Applied Public Policy Research
APPRISE
Institute for Study and Evaluation

Ratepayer Funded Low-Income Energy Programs Performance and Possibilities

2007 NLIEC
David Carroll, APPRISE
Jacqueline Berger, APPRISE
Roger Colton, Fisher, Sheehan, and Colton

Applied Public Policy Research
APPRISE
Institute for Study and Evaluation

Introduction

Purposes

- Document existing information on ratepayer funded low-income energy programs
- Develop new information and insights
- Serve as a foundation for additional research and program innovations

Study Scope

- Analysis of 13 states – CA, CO, IN, ME, MD, MO, NJ, NV, OH, OR, PA, WA, WI

- Research on 21 Affordability Programs and 13 Energy Efficiency Programs

- Review of Evaluations for 10 Affordability Programs and 8 Energy Efficiency Programs (12 studies)

Study Outputs

- Report
  - Executive Summary
  - Body of Report
    - Needs Assessment
    - Legal/Regulatory Framework
    - Affordability Program Design and Evaluation
    - Energy Efficiency Program Design and Evaluation
  - State Appendixes
- Sponsor Memos
- Sponsor Dissemination Meetings

Sponsors

- AARP
- Colorado OEMC
- Indiana Utilities (CGCU, NIPSCO, and VUHI)
- Maryland Department of Human Resources
- Missouri Community Action Network
- Oregon Housing and Community Services
- PECO Energy
- Philadelphia Gas Works
- Public Service Electric and Gas (contributor)
- Washington State CTED

Acknowledgements

- Sponsors
- Program Informants
- NCAT – LIHEAP Clearinghouse
- NLIEC
- Complementary Research

Applied Public Policy Research
APPRISE
Institute for Study and Evaluation

Needs Assessment

Needs Assessment

- National Context
  - Energy bills for low-income households grew from $22.6 billion in 2000 to $31.9 billion in 2005 (40%)
  - 7.1 million low-income households pay more than 15% of income for residential energy and $6.1 billion would be needed to pay excess over 15% of income
  - 8.0 million low-income households have electric and/or gas energy usage that make them prime targets for energy efficiency programs

Needs Assessment

- State and Local Context
  - State policymakers have made $2.3 billion available for affordability/energy efficiency programs
  - Total funding for the 13 states studied covers 10% to 40% of the energy gap at the 5% need standard
  - Total funding for the 13 states studied covers 25% to 118% of the energy gap at the 15% need standard

Needs Assessment

- New Jersey is not California
  - Energy needs vary considerably from state to state, and even within states.
  - You cannot transplant New Jersey's program, or Wisconsin's program, or California's program to your state.
  - You need to document the unique energy needs of your low-income households and design a program around those needs.

Applied Public Policy Research
APPRISE
Institute for Study and Evaluation

Legal and Regulatory

Legal justification: Indiana's Alternative Regulation

- Whether. . .operating conditions. . .render the exercise, in whole or part, of jurisdiction by the commission unnecessary or wasteful.
- Whether the commission's declining to exercise, in whole or in part, its jurisdiction will be beneficial for the energy utility, the energy utility's customers, or the state.
- Whether the commission's declining to exercise, in whole or in part, its jurisdiction will promote energy utility efficiency.

Legal justification: Indiana's Alternative Regulation

- Whether the commission should "decline to exercise, in whole or in part, its jurisdiction over either the energy utility or the retail energy service of the energy utility, or both."
- Commission authorized to "establish rates and charges that are in the public interest as determined by consideration of the [statutorily-prescribed] factors. . ."
  - Indiana state supreme court: The "public interest" under the alternative regulation statute "encompasses a wide range of considerations" and "is not confined to customer interests."

Legal Justification: Indiana's Alternative Regulation

- Operating conditions render regulation "unnecessary or wasteful."
  - Responding to structural change in gas prices.
  - Responding to volatility in gas prices.
- Promote efficiency in energy utility processes.
  - Existing processes fail to collect revenue;
  - Existing processes fail to keep customers on system.
- Beneficial to the utility, its customers, *or* the state.
  - Health and safety benefits.
  - Economic competitiveness benefits.

Applied Public Policy Research
APPRISE
Institute for Study and Evaluation

Program Design and Evaluation

Program Design and Evaluation

- Choices?
  - (Design components)
- Outputs/Impacts?
  - (Evaluation)
- Be at the table!
  - (Or have a representative)

Affordability Program Design

Affordability Program Design

Program Funding

- Funding level
  - Limited or serve all eligible customers?
- Funding source
  - SBC or base rates?
- Targeting
  - Eligibility / outreach

Affordability Program Design

Program Benefits

- Coordination with LIHEAP
  - Admin costs, equity, simplified design
- Computation
  - Percent of income, rate discount, benefit matrix
- Level
  - Annual benefit range: $121 - $1,105

Affordability Program Design

Program Benefits

- Distribution
  - Fixed monthly payment, fixed monthly credit, rate discount, fixed annual credit
- Arrearage forgiveness
  - Complete forgiveness, matching forgiveness, payment plan

Affordability Program Design

Program Operations

- Administration
  - State LIHEAP, individual utility companies
- Certification and re-certification
  - Fiscal integrity vs. customer participation
- Benefit period
  - Contingent upon customer payment?

Affordability Program Evaluation

Affordability Program Evaluation

Targeting

- Percent of eligible served
  - 30% - 45% served
- Poverty level
  - 49% - 72% have income below poverty
- Elderly households
  - 8% - 37% with an elderly member

Affordability Program Evaluation

Affordability and Bill Payment

- Energy burden
  - Programs came close to targeted level
- Payment regularity
  - Increases seen with equal monthly payment plans
- Customer cash payments
  - Increases seen with equal monthly payment plans

Affordability Program Evaluation

Arrearages

- Program arrearages
  - 36% - 44% pay 100% or more of reduced bill
- Arrearage forgiveness
  - 39% - 76% receive forgiveness
  - Mean ranged from $182 to $403
- Balance
  - Declines range from $251 to $374

Affordability Program Evaluation

Applied Public Policy Research
APPRISE
Institute for Study and Evaluation

Financial Impact

- # of collections actions declined
- # of service terminations declined
- Collections costs declined $8 to $16
- Cost neutrality?
  - No evidence
  - Unlikely if customer payments decline

Affordability Program Evaluation

Energy Usage

- Reduced cost of energy usage
- Expected increase in energy usage
- No evidence for increased usage

Efficiency Program Design

Efficiency Program Design

Program Funding and Delivery

- Funding level
  - $300,000 to $131 million
- Customers served
  - 136 to 163,000
- Benefits
  - Targeted average, per home limit

Efficiency Program Design

Eligibility

- Poverty level
  - 150% to 225%
- Affordability program participation
- Energy usage

Efficiency Program Design

Targeting

- High Energy Usage
- Arrearages/payment troubled
- Households with elderly/disabled/young children
- Affordability program participants

Efficiency Program Design

Benefits

- Average expenditures
  - $480 to $6,176
- Eligible measures
  - Baseload: CFLs, refrigerator
  - Heating/cooling: Insulation, air sealing, furnace replacement
- Health and safety

Efficiency Program Design

Education

- Individual action plan
- Separate from service delivery
  - Workshops
- Follow-up
  - Inspections
  - Phone calls and/or letters

Efficiency Program Design

Operations

- Program manager
  - State office or individual utility
- Service delivery contractors
  - Weatherization agency, nonprofit, for-profit
- Data manager
  - State office, utility, contractor

Applied Public Policy Research
APPRISE
Institute for Study and Evaluation

Efficiency Program Evaluation

Efficiency Program Evaluation

Targeting

- Poverty level
  - Not usually studied
- Vulnerable groups
  - Elderly and children served at high rates
- Renters
  - Difficult to serve

Efficiency Program Evaluation

Targeting

- Affordability program participants
  - Can reduce ratepayer subsidy
  - Fixed payment programs result in greatest reduction in the ratepayer subsidy
- Pre-Treatment usage

Efficiency Program Evaluation

Applied Public Policy Research
APPRISE
Institute for Study and Evaluation

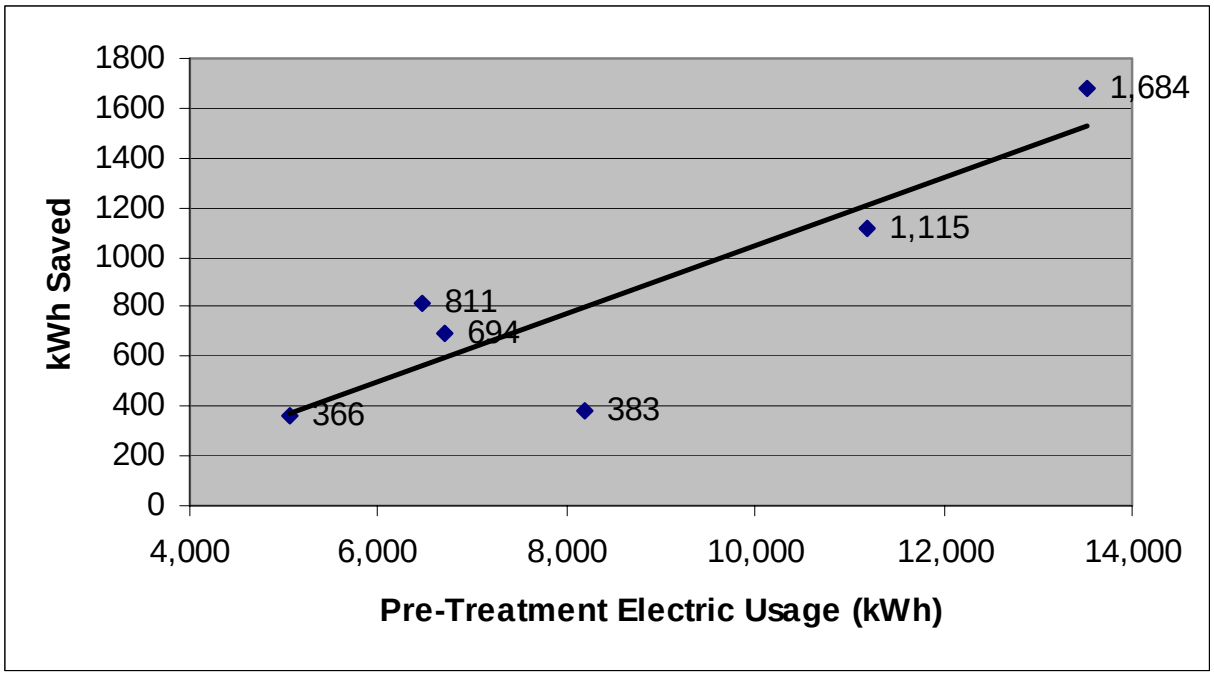
Measure Installation Rates

- CFLs
  - 4 to 16 per home
- Refrigerators
  - 10% to 58%
- Refrigerator/freezer removal
  - 1% to 4%

Efficiency Program Evaluation

Applied Public Policy Research
APPRISE
Institute for Study and Evaluation

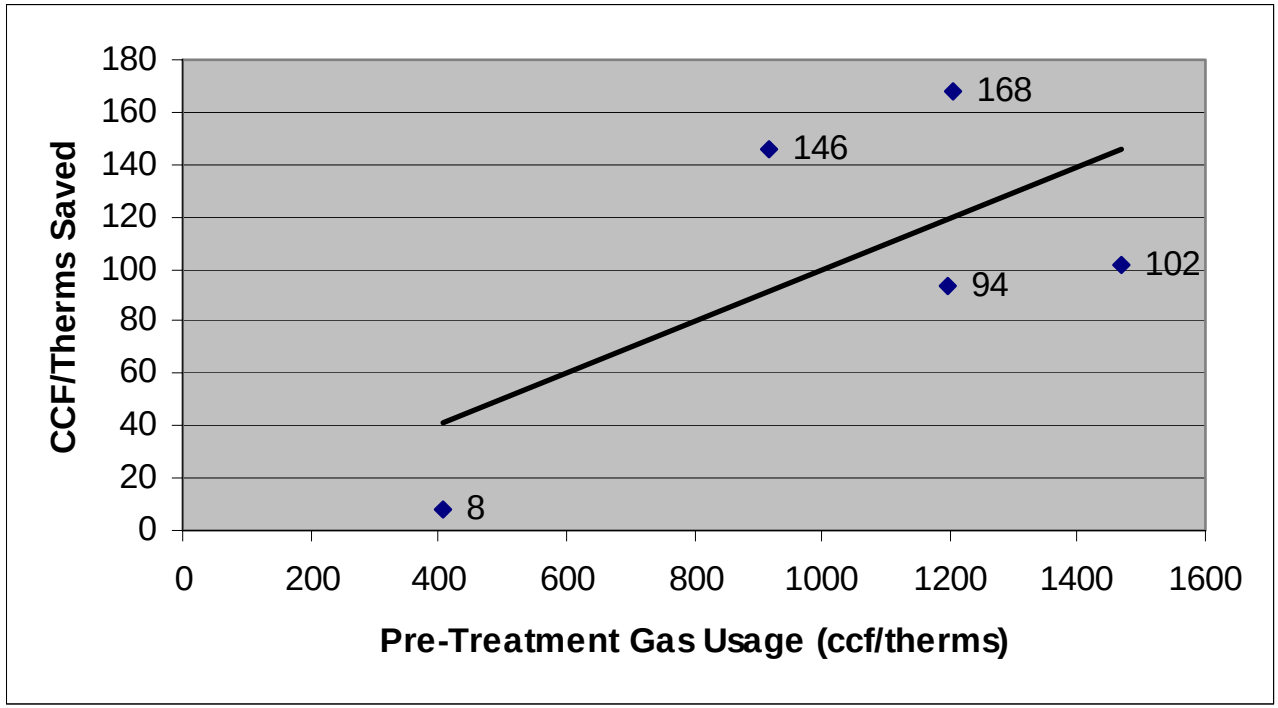
Electric Baseload Usage Impacts



Efficiency Program Evaluation

Applied Public Policy Research
APPRISE
Institute for Study and Evaluation

Gas Heating Usage Impacts



Efficiency Program Evaluation

Cost Effectiveness

- Most programs were cost-effective
- Savings to investment ratio
  - .87 to 1.62
- Cost of conserved energy
  - $0.97 to $1.43 /ccf
  - $0.05 to $0.13 /kWh

Efficiency Program Evaluation

Bill and Payment Impacts

- Usage reductions of 8% to 15%
- Most programs reduced bills
- Some programs increased bill coverage

Summary

- Energy Needs – Low-income energy needs are daunting, but some state policymakers have made significant progress toward meeting those needs
- Legal/Regulatory – There are excellent models of legislative and regulatory frameworks for ratepayer-funded low-income programs

Summary

- Program Design – There are important design choices that make a difference in the performance of low-income affordability and energy efficiency programs. Identify your goals and design your program to meet those goals.
- Reporting and Evaluation – Review the PA PUC model for reporting and program evaluation to ensure that you can document the performance of your ratepayer funded low-income programs.