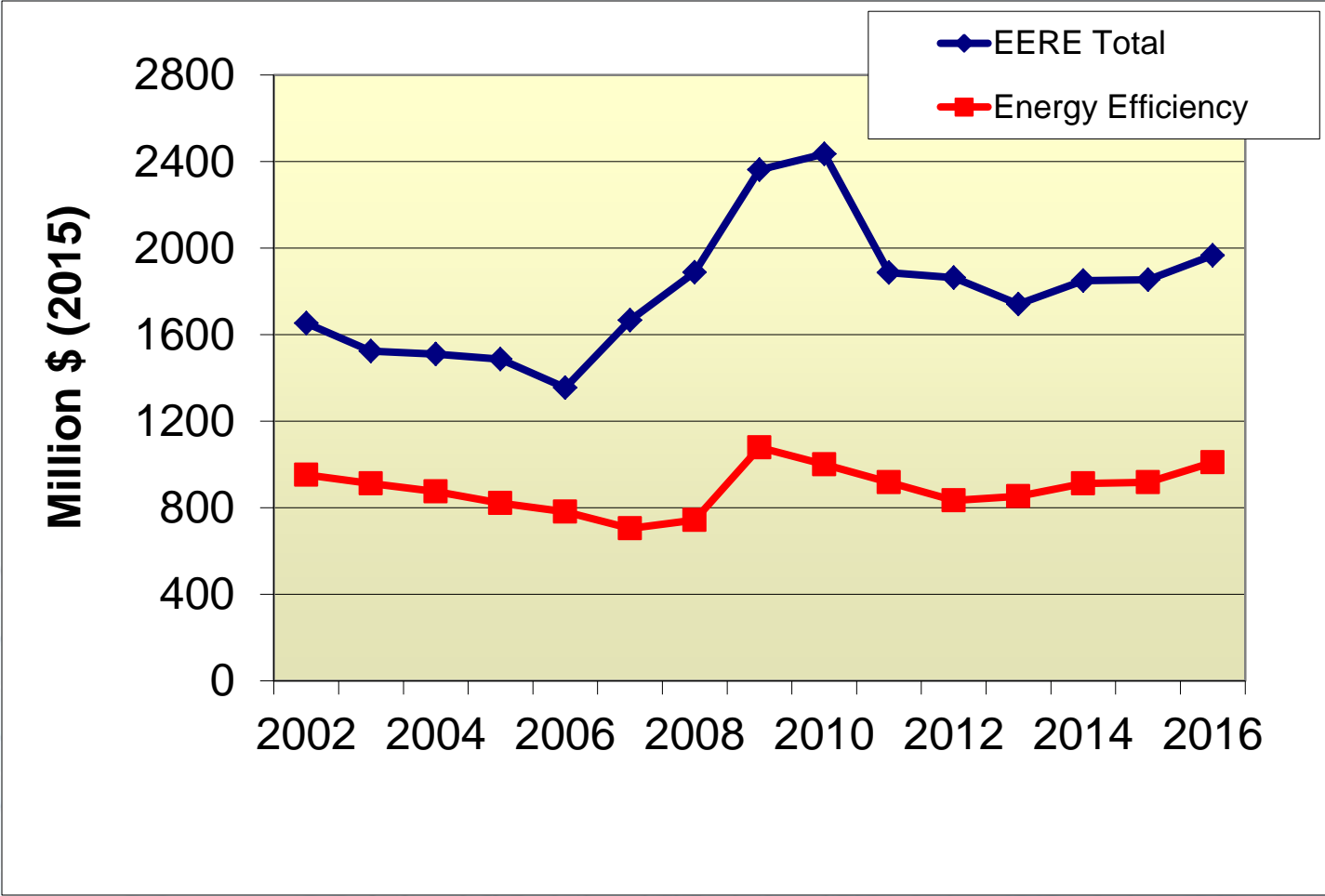
# Building Energy Codes



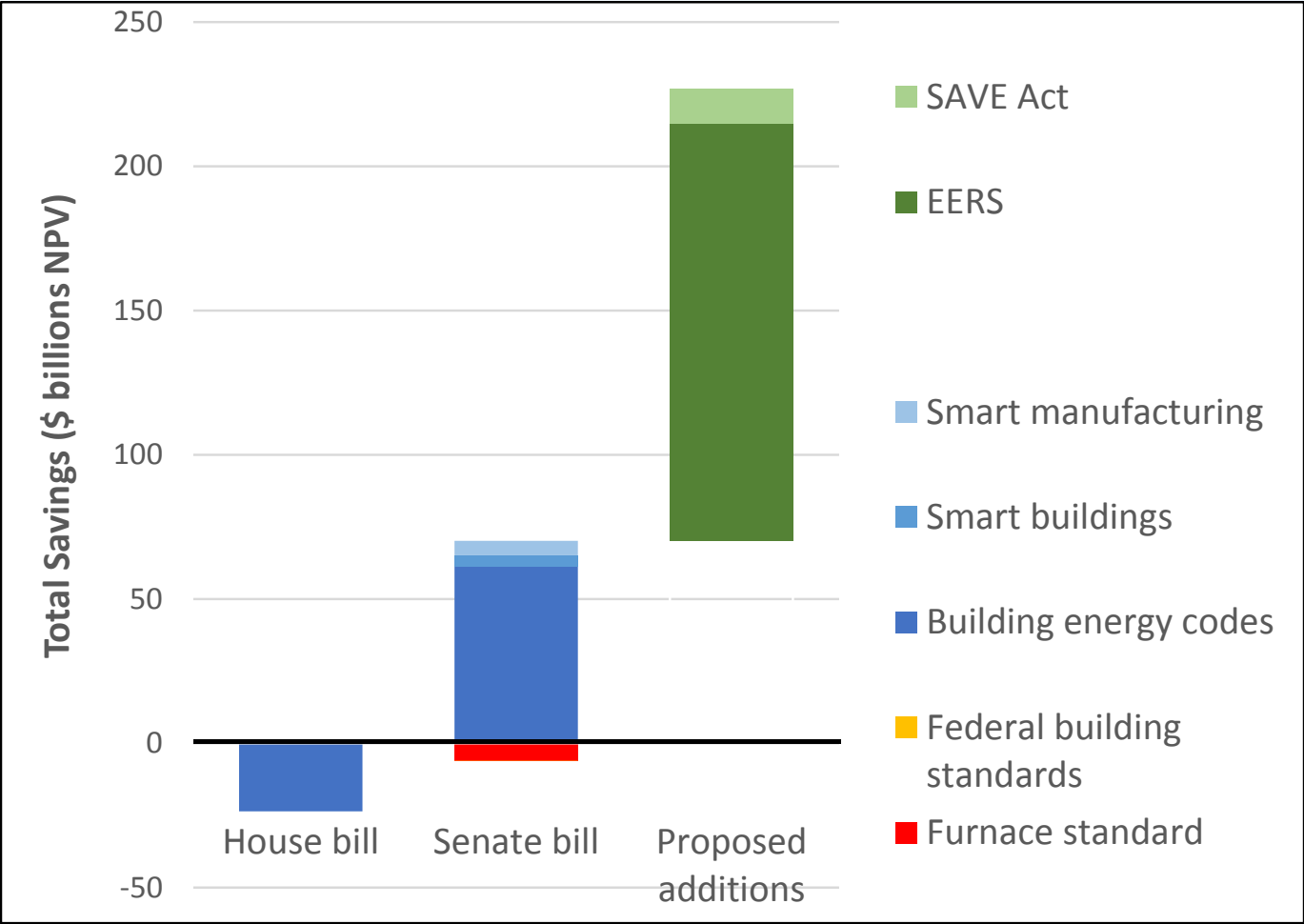
# Federal Landscape



# RDD&D Funding – EE at DOE



# House and Senate Energy Bills



# Agency Actions

- Clean Power Plan
- Appliance and equipment standards
- Heavy-duty vehicle standards
- Housing finance



# Thank you!

Lowell Ungar

American Council for an Energy-Efficient Economy

Phone: (202) 507-4759

Email: [LUngar@aceee.org](mailto:LUngar@aceee.org)

Website: [www.aceee.org](http://www.aceee.org)



# Electric Program Savings Potential

Miscellaneous plug loads	3.4%
Conservation voltage reduction	2.1%
New construction programs	1.9%
Comprehensive commercial retrofits	1.7%
Smart manufacturing	1.6%
Residential air conditioners and heat pumps	1.5%
Combined heat and power systems	1.3%
Commercial lighting design and controls	1.3%
Heat pumps replace electric resistance furnaces	1.2%
Smart commercial buildings	1.2%

*Savings are percentage of total electricity demand in 2030  
(ACEEE New Horizons study)*