



Best Practices In Low-Income Energy Efficiency Programs

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Presentation Outline

- Program Goals
- Management
- Eligibility
- Targeting and Outreach
- Services
- Energy Education
- Service Delivery
- Data Management
- Quality Control
- Evaluation

GOALS

Program Goals

Options

- Energy savings
- Benefit cost ratio
- Greenhouse gas emissions
- Bill impacts
- Reduce ratepayer subsidy
- Number of homes served
- Amount spent per home or in the program year
- Targeting need (elderly, disabled, children, energy burden)
- Innovative usage reduction measures
- Innovative program delivery systems

Program Goals

Advantages & Disadvantages

- Energy Savings

- *Advantages*: sets concrete standards of measurement for program and contractor.

- *Disadvantages*:

- Particular level of savings may be difficult reach depending on condition of customer homes and budget constraints.
 - Time lag to estimate impacts based on billing data.

Program Goals

Advantages & Disadvantages

- Cost-Effectiveness

- *Advantages:*

- Concrete
 - Justifiable

- *Disadvantages:*

- Which formula – TRC, Utility, Societal...
 - Difficulty and controversy in measuring benefits – health impacts, environmental, etc.

Program Goals

Advantages & Disadvantages

- Reduce ratepayer subsidy
 - *Advantages*: if achieved, the program will result in cost-effective savings for the ratepayers.
 - *Disadvantages*: if all benefits go to the ratepayers, there may be less motivation for customers to participate in energy reduction strategies.

Program Goals

Advantages & Disadvantages

- Number of homes served
 - *Advantages*: ensure that benefits are distributed to a minimum number of customers
 - *Disadvantages*:
 - With a set budget, places limits on the level of services that a household can receive.
 - What benefit is achieved?

Program Goals

Advantages & Disadvantages

- Amount spent per home
 - *Advantages*: ensure that a certain number of homes can be served within the allocated budget.
 - *Disadvantages*:
 - May not allow enough flexibility to address homes with severe problems.
 - May be leaving savings opportunities unaddressed.

Program Goals

Advantages & Disadvantages

- Targeting high need customers
 - *Advantages*: provides benefits to those who may suffer most from unaffordable energy bills.
 - *Disadvantages*: may not provide the most cost-effective program if these are not the highest energy users.

Program Goals

Advantages & Disadvantages

- Innovative usage reduction measures
- Innovative program delivery systems
 - *Advantages:*
 - Allows for testing of these new measures and systems that may prove to be cost-effective in the long-run.
 - May lead to more effective program.
 - *Disadvantages:*
 - Due the to learning curve, program may not be as cost-effective.
 - Need opportunity to pilot test.

Program Goals

Best Practices

- Relates to program's mission
- Concrete
 - Save X ccf/kWh on average per home served
 - Reach 1.25 benefit-cost ratio
 - Reduce ratepayer burden by 5%
- Measurable
 - Plan for how you are going to measure
- Challenging, but achievable
 - Based on past results or other benchmark

MANAGEMENT

Program Management Options

- Public Utility Commission
- State
- Team of Utilities
- Individual Utility
- 3rd Party Administrator

Program Management Advantages & Disadvantages

- Centralized program – PUC or State
 - *Advantages*
 - Customers across the state receive equivalent benefits.
 - Utilities may work together to develop best practices for combined approach.
 - May be greater opportunity for joint delivery across electric/gas utilities.
 - *Disadvantages*
 - Utilities may not have the same program commitment and involvement.
 - May lose utility-specific customer knowledge.

Program Management Examples

- Pennsylvania: Each utility manages its own usage reduction program.
- New Jersey: Utilities work together on joint program.
- Ohio: Electric Partnership Program managed by the state.

Program Management Best Practices

- Opportunities
 - What is there to gain from each option?
- Capabilities
 - Which organization is best positioned to manage?
- Constraints
 - What staffing or resource constraints are faced?

ELIGIBILITY

Program Eligibility Options

- Income level
 - Usually up to 150% or 200% of Federal Poverty Level
- Home Ownership
- Usage Guidelines
- Participation in bill payment assistance programs

Program Eligibility Advantages & Disadvantages

- Income level
 - *Advantages*: more restrictive income limits mean that those with the least ability to pay their bills receive services.
 - *Disadvantages*: more restrictive income limits may mean that the highest use customers are may not be served.

Program Eligibility

Advantages & Disadvantages

- Home Ownership

- *Advantages:*

- Home owners may be more likely to remain in home and see benefits over time.
 - Landlord permission is not needed.

- *Disadvantages:* some needy households are not served.

Program Eligibility Advantages & Disadvantages

- Usage

- *Advantages*: restricting eligibility to highest use customers usually results in greatest energy savings.
- *Disadvantages*: exclusive focus on usage does not allow for serving those most in need, i.e. lowest income, highest energy burden, elderly, disabled, young children.

Program Eligibility

Advantages & Disadvantages

- Participation in bill payment assistance programs
 - *Advantages*: reductions in usage result in reduction in subsidies that burden the ratepayers.
 - *Disadvantages*: customers who do not participate in bill assistance will not receive usage reduction benefits.

Program Eligibility

Best Practices

- Review goals
- Assess other available programs
 - May try to reach population that is not served by other programs
- Revisit over time
 - After several years, may need to revise pre-treatment usage guideline down

TARGETING AND OUTREACH

Targeting and Outreach Options

- Highest use customers
- Highest subsidy customers
- Payment troubled customers
- Vulnerable households (young children, elderly, disabled)

Targeting and Outreach Advantages & Disadvantages

- Highest use customers

- *Advantages:*

- Usually results in highest energy savings.
 - Utilities can develop list of high-usage, low-income customers.

- *Disadvantages:*

- May not focus on lower usage customers with high needs due to income, energy burden, other characteristics.
 - Highest users may have conditions in home that prevent service delivery.
 - Centrally managed program may have more difficult time finding high users.

Targeting and Outreach

Advantages & Disadvantages

- Highest subsidy customers
 - *Advantages:*
 - Benefits of the program go to the ratepayers
 - Utility or program manager can develop list of targeted customers
 - *Disadvantages:* other needy customers may not be served

Targeting and Outreach Advantages & Disadvantages

- Payment troubled customers
 - *Advantages:*
 - May increase bill payment coverage rates.
 - Customers may be motivated to reduce usage.
 - Utility can target customers who express need for assistance.
 - WAP agency can target customers who received LIHEAP.
 - *Disadvantages:*
 - May not result in greatest usage reduction.
 - Some households may be better served with energy assistance (low usage, lowest income.)

Targeting and Outreach Advantages & Disadvantages

- Vulnerable households (young children, elderly, disabled)
 - *Advantages:*
 - Reduce energy usage for those who are sensitive to temperature extremes.
 - Nonprofit agency can prioritize these households for service delivery.
 - *Disadvantages:*
 - May not result in greatest usage reduction.
 - May restrict opportunity to coordinate with utility programs.

Targeting and Outreach

Examples

- PGW – one contractor initially targeted highest users, but found too many barriers in home.
- PGW – good savings with very high usage customers.
- OH REACH – additional services delivered to customers with health problems.
- NJ Comfort Partners & PPL – customers at subsidy limit can benefit.

Targeting and Outreach Best Practices

- Review goals
- Work collaboratively
 - State office, utilities, CBOs, other
- Take multi-pronged approach
 - Different approaches work based on population segment.
- Assess what is working
- Revisit over time

SERVICES

Services Options

- Comprehensive – maximize savings per home
- Cost threshold / \$ limit per household
- Minimal – increase number of households served
- Varied, depending on energy usage

Services

Advantages & Disadvantages

- Comprehensive

- *Advantages*

- Maximize usage reduction for homes served.
 - Minimize administrative expenses as a percentage of total costs.
 - Reduce need for another program to return to home.

- *Disadvantages*

- Fewer homes may be served.

Services

Advantages & Disadvantages

- Cost threshold

- *Advantages*

- Serve a greater number of households.
 - Ensure that a minimum number of households are served.

- *Disadvantages*

- Does not take individual household circumstances into account.
 - May spend too little in some homes and too much in others.
 - May spend more than what is cost-effective in some homes.

Services

Advantages & Disadvantages

- Minimal

- *Advantages*

- Increase number of households served.

- *Disadvantages*

- Customers may not receive significant savings.
 - Administrative costs are duplicated when other programs return to serve the household.

Services

Vary By Customer Usage

- *Advantages*
 - Service level is targeted to need.
- *Disadvantages*
 - Households are not treated equally.

Services

Example

- CO Energy Efficiency Programs
 - Full cost
 - Low cost in home
 - Kit with postcard
 - Kit sent to list
- PPL WRAP
 - Full cost
 - Water heating
 - Baseload

Services

Best Practices

- Review goals
- Research program models
- Pilot test
- Evaluate
- Re-visit

ENERGY EDUCATION

Energy Education Options

- Partnership between program/educator and customer
- Understanding the energy bills
- Energy use and costs around the home
- Customer goals for usage reduction
- Customer action plan
- Follow-up

Energy Education

Advantages & Disadvantages

- Partnership between program /educator and customer
 - *Advantages*: if successful, customer has more motivation to take steps to reduce energy usage.
 - *Disadvantages*: takes skilled and dedicated auditor to make it work.

Energy Education

Advantages & Disadvantages

- Understanding the energy bills
- Energy use and costs around the home
 - *Advantages*
 - If the customer understands how to read the bill and determine when usage is decreasing, it provides positive re-enforcement for energy-saving actions.
 - Allows customer to make decisions about energy usage based on the costs of those uses.
 - *Disadvantages*
 - Requires auditor with good communication skills.
 - Increases length of audit.

Energy Education

Advantages & Disadvantages

- Customer goals for usage reduction
- Customer action plan
 - *Advantages*
 - Provides motivation for customer to reduce energy usage
 - Provides direction for customer.
 - *Disadvantages*
 - Some customers will not be interested.
 - Auditors must be skillful and willing to take the time required.

Energy Education Examples

- NJ Comfort Partners
 - Energy education notebook
 - 2 hours allocated
- PECO
 - Energy education in home
 - Monthly follow-up letters

Services

Best Practices

- Assess capabilities
- Provide training
- Perform quality control
- Evaluate
- Refine
- Re-train

SERVICE DELIVERY ORGANIZATIONS

Service Delivery Options

- Private contractors
- Weatherization agencies
- Community Action Agencies
- Other nonprofit
- Mix of the above groups

Service Delivery Advantages & Disadvantages

- Private contractors

- *Advantages*

- Cash flow management
 - Data management capabilities
 - Ability to hire additional staff

- *Disadvantages*

- May have less knowledge/experience with other public programs
 - May be too focused on profit

Service Delivery Advantages & Disadvantages

- Weatherization agencies
- Community Action Agencies
- Other nonprofit
 - *Advantages:*
 - Ability to provide joint service delivery of multiple utility programs and/or WAP.
 - WAP agencies already have consistent policies and procedures that can be implemented in utility program.
 - *Disadvantages:* may not have experience with contract work.

Service Delivery Example

- NJ CP, PGW – private contractors
- PPL – combination
- UGI – WAP agencies

Service Delivery Best Practices

- Review goals
- Assess capabilities and experience
- Assess operating environment
- Hold accountable
- Re-visit

DATA MANAGEMENT

Data Management Options

- Paper data collection
 - Data collected on paper at the customer's home
 - Data entered by contractor after the visit
- Computerized data collection
 - Customer data loaded into software
 - Data entered in laptop or PDA while in the customer's home
 - Data uploaded to data management system

Data Management

Advantages & Disadvantages

- Computerized data collection
 - Advantages
 - Auditor can have customer data (including usage) available on site.
 - Data entry is not necessary following the visit.
 - Software can calculate cost-effectiveness based on customer usage and other characteristics.
 - Disadvantages
 - Computer can interview with customer relationship.
 - Data can be lost.
 - Providers may be resistant.

Service Delivery Best Practices

- Assess data needs
 - Management
 - Operations
 - Evaluation
- Assess capabilities and experience
- Assess operating environment
- Perform cost-benefit analysis
- Provide training

QUALITY CONTROL

Quality Control Options

- Internal/External
 - State or utility personnel
 - Third party inspectors
- Sampling
 - What percent of jobs should be inspected?
- Targeting
 - Equal/random inspection of each contractor
 - Focus on contractors who have shown problems in the past

Quality Control Advantages & Disadvantages

- External quality control
 - *Advantages*
 - More time may be devoted to quality control.
 - May have more systematic procedures for quality control.
 - May be more objective.
 - *Disadvantages*
 - May be more expensive.
 - Inspectors may not have good understanding of program design and procedures.

Quality Control Best Practices

- Assess provider capabilities and experience
- Develop systematic procedures
- Collect and review data
- Re-visit based on findings

EVALUATION

Evaluation Options

- Internal/External
 - Conducted by state/utility
 - Conducted by third party evaluator
- Impact
 - Energy usage
 - Bill payment
 - Environmental
 - Economic
- Process
 - Efficiency/effectiveness of program
 - Why is the program achieving the outcomes

Evaluation

Advantages & Disadvantages

- External

- *Advantages*

- More time may be devoted to evaluation.
 - Evaluation expertise.
 - May have more systematic procedures for evaluation.
 - May be more objective / less biased.

- *Disadvantages*

- More expensive.
 - May not have an understanding of the program and components.

Evaluation

Best Practices

- Assess information needs
- Design evaluation
- Use results to improve performance
 - Policies and procedures
 - Systems and tools
 - Training
 - Quality Control

SUMMARY

Summary

Recommendations

- Identify and prioritize goals
- Recognize unique characteristics of environment
 - Geography/weather
 - Political/social
 - Resources
- Review program models
- Pilot test before implementing
- Evaluate and improve