



# National Action Plan for Energy Efficiency

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## Vision for 2025: Developing a Framework for Change

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# Action Plan Motivation

## Today's Energy Challenges

- **Energy demand is growing**
- **Aging infrastructure**
- **Rising utility bills**
- **Increasing generation costs**
  - Gas and coal prices
  - Building cleaner generation
- **Reliability issues**
- **Natural gas prices increasing / volatile**
- **Carbon risk**
- **Pending large transmission and generation investments in uncertain investment world**



# Action Plan Motivation

## Energy Efficiency is Part of the Solution

- Environmental
  - Lower carbon emissions and criteria pollutants
  - Lower water use
- Economic
  - Savings to customers
  - Lower cost (about half) compared to new G&T
  - Downward pressure on natural gas prices and volatility
  - Improved local economy, using local labor
  - Benefits low-income, seniors
- Utility System Benefits
  - Near-term tool 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
  - Zero carbon emissions

*Quick, cheap, and clean resource*



# Action Plan Motivation

## Persistent Barriers Hinder EE Investments

- Market barriers
  - Split incentives
  - Transaction costs
- Customer barriers
  - Lack of information
  - Competing vendor claims
  - Lack of funding
- Public policy and utility regulatory barriers
  - Lack of good documentation on energy efficiency policy options
  - Misperception that energy efficiency is not a guaranteed, reliable cost effective resource
  - Ratemaking policies may financially discourage utilities from investing in efficiency
  - Resources planning processes may not consider energy efficiency resources
- Program barriers
  - Lack of good documentation and education on demand-side programs
  - Lack of knowledge about the most effective and cost-effective program portfolios



# National Action Plan for Energy Efficiency Addresses Utility Barriers

- Released on July 31, 2006 at the National Association of Regulatory Utility Commissioners meeting
- Goal: To create a sustainable, aggressive national commitment to energy efficiency through gas and electric utilities, utility regulators, and partner organizations
- 60 member public-private Leadership Group developed five recommendations and commits to take action
- Commitments to energy efficiency by 120 organizations
- Released its Vision for 2025 in November 2007

## National Action Plan for Energy Efficiency Recommendations

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



# Leadership Group Members

The Leadership Group includes 30 electric and gas utilities, 18 state agencies, and 13 other organizations:

- Alliance to Save Energy
- American Council for an Energy-Efficient Economy
- Ameren
- American Electric Power
- Arkansas Electric Cooperative Corporation
- Arkansas Public Service Commission
- 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
- Delaware General Assembly
- District of Columbia Public Service Commission
- Duke Energy
- Entergy Corporation
- Environmental Defense
- Exelon
- Food Lion
- Great River Energy
- Idaho Public Utilities Commission
- ISO New England Inc.
- Johnson Controls
- Long Island Power Authority
- 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
- Pepco Holdings, Inc.
- 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 to the Action Plan

- American Gas Association
- American Public Power Association
- Association of Energy Engineers
- Business Council for Sustainable Energy
- Consortium for Energy Efficiency
- Council of Energy Resource Tribes
- Demand Response Coordinating Committee
- Edison Electric Institute
- Electric Power Research Institute
- Energy Programs Consortium
- Gas Appliance Manufacturers Association
- Gas Technology Institute
- National Association of Energy Service Companies
- National Association of Regulatory Utility Commissioners
- National Association of State Energy Officials
- National Conference of State Legislatures
- National Council on Electricity Policy
- National Electrical Manufacturers Association
- National Rural Electric Cooperative Association
- North American Insulation Manufacturers Association
- Steel Manufacturers Association



# Vision for 2025

- Long-term Aspirational Goal: To achieve all cost-effective energy efficiency by the year 2025
- Framework for implementing Action Plan recommendations
  - Puts the 5 recommendations into Action
  - Is a living document; open to new ideas; will be refined
  - Is a plan – need to know where you want to go in order to get there
  - A challenge for new thinking
- 10 Implementation Goals
  - Action needed over next 10-15 years to help lay policy foundation by 2025
  - Highlights need for new technology
- Offers initial approach to measure progress
  - Currently being refined by Leadership Group
- Not a mandate; respects state processes – not one size fits all





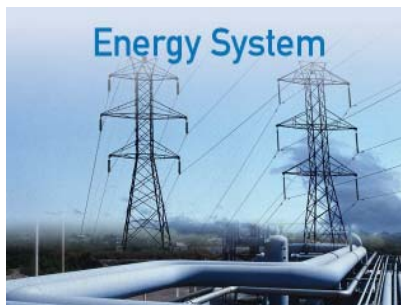
# Achieving All Cost-Effective Energy Efficiency: Key Perspectives



- Efficient home envelope
- Efficient windows, lighting, appliances
- Efficient, properly sized/installed HVAC
- Low-standby energy use
- Verification of home energy efficiency
- Grid-connected controls and appliances
- Good information
- Whole-building design



- Energy-efficient equipment
- Low-standby energy
- Efficient lighting systems
- Properly sized, efficient HVAC
- Commissioning/recommissioning
- Routine assessment of performance
- Grid-connected controls/equipment
- Good information
- Whole-building design



- Pursue all cost-effective EE resources
- Universal efficiency services across all customer classes
- Enhanced use of clean DG
- Modernized grid supports greater data analysis, customer control, utility control of peak-driving equipment, self-healing capabilities



- Lower energy bills
- Environmental benefits
- Lower greenhouse gas emissions
- Enhanced reliability
- Low-income and elderly assistance
- New jobs/growing local services
- Increased fuel diversity



- Efficient equipment/motor systems
- Efficient lighting systems using good design, controls, daylighting, and efficient technology
- Processes tuned for efficiency
- Waste heat recovered and utilized
- Good information



# Vision's 10 Implementation Goals and Key Steps to Achieve Goal

## **Goal One: Establishing Cost-Effective Energy Efficiency as a High-Priority Resource**

- Create a process to explore the energy efficiency potential in the state and commit to its full development.
- Regularly identify cost-effective energy efficiency potential in conjunction with state ratemaking bodies.
- Set energy savings goals consistent with the cost-effective potential.
- Integrate energy efficiency into energy resource plans at the utility, state, and regional levels.

## **Goal Two: Developing Processes to Align Utilities Incentives Equally for Efficiency & Supply Resources**

- Work with utilities to implement revenue mechanisms to promote utility and shareholder indifference to supplying energy savings, as compared to energy generation options.
- Consider how to remove utility disincentives to energy efficiency such as by removing the utility throughput disincentive and exploring other ratemaking ideas.
- Ensure timely cost recovery in place for parties that administer energy efficiency programs.



# Vision's 10 Implementation Goals (cont'd)

## **Goal Three: Establishing Cost-Effectiveness Tests**

- Establish a process to examine how to define cost-effective energy efficiency practices that capture the long-term resource value of energy efficiency.
- Incorporate cost-effectiveness tests into ratemaking procedures going forward.

## **Goal Four: Establishing Evaluation, Measurement, and Verification Mechanisms**

- Work with stakeholders to adopt effective, transparent practices for the evaluation, measurement, and verification (EM&V) of energy efficiency savings consistent with establishment of ratemaking incentives.
- Conduct EM&V consistent with these practices.



# Vision's 10 Implementation Goals (cont'd)

## **Goal Five:           Establishing Effective Energy Efficiency Delivery Mechanisms**

- Clearly establish who will administer energy efficiency programs.
- Review programs, funding, customer coverage, and goals for efficiency programs; ensure proper administration and cost recovery of programs, as well as ensuring that goals are met.
- Establish goals and funding on a multi-year basis to be measured by evaluation programs established.
- Create public education programs for energy efficiency.
- Ensure that best practice information is shared regionally and nationally.

## **Goal Six:            Developing State Policies to Ensure Robust Energy Efficiency Practices**

- Have a mechanism to review and update building codes.
- Establish enforcement and monitoring mechanisms of energy codes.
- Adopt and implement state-level appliance standards.
- Develop and implement lead-by-example energy efficiency programs at the state and local levels.



# Vision's 10 Implementation Goals (cont'd)

## **Goal Seven: Aligning Customer Pricing and Incentives to Encourage Investment in Energy Efficiency**

- Examine, propose, and modify rates considering impact on customer incentives to pursue energy efficiency.
- Create mechanisms to reduce customer disincentives for energy efficiency (e.g., financing mechanisms).

## **Goal Eight: Establishing State of the Art Billing Systems**

- Work with large customers to develop methods of supplying consistent energy use and cost information across states, service territories, and the nation.



# Vision's 10 Implementation Goals (cont'd)

## **Goal Nine: Implementing State of the Art Efficiency Information Sharing and Delivery Systems**

- In conjunction with their regulatory bodies, explore the development and implementation of state of the art efficiency delivery information, including smart grid infrastructures, data analysis, two-way communication programs, etc.
- Explore methods of integrating advanced technologies to help curb demand peaks and monitor efficiency upgrades to prevent equipment degradation, etc.
- Coordinate demand response and energy efficiency programs to maximize value to customers.
- Support development of an energy efficiency services and program delivery channel (e.g., quality trained technicians).

## **Goal Ten: Implementing Advanced Technologies**

- Review advanced technologies such as batteries, strategically integrated solar facilities, and other clean distributed generation forms; ensure their adaptation into the broader resource plans for efficiency achievements.
- Work collectively to review advanced technologies and determine rapid integration timelines.



# Vision for 2025

## Identifies Evolving Technologies / Policies

- Evaluation, measurement and verification
- Demand response, advanced metering, and smart grid
- Regional resource planning
- Building energy efficiency expertise/workforce
- Integration of R&D, building codes, appliance standards, and market transformation efforts



# Vision 2025

## Related State, Regional, and National Policies

- Limit emissions of greenhouse gases
- Encourage the use of clean, efficient distributed generation
- Promote clean energy supply, such as renewable energy
- Promote load reductions at critical peak times through demand response
- Modernize and maintain the nation's electric transmission and distribution system, including smart grid and advanced meter infrastructure
- Maintain a sufficient reserve margin for reliable electricity supply





# Implementing the Vision Goals

- Goal is to have steps in place by 2015/2020 to achieve all cost-effective energy efficiency by 2025
  - Recognizes time to ramp-up policies and programs for sustained energy savings
- Action encouraged by various parties
  - Utilities
  - Utility regulators / ratemaking bodies
  - Applicable state agencies (energy offices, air offices, state legislatures, governors, etc)
  - Stakeholders
- Measuring progress is vital to success



# Measuring Progress towards the Vision for 2025

- Measure progress through national metrics
  - Energy to be saved through goals (kWh, KW, therms)
  - Energy saved (kWh, KW, therms)
  - Carbon reductions
  - Dollars invested
  - Cost-effectiveness of delivered programs
- Measure progress through measurable outcomes relative to 10 implementation goals
  - Achieve consistently across the states, recognizing that states can have important differences
- Leadership Group refining process in Spring 2008



# NARUC is Playing a Key Role In Advancing the Vision

- NARUC 2006 Resolution in support of the Action Plan
  - One of the original 80 organizations to endorse the Action Plan 5 key policy recommendations
  - Discussing a resolution in support of the Vision at NARUC upcoming Winter Committee Meetings
- NARUC resolution on state regulatory policies toward climate change.
  - Highlights role state regulators can play by adopting regulatory policies that facilitate the nation's transition to low or no carbon resources.
  - Energy efficiency can be one of these no carbon resources.
- The Alliance to Save Energy recognized NARUC for their leadership in energy efficiency with its 2007 Stars of Energy Efficiency award.
- NARUC offers numerous education, outreach and recognition opportunities for the Action Plan, as well as continued leadership



# Idaho's Energy Efficiency Efforts

- Idaho Governor, Public Utilities Commission, Energy Division and Department of Environmental Quality have jointly endorsed Action Plan Recommendations.
- Commission commits to:
  - Inform and educate the public and policymakers about the Action Plan.
  - Continue to support and encourage demand-side management programs
  - Expand utility funds to community action agencies for weatherization projects
  - Assess whether it a utility's pilot fixed-cost adjustment (FCA) mechanism (IPC-E-04-15, Order No. 30267) results in greater commitment to that utility's energy efficiency programs.
  - Assess whether a utility's pilot program offering financial incentives (IPC-E-06-32, Order No. 30268) successfully increases the number of new homes built to ENERGY STAR standards.
  - Support market transformation programs
- The Idaho Legislature's 2007 Idaho Energy Plan
  - Utilities should fully incorporate cost-effective conservation, energy efficiency and demand response as the priority resources in their Integrated Resource Plans (IRP)
  - IRPs filed every two years with the Commission.