



Best Practices in Energy Efficiency Programs – Working Draft

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Experience you can trust.

EPA Working Group Goals

- Determine Best Practices in energy efficiency program portfolios across
 - Policy models
 - Electricity and gas programs
 - Customer classes
- Address issues such as
 - Assessing energy efficiency potential
 - Screening for cost effectiveness
 - M&V
 - Political and administrative factors for success



Key Draft Findings

- Energy efficiency can be delivered at a cost significantly less than the cost of new generation
- Well designed electric programs are being funded at 1 to 3% of revenues
- Well designed gas programs are being funded at 0.5 % to 1% of revenues
- Programs are significantly reducing load growth
- Multiple studies show potential for large savings
- M&V methods are well established

Findings are generally applicable across all policy models/contexts



Policy Models Reviewed

- System Benefits Charge (SBC) with Utility, State, and Third-Party administration
- Integrated Resource Planning (IRP) Model
- Portfolio Standard
- Municipal Utility/Electric Cooperative
- Regional Planning
- Gas model



Making Energy Efficiency a Resource

- Leadership needed at multiple levels
 - Key individuals in leadership role in the utility
 - State agency and/or consumer advocate
 - Public interest groups can also be helpful in educating on ways to overcome key barriers
- Organizational Alignment
 - Support from upper management
 - Goals tied to organizational goals
 - Adequate resources
- Understanding the Efficiency Resource
 - Conduct Potential Studies to outline what can be done
 - Review measures for all customer classes



Developing an Energy Efficiency Plan

- Have programs for all 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 T&D constraints
- Create a roadmap of key program components, milestones and energy reduction goals



Some examples of new technologies

Technology/ Program	Description	Availability	Key Challenges	Key Strategies	Examples
Smart Grid/ GridWise technologies	Smart grid technologies include both customer side and grid side technologies that allow for more efficient operation of the Grid.	Available in pilot situations	Cost Customer Acceptance Communication Protocols	Pilot Programs R&D programs	GridWise Pilot in Pacific NW
Smart appliances/ Smart Home	Homes with gateways that would allow for control of appliances and other end-uses via the internet.	Available	Cost Customer Acceptance Communication Protocols	Pilot Programs Customer education	GridWise Pilot in Pacific NW
Load control of AC via smart thermostat	AC controlled via smart thermostat Communication can be via wireless, PLC or internet	Widely available	Cost Customer acceptance	Used to control loads in congested situation Pilot and full scale programs Customer education	LIPA, Austin Energy, Utah Power and light ISO New England
Dynamic Pricing/ Critical Peak Pricing with enhanced metering	Providing customers with either real time or critical peak pricing via a communication technology. Communication can be via wireless, PLC or internet. Customers can also be provided with educational materials.	Available	Cost Customer acceptance Split incentives in de-regulated markets Regulatory barriers	Pilot and full scale Programs Used in congested areas Customer education	Georgia-large users Niagara Mohawk California Peak Pricing Experiment



Designing and Delivering Energy Efficiency Programs (1)

- **Begin with the Market in Mind**
 - Conduct a market assessment
 - Solicit Stakeholder input
 - Listen to customer and trade ally needs
 - Use utility channels and brands
 - Promote the energy and non-energy benefits
 - Coordinate with other administrators
 - Keep participation simple
 - Keep funding as consistent as possible
 - Invest in education, training and outreach
 - Leverage customer contact to sell additional conservation



Examples of Key Program Reviewed

Customer Segment	Program	Program Administrator	Program Description/ Strategies	Program Model		Key Best Practices
				Proven	Emerging	
All	Training and Certification components	KeySpan	KeySpan's programs include a significant certification and training component. This includes building operator certification , building code training and training for HVAC installers. Strategies include training and certifiatin.	X	X	Don't under invest in education, training, and outreach Solicit Stakeholder input Use utilities channels and brand
Commercial Industrial	Non-residential performance contracting program	California Utilities	This program uses a standard contract approach to provide incentives for measured energy savings. The key stritagey is the provision of financial incentives.	X		Build upon ESCO and other financing program options Add program complexity over time Keep participation simple
Commercial Industrial New Construction	Energy Design Assistance	XCEL	This program targets new construction and major renovation projects. The key strategies are incentives and design assistance for any electric saving end uses.	X	X	Keep participation simple Add complexity over time
Commercial/ Industrial	Custom Incentive Program	Wisconsin Focus on Energy	This program allows commercial and industrial customers to implement a wide array of measures. Strategies include financial assistance and technical assistance.	X	X	Keep participation simple Add complexity over time



Designing and Delivering Energy Efficiency Programs (2)

- Leverage Private Sector Expertise, Funding, and Financing Leverage manufacturer and retailer resources through cooperative promotions
 - Leverage State and Federal tax credits and other tax incentives
 - Build upon the Energy Service Company (ESCO) and other program financing options
 - Consider outsourcing , through a competitive bidding process, some program elements to private and non-profit organizations that specialize in program design and implementation



Designing and Delivering Energy Efficiency Programs (3)

- Start with Demonstrated Program Models – Build Infrastructure for the Future
 - Start with successful program approaches from others
 - Determine the right incentives and levels
 - Invest in educating and training the service industry
 - Evolve to more comprehensive programs
 - Change measures over time to adapt to changing markets and new technologies
 - Pilot test new program concepts



Ensure that Energy Efficiency Investments Deliver Results

- Budget and Plan for Evaluation from the onset
- Formalize and document evaluation plans and processes
- Develop program and project tracking systems that support both evaluation and implementation needs
- Conduct process evaluations to ensure programs are working efficiently
- Conduct impact evaluations to ensure that goals are being met
- Communicate key results to stakeholders – include case studies to make results more tangible

