

7: Report Summary



This report presents a variety of policy, planning, and program approaches that can be used to help natural gas and electric utilities, utility regulators, and partner organizations pursue the National Action Plan for Energy Efficiency recommendations and meet their commitments to energy efficiency. This chapter summarizes these recommendations and the energy efficiency key findings discussed in this report.

Overview

This National Action Plan for Energy Efficiency (Action Plan) is a call to action to bring diverse stakeholders together at the national, regional, state, or utility level, as appropriate, to foster the discussions, decision-making, and commitments necessary to take investment in energy efficiency to a new level. The overall goal is to create a sustainable, aggressive national commitment to energy efficiency through gas and electric utilities, utility regulators, and partner organizations.

Based on the policies, practices, and efforts of many organizations previously discussed in this report, the Leadership Group offers five recommendations as ways to overcome many of the barriers that have limited greater investment in programs to deliver energy efficiency to customers of electric and gas utilities (Figure 7-1). These recommendations may be pursued through a number of different options, depending on state and utility circumstances.

As part of the Action Plan, leading organizations are committing to aggressively pursue energy efficiency opportunities in their organizations and to assist others who want to increase the use of energy efficiency in their regions. The commitments pursued under the Action Plan have the potential to save Americans many billions of dollars on energy bills over the next 10 to 15 years, contribute to energy security, and improve the environment.

Recommendations and Options to Consider

The Action Plan Report provides information on the barriers that limit greater investment in programs to deliver energy efficiency to customers of electric and gas utilities. Figure 7-2 illustrates the key barriers and how they relate to policy structure, utility resource planning, and program implementation.

Figure 7-1. 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.
- Promote 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.

Several options exist for utilities, regulators, and partner organizations to overcome these barriers and pursue the Action Plan recommendations. Different state and utility circumstances affect which options are pursued. Table 7-1 provides a list of the Leadership Group recommendations along with sample options to consider. The table also provides a cross reference to supporting discussions in Chapters 2 through 6 of this report.

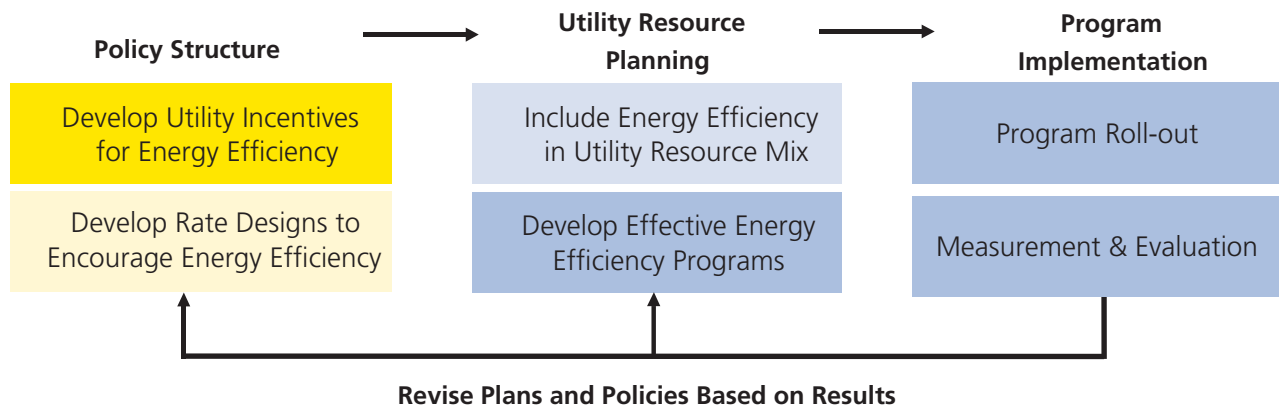
- Lower energy bills, greater customer control, and greater customer satisfaction.
- Lower cost than only supplying new generation from new power plants.
- Advantages from being modular and quick to deploy.
- Significant energy savings.
- Environmental benefits.
- Economic development opportunities.
- Energy security.

Key Findings

The key finding of the Action Plan Report is that energy efficiency can be a cost-effective resource and can provide multiple benefits to utilities, customers, and society. These benefits, also discussed in more detail in Chapter 1: Introduction and Background,¹ include:

Figure 7-2: National Action Plan for Energy Efficiency Report Addresses Actions to Encourage Greater Energy Efficiency

Timeline: Actions to Encourage Greater Energy Efficiency



Action Plan Report Chapter Areas and 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

¹ Chapter 6: Energy Efficiency Program Best Practices also provides more information on these benefits.

Table 7-1. Leadership Group Recommendations and Options to Consider, by Chapter

Leadership Group Recommendations (With Options To Consider)	Chapter 2: Utility Ratemaking & Revenue Requirements	Chapter 3: Energy Resource Planning Processes	Chapter 4: Business Case for Energy Efficiency	Chapter 5: Rate Design	Chapter 6: Energy Efficiency Program Best Practices
Recognize energy efficiency as a high priority energy resource.		X			X
Establishing policies to establish energy efficiency as a priority resource.		X			
Integrating energy efficiency into utility, state, and regional resource planning activities.		X			
Quantifying and establishing the value of energy efficiency, considering energy savings, capacity savings, and environmental benefits, as appropriate.		X			X
Make a strong, long-term commitment to cost effective energy efficiency as a resource.	X	X			X
Establishing appropriate cost-effectiveness tests for a portfolio of programs to reflect the long-term benefits of energy efficiency.		X			X
Establishing the potential for long-term, cost effective energy efficiency savings by customer class through proven programs, innovative initiatives, and cutting-edge technologies.		X			X
Establishing funding requirements for delivering long-term, cost-effective energy efficiency.	X	X			X
Developing long-term energy saving goals as part of energy planning processes.		X			X
Developing robust measurement and verification (M&V) procedures.		X			X
Designating which organization(s) is responsible for administering the energy efficiency programs.	X	X			X
Providing for frequent updates to energy resource plans to accommodate new information and technology.		X			X
Broadly communicate the benefits of, and opportunities for, energy efficiency.	X	X	X	X	X
Establishing and educating stakeholders on the business case for energy efficiency at the state, utility, and other appropriate level addressing relevant customer, utility, and societal perspectives.	X	X	X		
Communicating the role of energy efficiency in lowering customer energy bills and system costs and risks over time.	X	X	X	X	X
Communicating the role of building codes, appliance standards, and tax and other incentives.					X

Table 7-1. Leadership Group Recommendations and Options to Consider, by Chapter (continued)

Leadership Group Recommendations (With Options To Consider)	Chapter 2: Utility Ratemaking & Revenue Requirements	Chapter 3: Energy Resource Planning Processes	Chapter 4: Business Case for Energy Efficiency	Chapter 5: Rate Design	Chapter 6: Energy Efficiency Program Best Practices
Provide sufficient, timely, and stable program funding to deliver energy efficiency where cost-effective.	X	X			X
Deciding on and committing to a consistent way for program administrators to recover energy efficiency costs in a timely manner.	X	X			
Establishing 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.	X	X			
Establishing funding for multi-year periods.	X	X			X
Modify policies to align utility incentives with the delivery of cost-effective energy efficiency and modify ratemaking practices to promote energy efficiency investments.	X			X	
Addressing the typical utility throughput incentive and removing other regulatory and management disincentives to energy efficiency.	X				
Providing utility incentives for the successful management of energy efficiency programs.	X				
Including the impact on adoption of energy efficiency as one of the goals of retail rate design, recognizing that it must be balanced with other objectives.				X	
Eliminating rate designs that discourage energy efficiency by not increasing costs as customers consume more electricity or natural gas.				X	
Adopting 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.				X	

As discussed in Chapter 2: Utility Ratemaking & Revenue Requirements, financial disincentives exist that hinder utilities from pursuing energy efficiency, even when cost-effective. Many states have experience in addressing utility financial disincentives in the following areas:

- Overcoming the throughput incentive.
- Providing reliable means for utilities to recover energy efficiency costs.
- Providing a return on investment for efficiency programs that is competitive with the return utilities earn on new generation.
- Addressing the risk of program costs being disallowed, along with other risks.
- Recognizing the full value of energy efficiency to the utility system.

Chapter 3: Energy Resource Planning Processes found that there are many approaches to navigate and overcome the barriers to incorporating energy efficiency in planning processes. Common themes across approaches include:

- Cost and savings data for energy efficiency measures are readily available.
- Energy, capacity, and non-energy benefits can justify robust energy efficiency programs.
- A clear path to funding is needed to establish a budget for energy efficiency resources.
- Parties should integrate energy efficiency early in the resource planning process.

Based on the eight cases examined using the Energy Efficiency Benefits Calculator in Chapter 4: Business Case for Energy Efficiency, energy efficiency investments were found to provide consistently lower costs over time for both utilities and customers, while providing positive net benefits to society. Key findings include:

- Ratemaking policies to address utility financial barriers to energy efficiency maintain utility health while comprehensive, cost-effective energy efficiency programs are implemented.

- The costs of energy efficiency and the reduction in utility sales volume initially raise gas or electricity bills due to slightly higher rates, but efficiency gains will reduce average customer bills by 2 to 9 percent over a 10-year period.
- Energy efficiency investments yielded net societal benefits on the order of hundreds of millions of dollars for each of the eight small- to medium-sized utility cases examined.

Chapter 5: Rate Design found that recognizing the promotion of energy efficiency is an important factor to balance along with the numerous regulatory and legislative goals addressed during the complex rate design process. Additional key findings include:

- Several rate design options exist to encourage customers to invest in efficiency and to participate in new programs that provide innovative technologies (e.g., smart meters).
- Utility rates that are designed to promote sales or maximize stable revenues tend to lower customer incentives to adopt energy efficiency.
- Some rate forms, like declining block rates or rates with large fixed charges, reduce the savings that customers can attain from adopting energy efficiency.
- Appropriate rate designs should consider the unique characteristics of each customer class.
- Energy efficiency can be promoted through non-tariff mechanisms that reach customers through their utility bill.
- More effort is needed to communicate the benefits and opportunities for energy efficiency to customers, regulators, and utility decision-makers.

Chapter 6: Energy Efficiency Program Best Practices provided a summary of best practices, as well as general program key findings. The best practice strategies for program planning, design, implementation, and evaluation are found to be independent of the policy model in which the program operates. These best practices, organized by four major groupings, are provided below:

- Making Energy Efficiency A Resource
 - Require leadership at multiple levels.

- Align organizational goals.

- Understand the efficiency resource.

- Developing An Energy Efficiency Plan

- Offer programs for all key customer classes.

- Align goals with funding.

- Use cost-effectiveness tests that are consistent with long-term planning.

- Consider building codes and appliance standards when designing programs.

- Plan to incorporate new technologies.

- Consider efficiency investments to alleviate transmission and distribution constraints.

- Create a roadmap of key program components, milestones, and explicit energy use reduction goals.

- Designing and Delivering Energy Efficiency Programs

- Begin with the market in mind.

- Leverage private sector expertise, external funding, and financing.

- Start with demonstrated program models—build infrastructure for the future.

- Ensuring Energy Efficiency Investments Deliver Results

- Budget, plan, and initiate evaluation.

- Develop program and project tracking systems.

- Conduct process evaluations.

- Conduct impact evaluations.

- Communicate evaluation results to key stakeholders.

The key program findings in Chapter 6 are drawn from the programs reviewed for this report.² These findings include:

- Energy efficiency resources are being acquired on average at about one-half the cost of typical new power sources and about one-third of the cost of natural gas supply in many cases—contributing to an overall lower-cost energy system for rate-payers (EIA, 2006).

- Many energy efficiency programs are being delivered at a total program cost of about \$0.02 to \$0.03 per lifetime kilowatt-hour (kWh) saved and \$1.30 to \$2.00 per lifetime million British thermal units (MMBtu) saved. These costs are less than the avoided costs seen in most regions of the country. Funding for the majority of programs reviewed ranges from about 1 to 3 percent of electric utility revenue and 0.5 to 1 percent of gas utility revenue.

- Even low energy cost states, such as those in the Pacific Northwest, have reason to invest in energy efficiency because energy efficiency provides a low-cost, reliable resource that reduces customer utility bills. Energy efficiency also costs less than constructing new generation and provides a hedge against market, fuel, and environmental risks (NWPCC, 2005).

- Well-designed energy efficiency programs provide opportunities for customers of all types to adopt energy saving measures and reduce their energy bills. These programs can help customers make sound energy-use decisions, increase control over their energy bills, and empower them to manage their energy usage. Customers can experience significant savings depending on their own habits and the program offered.

- Consistently funded, well-designed efficiency programs are cutting electricity and natural gas load—providing annual savings for a given program year of 0.15 to 1 percent of energy sales. These savings typically will

² See Chapter 6: Energy Efficiency Program Best Practices, Tables 6-2 and 6-3, for more information on energy efficiency programs reviewed.

accrue at this level for 10 to 15 years. These programs are helping to offset 20 to 50 percent of expected energy growth in some regions without compromising end-user activity or economic well being.

- Research and development enables a continuing source of new technologies and methods for improving energy efficiency and helping customers control their energy bills.
- Many state and regional studies have found that pursuing economically attractive, but as yet untapped, energy efficiency could yield more than 20 percent savings in total electricity demand nationwide by 2025. These savings could help cut load growth by half or more compared to current forecasts. Savings in direct use of natural gas could similarly provide a 50 percent or greater reduction in natural gas demand growth. Energy savings potential varies by customer segment, but there are cost-effective opportunities for all customer classes.
- Energy efficiency programs are being operated successfully across many different contexts: regulated and unregulated markets; utility, state, or third-party administration; investor-, publicly-, and cooperatively-owned utilities; and gas and electric utilities.
- Energy efficiency resources are being acquired through a variety of mechanisms including system benefits charges (SBC), energy efficiency portfolio standards (EEPS), and resource planning (or cost-of-service) efforts.
- Cost-effective energy efficiency programs exist for electricity and natural gas, including programs that can be specifically targeted to reduce peak load.

- Effective models exist for delivering gas and electric energy efficiency programs to all customer classes. Models might vary for some programs based on whether a utility is in the initial stages of energy efficiency programming or has been implementing programs for years.
- Energy efficiency programs, projects, and policies benefit from established and stable regulations, clear goals, and comprehensive evaluation.
- Energy efficiency programs benefit from committed program administrators and oversight authorities, as well as strong stakeholder support.
- Most large-scale energy efficiency programs have improved productivity, enabling job growth in the commercial and industrial sectors.
- Large-scale energy efficiency programs can reduce wholesale market prices.

References

- Northwest Power and Conservation Council [NWPCC] (2005, May). *The 5th Northwest Electric Power and Conservation Plan*. <<http://www.nwcouncil.org/energy/powerplan/default.htm>>.
- U.S. Energy Information Administration [EIA] (2006). *Annual Energy Outlook 2006*. Washington, DC.