

Energy Efficiency as a Resource Time for Action

Kathleen Hogan
Director
Climate Protection Partnerships Division
U.S. Environmental Protection Agency

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Important Time for Energy Efficiency

- Convergence of environmental and economic issues
- Energy efficiency addresses many issues
- Decade of experience
 - Addressing many barriers
- Key Utility Barriers Remain
- EPA efforts
 - Barrier
 - New utility focused effort

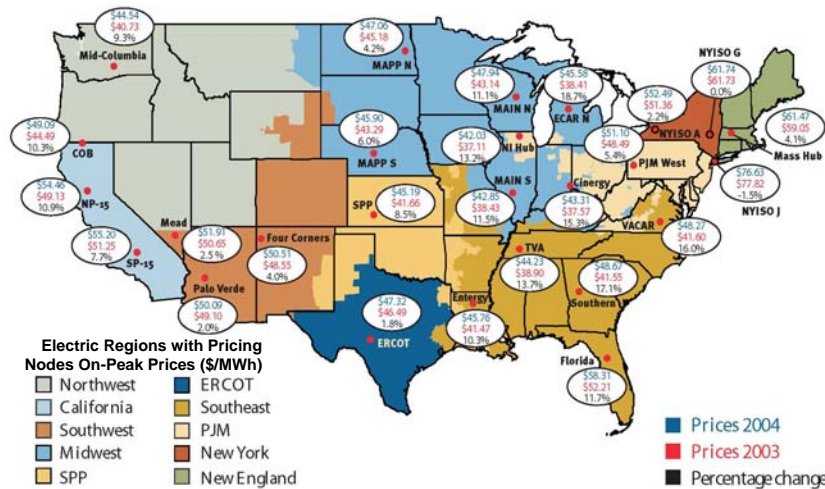
Convergence of Environmental and Economic Issues

- High natural gas prices -- demand and supply imbalance
 - Growing electricity demand driving prices
- Rising energy costs
- Rising demand
 - New all-time peak electric demand
- Large transmission investments on horizon
- Reliability
- Congestion pockets
- Electricity competition did not deliver everything
- Investment risks associated with climate change
- Environmental issues – air and water

3

Higher electricity prices

All regions experienced higher electricity prices in 2004.

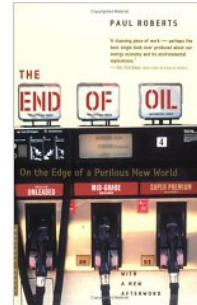


Source: Federal Energy Regulatory Commission's 2004 State of the Markets Report

4

Issues as Pressing as Ever

- Before Katrina, we were worried about..
 - Rising energy prices
 - High gasoline prices
 - NYT stories on the end of oil
 - This winter's heating bills
- Now, we've seen...
 - \$3/gallon and \$70/barrel gasoline
 - Gasoline shortages at the pump
 - \$12/mmbtu natural gas (2X+ last year)
- Some price spikes may be temporary, but demand, cost expected to continue to be high
- Heightened concerns about electricity reliability, independence, emissions



5

Broad Benefits of Energy Efficiency

- Environmental
 - Lower greenhouse gas emissions and criteria pollutants
 - Lower water use
- Economic
 - Lower cost compared to new generation and transmission
 - Downward pressure on natural gas prices
 - Lower wholesale electricity prices
 - Improved local economy
 - Improved service to low income and seniors
- Utility System Benefits
 - Quick fix with longer term benefits
 - Improved security of electricity and gas systems
 - Lower peak demand / improved reliability
- Risk Management
 - Diversified a utility's supply portfolio
 - Reduce environmental regulatory risk to utilities

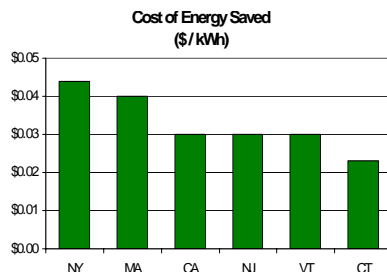
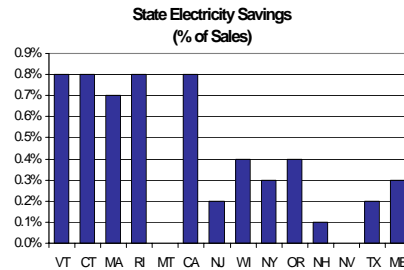
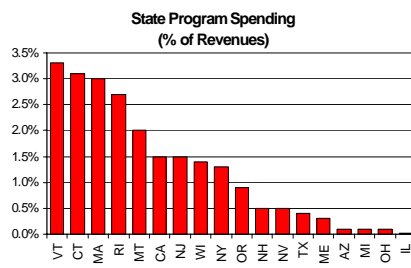
6

Energy Efficiency -- More Than a Decade of Experience

- Established energy efficiency as reliable, low-cost resource
 - Real programs with real results
 - Programs delivering efficiency at 2 to 4 cents / kWh
- Established large potential to meet new demand
 - Regionally, nationally
 - Real programs
 - Can provide 50% or more of expected load growth
- Established measurement and verification procedures
 - Savings are real, persistent
 - Integrated into resource planning
- Established model energy efficiency delivery programs for key customer classes
 - Residential -- commercial – industrial
 - Low income
 - Gas / electric
 - New / mature

7

Recent Public Benefit Fund Experience



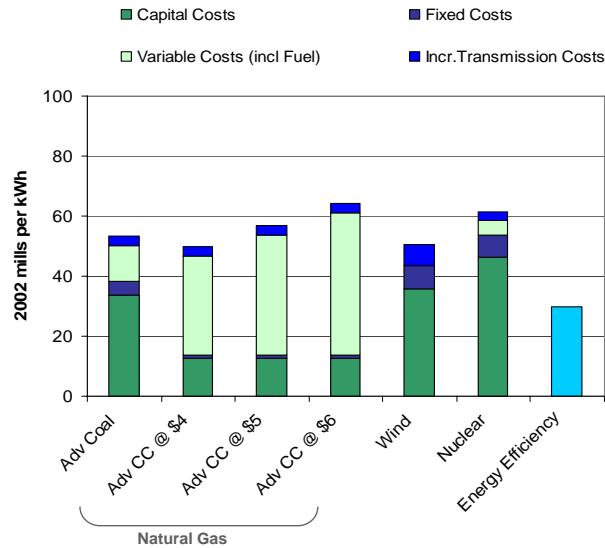
.8 to 1% per year of savings yields

- 3-5% savings in 5 years
- 7-10% savings in 10 years
- more in peak demand with targeted programs

Source: ACEEE, 2004

8

Energy Efficiency is Low Cost

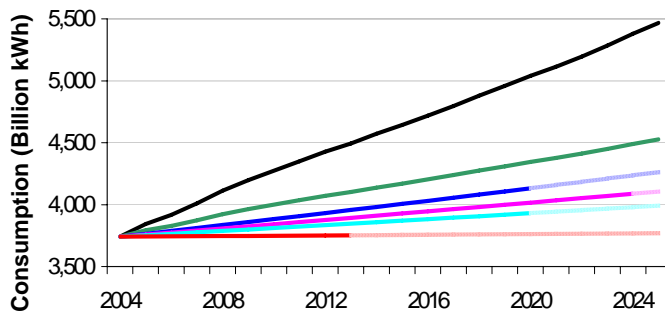


Sources: EIA 2004, ACEEE 2004

9

Can Lower Electricity Growth by 50%

U.S. Electricity Consumption Projections



— AEO 2005 Reference Case		[avg. annual growth 1.8%]
— Half Growth Scenario	(17% reduction by 2025)	[avg. annual growth 0.9%]
— 5 Labs Study	(18% reduction by 2020)	[avg. annual growth 0.6%]
— ACEEE median achievable	(24% reduction in 20 years)	[avg. annual growth 0.5%]
— NV Study	(22% reduction by 2020)	[avg. annual growth 0.3%]
— NEEP Study	(17% reduction by 2013)	[avg. annual growth <0.1%]

Sources: EPA, EIA AEO 2005, ACEEE, NEEP

10

EPA Efforts Help Address Barriers

Issues

- Traditional end-user barriers
 - Lack of information
 - Competing vendor claims
 - Split incentives
- State decision-makers
 - Lack of good documentation on clean energy policies
 - Little integration of air / energy issues
- Utility barriers
 - Existing electricity regulations / market rules incentivize supply-side resources
 - View that energy efficiency is not a reliable, cost effective resource
 - Concern that energy efficiency will raise rates
 - Lack of good documentation and education on demand-side programs

EPA Efforts

- Engage end-users, retailers, manufacturers, others in energy efficient products and services
- Encourage state clean energy action plans and goals
- Document key policies in Guide to Action
- Engage interested PUCs in innovative policies
 - EPA – NARUC Projects
 - AR, CT, DC, HI, MN, NJ, NM



11

ENERGY STAR



- ENERGY STAR is a cost-effective platform
 - Helps lower program administration costs
 - Reduces start-up time
 - Provide valuable lessons learned
 - Provide access to a network of partners
- Partnering with Key Market Players
 - Major Manufacturers and retailers
 - Utilities / system benefits charge administrators
 - 60% of utility customers
 - States -- 30 partners
- Broad national platform for EE

<ul style="list-style-type: none"> • Residential <ul style="list-style-type: none"> – products – 40+ – existing home retrofit – new homes 	<ul style="list-style-type: none"> – Commercial <ul style="list-style-type: none"> • products • existing buildings • new buildings
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- National recognition -- 60% of public

Results thru 2004

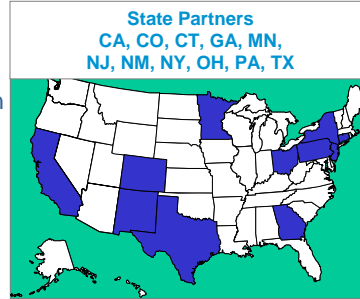
- 1.5 billion products sold
- many buildings improved
- 360,000 new homes
- 125 billion kWh avoided
- 25 GW avoided
- 20 million vehicles worth of GHG emissions

12

EPA Clean Energy-Environment State Partnership



- Working together with states to **promote cost-effective clean energy resources** to achieve environmental, public health, economic goals
- **EPA provides:**
 - Access to tools, analysis and expertise
 - Clean Energy-Environment Guide to Action
 - State-to-state peer exchanges
 - Communication support
 - Information on clean energy resources
 - National recognition
- **State Partners take action:**
 - Foster collaboration among state agencies
 - Establish 1 or more clean energy goals
 - Conduct analyses, evaluate options and measure benefits
 - Develop and implement clean energy-environment action plan



13

State Policies Addressed by New State Partnership

- **Leading by Example**
- **State funding for EE/DG/RE**
 - public benefit funds
- **EE portfolio standards**
- **State codes and standards**
 - commercial and residential codes
 - appliance standards
- **Power market rules / regulation**
 - decoupling profits from sales
 - level playing field with new gen/trans
 - utility IRP
- **Linking air quality policies to energy**
- **Clean DG-friendly policies**
 - interconnect standard
 - backup / standby rates
- **Renewable policies**
 - renewable portfolio standards

Leading States

CA, MA, NY
 AZ, CA, CT, DE, IL, MA, ME, MI, MN, MT, NV
 NH, NJ, NM, NY, OH, PA, RI, TX, VT, WI
 CA, CT, IL, TX

CA, MA, MN
 AZ, CA, CT, MD, NJ, NY, OR, RI, WA

CA, ID, ME, NV, OR
 OR
 CA, HI, MN, MT, OR
 MD, LA, TX

CA, MA, NJ, NY, TX
 CA, NJ, NY
 AZ, CA, CO, CT, DE, HI, IA, IL, MA, MD, ME,
 MN, MT, NV, NJ, NM, NY, PA, TX, RI, WI, VT

Key Utility Barriers to Efficiency Remain

- Key barriers
 - Existing electricity regulations / market rules incentivize supply-side resources
 - Misperception that energy efficiency is not a guaranteed, reliable cost effective resource
 - Concern that energy efficiency will raise rates
 - Lack of good documentation and education on demand-side programs
- While utilities best positioned to address barriers such as
 - High end-user discount rates
 - High transaction costs relative to savings from many projects

15

Financial Disincentives

- Retail Rate Policy
 - Throughput charges create direct disincentive for utilities to sell less
 - Utilities do not earn the same rate of return on energy efficiency like generation, transmission and distribution.
 - Cost-effectiveness tests for energy efficiency can and have provided financial disincentives (e.g., RIM tests)
 - Customer rate structures provide delayed reaction by customers
- Company policies
 - Employees rewarded based on capital investment
- Resource Planning Policies
 - Do not put efficiency on level playing field
- Wholesale Market Rules
 - Do not put efficiency on level playing field

16

National Action Plan

- National Action Plan on Energy Efficiency
 - Leadership Group includes utilities, regulators, energy directors, consumer advocates, NGO's, industrials, and others
 - EPA/DOE facilitated
- Will address
 - Rationale for energy efficiency
 - Key barriers
 - Aligning incentives
 - Best practices – business cases – for integrating energy efficiency into resource portfolio
 - Best practices for energy efficiency program delivery
- Steps
 - Prioritize the transactions most important to include efficiency
 - Develop business cases
 - National meeting in Spring
 - Regional workshops

17

Summary

- Time is now
- Utilities are an important part of solution
- Business principles
- Strong Models

18