

Energy Efficiency: Driving America Toward a Healthier Economy, a Cleaner Environment, and Greater Energy Security

Kateri Callahan
President, Alliance to Save Energy
Kansas Economic Policy Conference
October 11, 2007



Presentation Outline



- A Word About the Alliance
- America's Greatest Resource: Energy Efficiency
- Why Energy Efficiency & Why Now?
- How to Tap the Energy Efficiency Resource Fully:
 - **Unleashing the Power of Public Policy**
 - **Unleashing the Power of the Utility Industry**
 - **Unleashing the Power of the Consumer**

What is 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:
 - NRDC, California Energy Commission, Whirlpool, Johns Manville, EEI, SMUD, Southern California Edison, The DOW Chemical Company, Siemens, OsramSylvania, EPS Capital, White & Case, Exelon, BP America, Georgia Tech, City of Long Beach, Kendall Foundation, Consumer Federation of America



What is the Alliance?



- NGO coalition of 130+ prominent business, government, environmental and consumer leaders who promote the efficient and clean use of energy worldwide
- Headquartered in Washington, D.C. with operations in Eastern Europe, South Africa, Mexico, India and several states in the U.S.



Why Energy Efficiency?



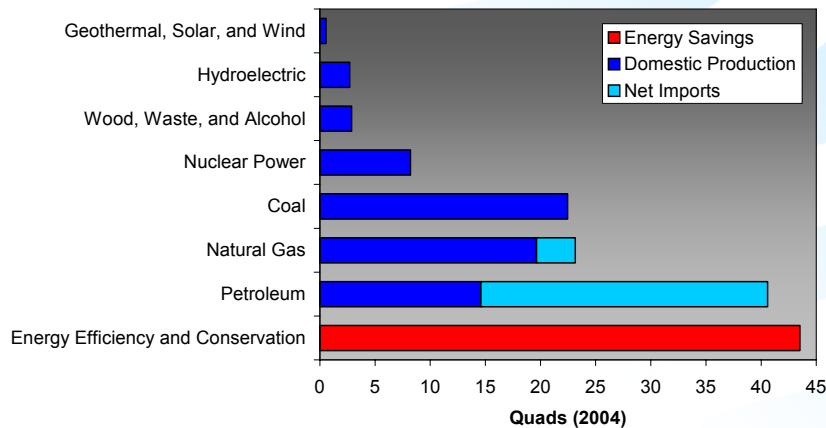
Energy Efficiency is an Abundant National Resource:

- **CHEAPER**
 - Each \$1 invested in Energy Star program = \$75 in energy cost savings and \$15 of investment in new efficiency technologies
 - Average Cost of DSM Programs .02 -.04 cents/kWh
- **QUICKER**
 - In 2001, California cut peak electricity use by 10% in less than a year
- **CLEANER**
 - "Negawatt" produces NO ENVIRONMENTAL FOOTPRINT
- **ENHANCES ECONOMY and SECURITY**
 - Minimizes Needs for Imported Energy
 - Creates New Jobs
 - Helps Keep Energy Prices Lower by Reducing Demand

Why Energy Efficiency? It's America's Greatest Energy Resource



Energy Efficiency: America's Greatest Energy Resource



Source: Alliance to Save Energy

Why Energy Efficiency? Clean and Cost-Effective



- Energy Efficiency is AVOIDING roughly **2.5 billion tons** of CO₂ annually

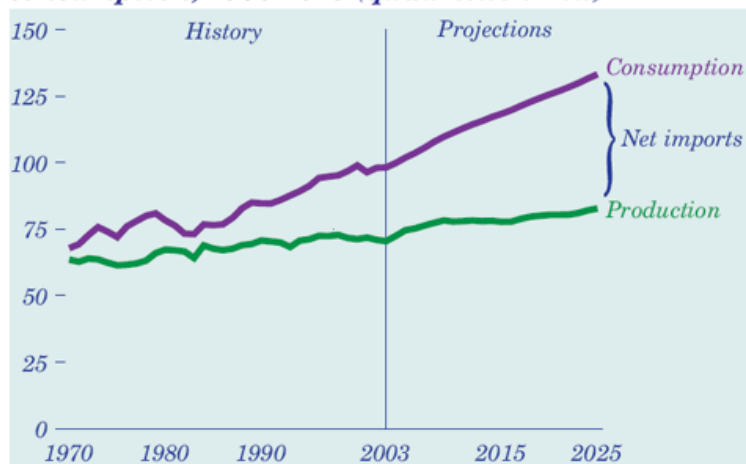


- & Roughly **\$400 billion** energy savings per year

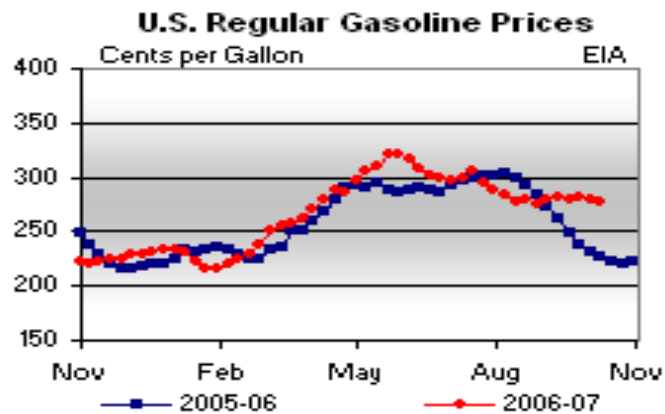
“A Perfect Storm”: Energy Use is an Economic & Security Issue



Figure 6. Total energy production and consumption, 1970-2025 (quadrillion Btu)



A “Perfect Storm”: Energy is a Pocketbook Issue



A “Perfect Storm”: Energy is a Pocketbook Issue



Fuel	Average Household Expenditures Percent Change from Last Winter		
	Base Case	If 10% Warmer Than Forecast	If 10% Colder Than Forecast
Natural Gas	9.5	-1.7	20.3
Heating Oil	21.8	9.8	31.6
Propane	16.3	4.3	27.7
Electricity	3.9	-1.3	7.2
Average Expenditures	9.8	0.1	18.4

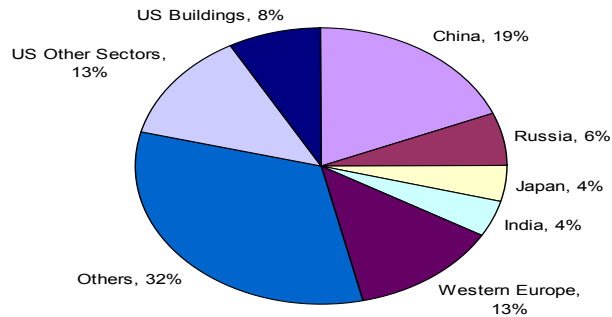
Source: EIA – Winter 2007-08 Fuels Outlook

Winter = October 1 through March 31

A 'Perfect' Storm: Energy Use is a Climate Issue



Share of Global Energy-Related CO2 Emissions by Country (2005)



Source: Energy Information Administration

A 'Perfect' Storm: Energy Use is a Climate Issue



- 1/3+ of Americans say global warming ranks as the world's largest environmental problem
- 70% Want more federal action
- 75% Would pay more for "green" electricity



Still Great Potential for Energy Efficiency Resource

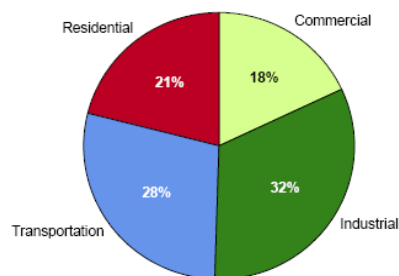


- DOE national lab study found that increasing energy efficiency throughout the economy could cut U.S. energy use by 10% in 2010 and 20 % in 2020
- McKinsey Global Institute found that U.S. energy demand growth through 2030 could be fully met through deployment of cost-effective energy measures and products
- U.S current annual spending on energy efficiency could be doubled to \$400 billion with strong public policies and increased private investment (ACEEE)

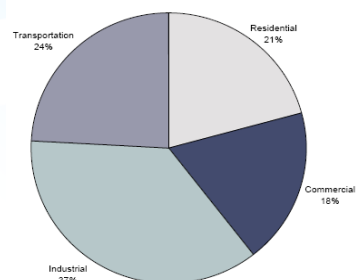
Kansas: A Look at the Challenge



End-Use Sector Shares of Total Consumption, 2006¹



Kansas Direct Energy Consumption by Sector, 2002



Barriers to Full Use of Energy Efficiency



- **Principal Agent or “Split Incentives”**
 - Home builder versus buyer
 - Utility versus customer
- **Transaction Costs**
 - Lack of information on life-cycle cost for products and/or paybacks for upgrades
- **Consequences:** Barriers can impact half or more of the energy used in residential and commercial markets (ACEEE/IEA report)
- **Public policies** essential to overcome barriers

Unleashing the Power of Public Policy: 4 Tools for Success



- **Research and Development** Create Technologies
 - RD&D Partnerships with Industry
- **Standards** Set a Floor
 - Codes and Standards (Buildings, Equipment, Vehicles)
 - Energy Efficiency Performance Standards for Utilities
- **Incentives** Make them Viable
 - Market Transformers (Tax Incentives, Rebates, Loan Guarantees; Trade-in Programs)
 - Utility Programs (DSM, Demand Response, etc.)
- **Public Education** Makes them Widespread
 - Consumer Education and Awareness Campaigns
 - Labeling (Energy Star)

Unleashing the Power of Public Policy: EPAct 2005



- Will reduce energy use in 2020 by 1.8 Quads or 1.5% of projected national energy use
 - 75% of savings are from standards and tax incentives
- Major Provisions Include:
 - Variety of new **RD&D** programs authorized (funding depends on appropriations)
 - Energy efficiency tax **incentives**
 - Authorizes \$450 Million **consumer education** program
 - Appliance/equipment **standards**: 16+3 products

Unleashing the Power of Public Policy: Pending Federal Legislation



- **House and/or Senate Provisions Include:**
 - **RD&D** Program Authorities
 - Tax **Incentives** for Energy Efficient products and improvements
 - Increase in CAFE **Standards**
 - Consensus Appliance **Standards**
 - Advanced Building **Codes**
- **“Best of Both” in a Final Bill Would :**
 - **Save \$850 Billion in energy costs by 2030**
 - **Reduce CO2 Nearly 20% from forecast**

Unleashing the Power of Public Policy: States Hold the Key



- 45 Quads savings since 1973
- One-fifth induced by *intentional* policy
- Most is either state policy or state-induced federal policy



Kansas Embraces Efficiency



Johnson County Sunset Drive Office
Energy Savings Performance Contracting & the
Facility Conservation Improvement Program (FCIP)

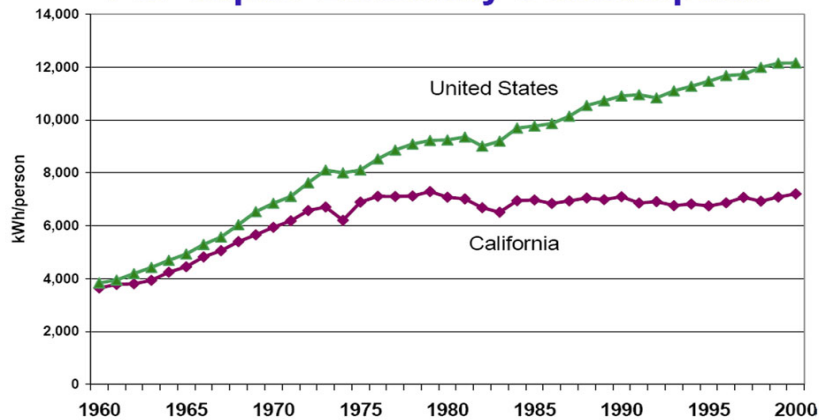


Facilities Management and Business Management staff of Independence Community College join President Terry Hetrick in accepting the incentive check from the Kansas Energy Office.

Unleashing the Power of Public Policy: State Action Matters!



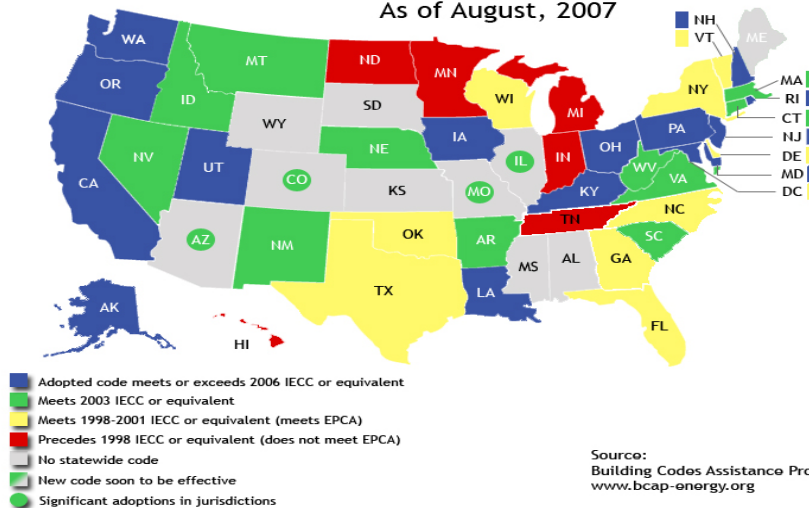
Per Capita Electricity Consumption



Unleashing the Power of Public Policy: State Building Codes



Residential State Energy Code Status As of August, 2007



Source:
Building Codes Assistance Project
www.bcapi-energy.org

Unleashing the Power of Public Policy: Incentivize !



■ Tax Incentives

- New home income tax
 - Homeowner – (AZ, DC, MT, NM)
 - Builder – (OK, OR)
- Existing home deductions – CA, DC, ID, OR
- Commercial building deductions/credits – NM, NY, OR
- Property tax exemptions – MD local option, NV,
- Energy Star sales tax holidays -

■ Zero or Low-Interest Loans and Rebates

- Kansas \$2 Million KEEP initiative

Unleashing the Power of Public Policy: A “Prescription for Success”



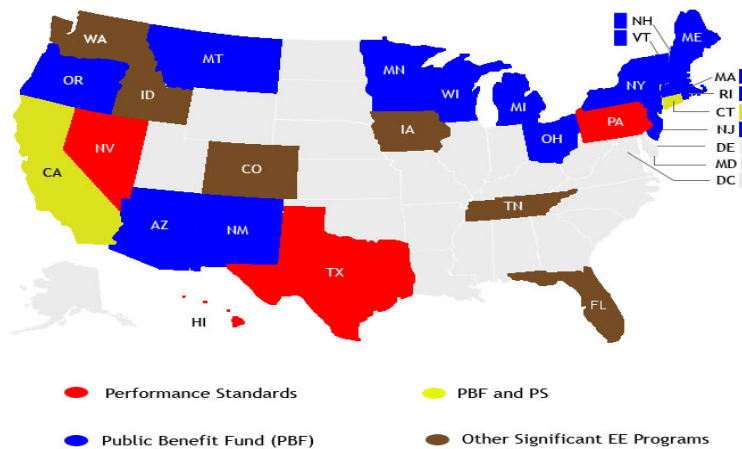
Western Governors “CDEAC” Recommendations

- Migrate “Best Practices” to ALL western states
 - Institute Electric & Natural Gas DSM Programs
 - Update & Enforce New Building Codes
 - Government Leadership in Facilities/Practices
 - Financial Incentives
 - Pricing Policies (Pay more for the more you use)
 - Education & Outreach
 - Technology R&D and Transfer
 - Form Regional Initiatives
 - Feasible to reduce electricity use 20% in 2020

Challenge: Unleashing the Power of Utilities



State Electricity Sector Energy-Efficiency Policies



Unleashing the Power of the Consumer: Public Education and Outreach



California Cut Energy Use and Peak Demand

- "Flex Your Power Campaign"
 - Retail promotions
 - TV, Print & Radio Advertising
- 20/20 Utility Rebate Program
 - Automatic Enrollment
 - Executive Order

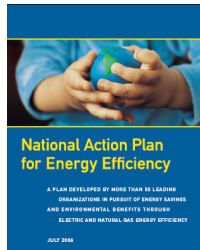


Simple Requirement
All Investor-owned Utilities

Results

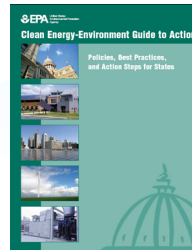
- Reduced energy consumption at peak by 14%
- 32% of residents & businesses cut energy use by at least 20%
- Per capita energy use lower than any industrialized nation
- Cost of savings lower than contract or spot market power purchases

Unleashing the Power of Kansas: Suggestions for Success

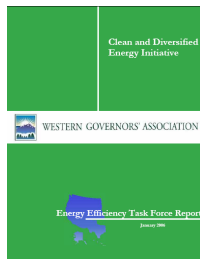


■ National Action Plan for Energy Efficiency

- EEI, NARUC, EPA, DOE...



■ EPA Clean Energy-Environment Guide to Action



■ Western Governors Association Energy Efficiency Task Force Report

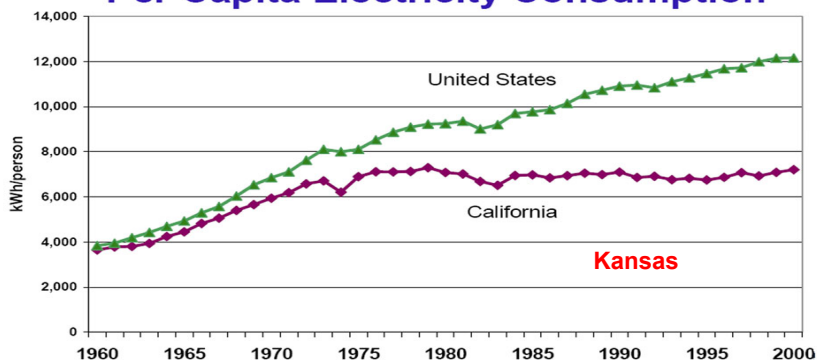
■ State Policies that Encourage Utility Energy Efficiency Programs

- DOE, NARUC, NASEO, ASE, RAP

Unleashing the Power of Kansas: A Vision for Tomorrow!



Per Capita Electricity Consumption



Contact Us!



- Alliance to Save Energy
- 1850 M Street, NW
- Washington, D.C. 20036
- Phone: 202.857.0666
- Website: www.ase.org

- Kateri Callahan, President
kcallahan@ase.org