



National Action Plan for Energy Efficiency

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Advancing Energy Issues Through the National Action Plan for Energy Efficiency

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National Action Plan for Energy Efficiency

- Issue: Barriers hinder greater investment in cost-effective energy efficiency, cause higher energy costs and more greenhouse gas emissions
- Goal: To create a sustainable, aggressive national commitment to energy efficiency through gas and electric utilities, utility regulators, and partner organizations
- Co-Chairs: Commissioner Marsha Smith, NARUC First Vice President and Member of Idaho Public Utility Commission; Jim Rogers, President and CEO of Duke Energy
- Stakeholders: 50 member Leadership Group making recommendations and taking action.
 - Recognizes that utilities and regulators have critical role
 - Recognizes success requires the joint efforts of customers, utilities, regulators, states, and other partner organizations
 - Will work across their spheres of influence to remove barriers
 - Commits to take action within their own organization to increase attention and investment in energy efficiency
- US DOE and US EPA facilitate





The Leadership Group

The Leadership Group includes 27 electric and gas utilities, 16 state agencies, and 13 other organizations:

- Alliance to Save Energy
- Ameren Services
- American Council for an Energy-Efficient Economy
- American Electric Power
- Austin Energy
- Baltimore Gas and Electric
- Bonneville Power Administration
- California Energy Commission
- California Public Utilities Commission
- Servidyne Systems
- Connecticut Consumer Counsel
- Connecticut Department of Environmental Protection
- Connecticut Department of Public Utility Control
- District of Columbia Public Service Commission
- Entergy Corporation
- Environmental Defense
- Exelon
- Food Lion
- Great River Energy
- ISO New England Inc.
- Johnson Controls
- Keyspan
- MidAmerican Energy Company
- Minnesota Public Utilities Commission
- National Grid
- Natural Resources Defense Council
- New Jersey Board of Public Utilities
- New Jersey Natural Gas
- New York Power Authority
- New York State Public Service Commission
- North Carolina Air Office
- North Carolina Energy Office
- Ohio Consumers' Counsel
- Pacific Gas and Electric
- PJM Interconnection
- PNM Resources
- Public Advocate State of Maine
- Puget Sound
- Sacramento Municipal Utility District
- Santee Cooper
- Seattle City Light
- Servidyne Systems
- Southern California Edison
- Southern Company
- Tennessee Valley Authority
- Texas State Energy Conservation Office
- The Dow Chemical Company
- Tristate Generation and Transmission Association, Inc.
- USAA Realty Company
- Vectren Corporation
- Vermont Energy Investment Corporation
- Wal-Mart Stores, Inc.
- Washington Utilities and Transportation Commission
- Waverly Light and Power
- Xcel Energy

Observers:

AGA, APPA, CECA, CERT, DRCC, EEI, EPRI, EPC, GAMA, NAESCO, NARUC, NASEO, NCEP, NEADA, NRECA, NAIMA, SMA



Why Now: Energy Efficiency Addresses Key Energy Challenges

We Are Facing Big Issues

- **Energy demand is growing**
 - Electricity
 - Natural gas
- **Cost of generation is increasing**
 - Coal prices
 - Gas prices
- **Natural gas prices increasing / volatile**
- **Reliability issues**
- **Carbon risk**
- **Pending large transmission and generation investments in uncertain investment world**

Energy Efficiency Offers Many Benefits

- **Environmental**
 - Lower ghg emissions and criteria pollutants
 - Lower water use
- **Economic**
 - Lower cost (about half) compared to new G&T
 - Downward pressure on natural gas prices and volatility
 - Improved local economy and service to low income and seniors
- **Utility System Benefits**
 - Near-term fix with persistent, long-term benefits
 - Improved security of systems
 - Lower baseload and peak demand
 - Reduce need for “hard to site” G&T assets
 - Targeted, modular, manageable
- **Risk Management**
 - Diversifies utility resource portfolios



Large Benefits From Enhanced Energy Efficiency: A Look Nationally

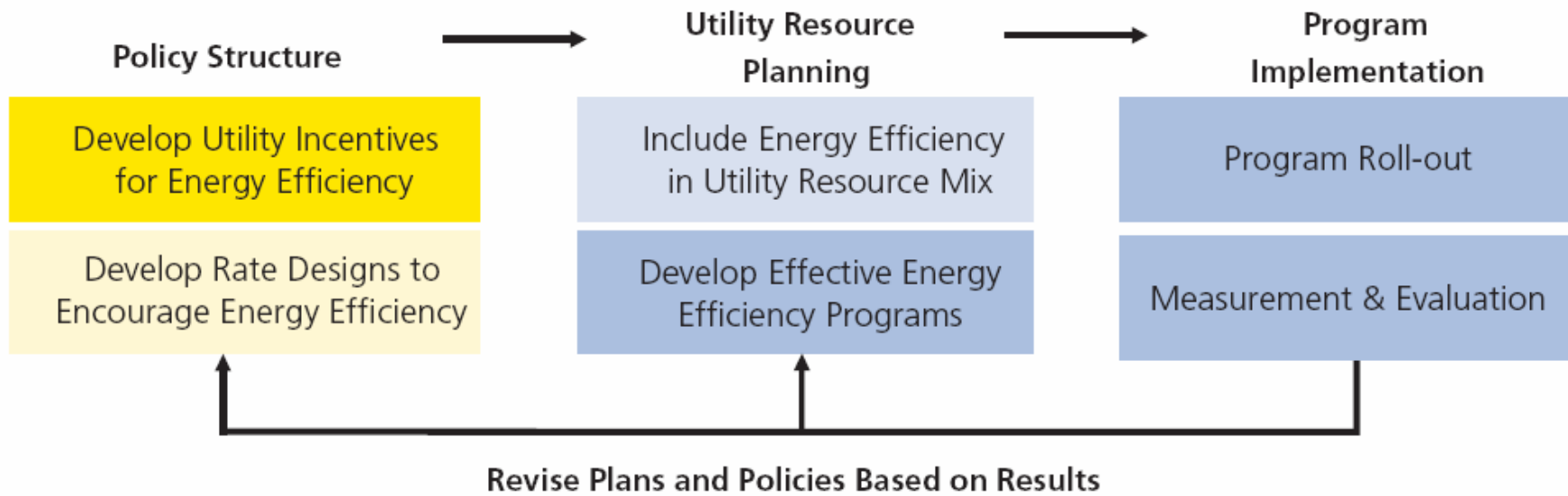
Large potential benefits over next 15 years from extending leading energy efficiency programs to the entire country:

- Avoid more than half of expected growth in demand – electricity and natural gas
- Save nearly \$20 billion annually on energy bills.
- See more than \$250 billion in net societal benefits, accounting for the cost of EE
- Avoid 30,000 MW -- 60 new 500 MW power plants
- Avoid more than 400 million tons of CO2 annually

Program Cost	Electric	Natural Gas	Total
Utility Program Spending (% of utility revenue)	2.0%	0.5%	
Total Cost of Efficiency (Customer & Utility)	\$35/MWh	\$3/MMBtu	
Cost of Efficiency (Customer)	\$15/MWh	\$2/MMBtu	
Average Annual Cost of Efficiency (\$MM)	\$6,800	\$1,200	
Total Cost of Efficiency (NPV, \$MM)	\$140,000	\$25,000	\$165,000
Resulting Savings	Electric	Natural Gas	Total
Annual Customer Savings (\$MM)	\$18,000	\$5,000	\$23,000
Annual Net Societal Savings (\$MM)	\$17,500	\$5,000	\$22,500
Annual Decrease in Revenue Requirement (\$MM)	\$22,000	\$6,000	\$28,000
Energy Savings	Electric	Natural Gas	Total
Percent of Growth Saved, Year 15	61%	52%	
Percent of Consumption Saved, Year 15	12%	5%	
Peak Load Reduction, Year 15 (Derated)	34,000 MW		
Energy Saved, Year 15	588,000 GWh	1,200 Bcf	
Energy Saved (cumulative)	9,400,000 GWh	19,000 Bcf	
Emissions Reductions	Electric	Natural Gas	Total
CO2 Emissions Reduction (1000 Tons), Year 15	338,000	72,000	410,000



National Action Plan Work Areas: Designed to Address Key Barriers



Utility Ratemaking & Revenue Requirements	Planning Processes	Rate Design	Model Program Documentation
Energy efficiency reduces utility earnings	Planning does not incorporate demand-side resources	Rates do not encourage energy efficiency investments	Limited information on existing best practices



National Action Plan for Energy Efficiency Recommendations

- Recognize energy efficiency as a high-priority energy resource.
- Make a strong, long-term commitment to implement cost-effective energy efficiency as a resource.
- Broadly communicate the benefits of and opportunities for energy efficiency.
- Provide sufficient, timely and stable program funding to deliver energy efficiency where cost-effective.
- Modify policies to align utility incentives with the delivery of cost-effective energy efficiency and modify ratemaking practices to promote energy efficiency investments



Options to Consider to Implement National Action Plan Recommendations

Recognize EE as a High Priority Resource

- Establish policies to establish energy efficiency as a priority resource.
- Integrate energy efficiency into utility, state, and regional resource planning activities.
- Quantify and establish the value of energy efficiency, considering energy savings, capacity savings, and environmental benefits, as appropriate.

Example:

- California – Energy Action Plan II, published by the Energy Commission and Public Utilities Commission, requires that all cost-effective EE is integrated into utilities' resource plans as the first option in the resource loading order on an equal basis with supply-side resources.
- Texas – Requires distribution utilities to meet 10% of forecast load growth with EE resources. Due to the success of the program, the state is considering strengthening the resource standard in 2007.



Options to Consider to Implement National Action Plan Recommendations (2)

Make a Strong, Long-Term Commitment to Cost-effective EE as a Resource

- Establish appropriate cost-effectiveness tests for a portfolio of programs to reflect the long-term benefits of energy efficiency.
- Establish the potential for long-term, cost effective energy efficiency savings by customer class through proven programs, innovative initiatives, and cutting-edge technologies.
- Establish funding requirements for delivering long-term, cost-effective energy efficiency.
- Develop long-term energy saving goals as part of energy planning processes.
- Develop robust measurement and verification (M&V) procedures.
- Designate which organization(s) is responsible for administering the energy efficiency programs.
- Provide for frequent updates to energy resource plans to accommodate new information and technology.

Examples:

- Total Resource Cost tests used by NYSERDA, NSTAR (Massachusetts), California IOU's and Bonneville Power Administration.
- Pacificorp incorporates EE as an element in the resource planning process and supply portfolio. EE included in supply planning tools as a shaped reduction in the forecasted load. 2004 10-year plan includes 250 aMW of EE with an additional 200 aMW if cost-effective.



Options to Consider to Implement National Action Plan Recommendations (3)

Broadly Communicate Benefits and Opportunities for EE

- Establishing and educating stakeholders on the business case for energy efficiency at the state, utility, and other appropriate levels addressing relevant customer, utility, and societal perspectives.
- Communicating the role of energy efficiency in lowering customer energy bills and system costs and risks over time.
- Communicating the role of building codes, appliance standards, and tax and other incentives.

Example:

- Utah Governor Huntsman announced in April 2006 a plan to increase EE in Utah and achieve a goal of 20% EE improvement statewide by 2015. State government will:
 - Promote energy-efficient products
 - Collaborate with utilities, regulators, legislators, and other stakeholders to advance EE in all sectors of Utah's economy
 - Work with stakeholders to identify and address regulatory barriers to increased deployment of EE measures
 - Work to identify and address legislative barriers and disincentives
 - Educate the public and private sectors about the benefits and means to implement EE.



Options to Consider to Implement National Action Plan Recommendations (4)

Provide Sufficient, Timely and Stable Program Funding to Deliver EE where Cost-effective

- Decide on and commit to a consistent way for program administrators to recover energy efficiency costs in a timely manner.
- Establish funding mechanisms for energy efficiency from among the available options such as revenue requirement or resource procurement funding, system benefits charges, rate-basing, shared-savings, incentive mechanisms, etc.
- Establish funding for multi-year periods.

Examples:

- NYSERDA has 5-year funding cycles through a system benefits charge.
- California IOU's are the program administrators of funding through a system benefits charge with 3-year funding cycles.
- A January 2007 Arkansas PSC order established rules for EE programs. Utilities may recover costs associated with EE programs through either a surcharge or a rate rider. Cost recovery through that mechanism is limited to the incremental costs of providing the program that are not already included in the current rates of the utility.



Options to Consider to Implement National Action Plan Recommendations (5)

Modify Policies to Align Utility Incentives with the Delivery of Cost-effective EE and Modify Ratemaking Practices to Promote EE Investments

- Address typical utility throughput incentive and remove other regulatory and management disincentives to energy efficiency.
- Provide utility incentives for successful management of energy efficiency programs.
- Include impact on adoption of energy efficiency as one of the goals of retail rate design, recognizing that it must be balanced with other objectives.
- Eliminate rate designs that discourage energy efficiency by not increasing costs as customers consume more electricity or natural gas.
- Adopt rate designs that encourage energy efficiency by considering the unique characteristics of each customer class and including partnering tariffs with other mechanisms that encourage energy efficiency, such as benefit sharing programs and on-bill financing.

Examples:

- In Maryland, Baltimore Gas and Electric (seven years under decoupling mechanism). Also, Washington Gas and Northwest Natural Gas (in Oregon)
- California IOU's have decoupling for electric and gas. Balancing account used to collect forecasted revenue with an annual true-up. Revenue requirements adjusted each year for inflation.



Leading EE Programs Provide Benefits

- EE resources acquired, on average, for 1/2 the cost of typical new generation and 1/3 the cost of natural gas supply
- Many EE programs are being delivered at a total program cost of \$0.02 to \$0.03 per lifetime kWh saved and \$0.30 to \$2.00 per lifetime MMBtu saved.
 - Less than the avoided costs seen in most regions of the country.
- EE programs are being funded with 1-3% of electric utility revenue and 0.5-1% of gas utility revenue
- EE programs cut electricity and natural gas load - providing annual savings for a given program year of 0.15-1% of energy sales
 - Helps to offset 20-50% of expected energy growth in some regions
- Pursuing new, cost-effective EE could yield more than 20% savings in total electricity demand nationwide by 2025
 - Help cut load growth by one-half or more, compared to current forecasts. Savings in direct use of natural gas could similarly provide a 50% or greater reduction in natural gas demand growth



Key Characteristics of Leading EE Programs

- EE is recognized as a resource
- Cost-effectiveness tests, such as the Total Resource Cost test, are used and are consistent with long-term planning
- EE Programs:
 - Begin with the market in mind
 - Leverage private sector expertise, external funding, and financing
 - Leverage ENERGY STAR[®]
 - Start with demonstrated program models - build infrastructure for the future
- Measurement & evaluation is budgeted and planned for
- EE program and project tracking systems are developed
- Process and impact evaluations are conducted
- Evaluation results are communicated to key stakeholders



Where Are We Now?

- Announced National Action Plan for Energy Efficiency July 2006
 - More than 84 organizations across 47 states made 62 public statements and commitments to advance energy efficiency as part of the National Action Plan
 - Includes utilities, regulators, energy users, other stakeholders
- Commitments include:
 - Establishing state-level collaborative processes to explore how best to increase investment in energy efficiency
 - Investigating increasing the funding available to pursue cost-effective energy efficiency
 - Conducting formal investigation on ways utilities can remove the link between revenues and sales volume
 - Including energy efficiency on a consistent and comparable basis with supply-side resources in future resource planning activities
 - Meeting a specific energy savings goals within the range of 10-35%
- Broadening reach for Year 2



Current Resources

- **National Action Plan for Energy Efficiency: The Report**
Covers key barriers and policy options for energy efficiency in resource planning, utility revenue requirements, rate design and program implementation.
- **Energy Efficiency Benefits Calculator**
Designed to educate stakeholders on the economic and environmental benefits of energy efficiency.
- **Consumer Energy Efficiency Fact Sheet**
Designed to help communicate the benefits of efficiency to consumers and how utility and state investment in energy efficiency helps them.
- **ENERGY STAR - A Powerful Resource for Saving Energy Fact Sheet**
Outlines how utilities, states and others are and can leverage the broad ENERGY STAR program to deliver cost-effective energy efficiency programs.



Upcoming Resources for States, Utilities and Stakeholders

Resources:

- Examination of Utility Rate Revenue Stability Mechanisms and Incentives (*Summer 07*)
- Guidebook on Energy Resource Planning and Procurement Processes (integrating energy efficiency) (*Spring 07*)
- Guidebook for Conducting Potential Studies for Cost-Effective Energy Efficiency (*March 07*)
- Guidebook on Energy Efficiency Measurement and Verification Protocols (*Summer 07*)
- Enhanced Energy Efficiency Opportunities for Key Commercial Sectors (*Summer 07*)
- Building Codes and Energy Efficiency Fact Sheet (*March 07*)



New Activities for States, Utilities and Stakeholders

Regional Implementation Meetings

- The Action Plan recommendations can be pursued through a variety of options, many of which will vary by region.
- 5 regional meetings to be held in 2007 to
 - Bring together key stakeholders in each region
 - Explore the specifics (i.e. “nuts and bolts”) of the recommendations and options.
 - Provide expert presentations on the recommendations, with focus on those that regional stakeholders have prioritized as key.
 - Provide peer-to-peer exchange on the implementation of the recommendations.
 - Identify actions for moving the region forward on implementation



New Activities & Resources for States, Utilities and Stakeholders (2)

New Commitments to Advance EE and Endorse National Action Plan Recommendations

- Recognition opportunities

Sector Collaborative on Energy Efficiency

- Explore cost-effective EE in greater depth and with a broader group of end-use sectors. The Sector Collaborative will bring a broad set of end-users and utilities together to:
 - Develop a common understanding of the cost-effective EE potential available today.
 - Explore options for additional savings that may be available through new technologies and best practice EE programs over the next five to ten years.
 - Review the energy use of typical buildings and facilities of these end-users and document the savings possible through a variety of utility or other sponsored EE programs.
 - Explore new commitments to EE and the recommendations of the Action Plan.
 - Explore sector-specific opportunities to broadly educate the public on the benefits of EE and the actions individuals and organizations can take.



For More Information

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