

Columbia
Gas[®]
of Ohio

A NiSource Company

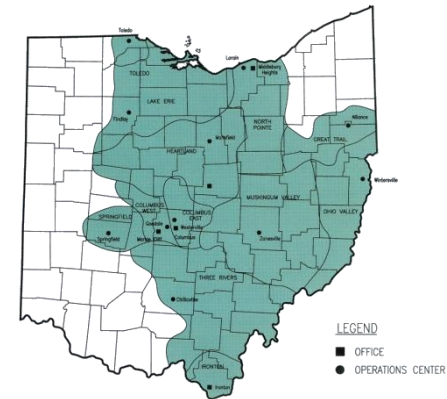
**Incorporating Equity and Social
Considerations into Energy
Provider-delivered EE
Programs and Policies**

PEPDEE North American Regional Policy
Dialogue

April 19, 2012

Overview of Columbia Gas of Ohio (COH)

- **Subsidiary of NiSource, Inc.**
- **Investor-owned, natural gas utility**
- **Publicly-regulated by the PUCO**
- **Largest natural gas local distribution company (LDC) in Ohio**
 - 61 of 88 counties
 - 1.4MM customers
 - 19,000 miles of distribution main
- **Began energy efficiency initiatives in 1983**



The Problem(s)

- **Poverty – 2006-2010, 14.2%**
 - Gap between income and ability to pay bills
 - Defining Low-Income: 100%-200% FPG?; 80% HUD AMI?
- **LI Housing Stock**
 - Age and Type of construction, deferred maintenance, health, safety and building durability issues
 - Walkaways
- **Energy Price Volatility**
 - Energy Markets, Energy Security
- **Ohio Weather**
 - Heating dominated climate, but also some cooling load
 - Appropriate cost effective measures for housing stock

Housing Stock

- **Large share of pre-energy code homes**

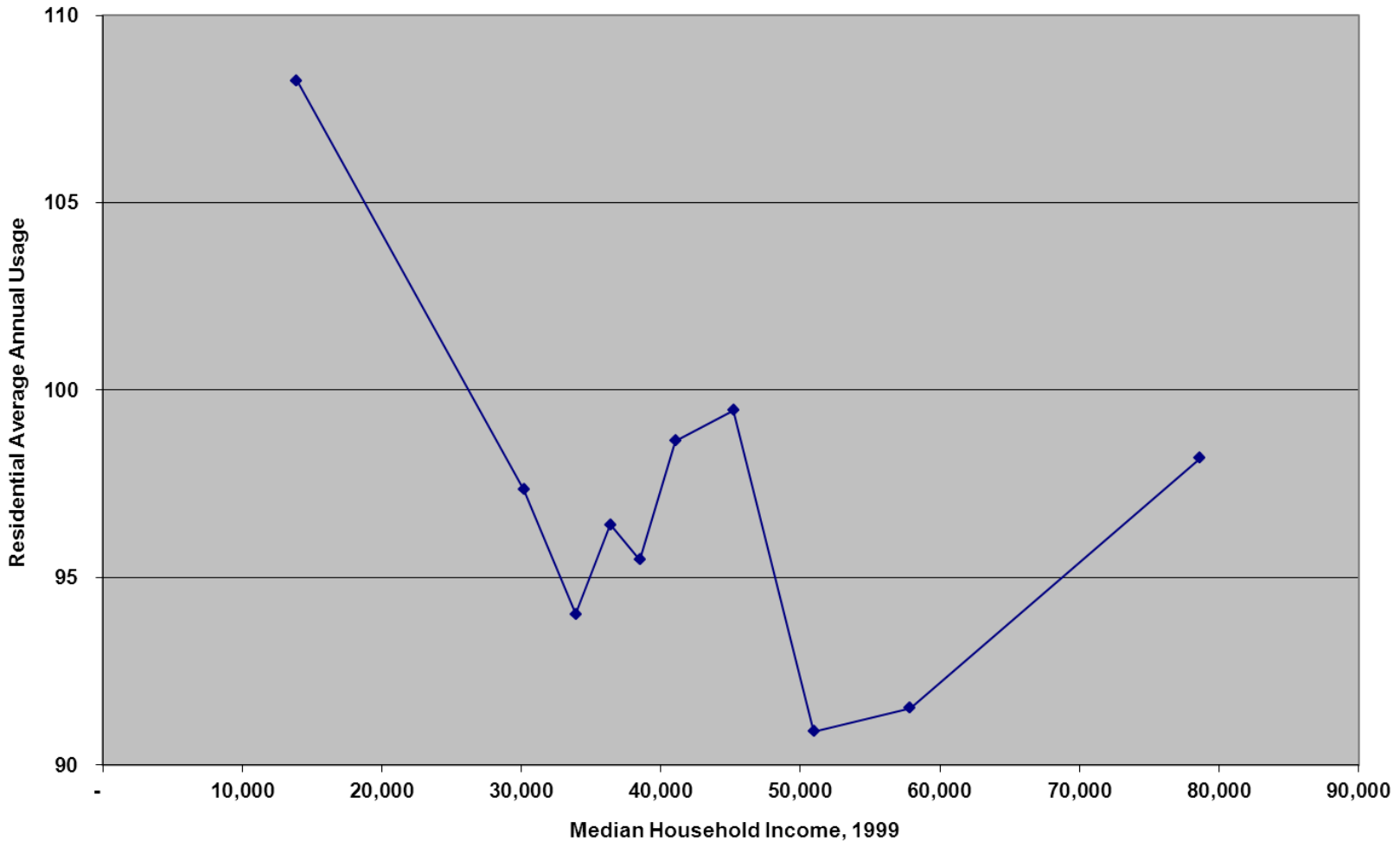
Columbia Gas of Ohio: Residential Customer Buildings
estimated count by construction type & vintage

(Source: 2000 Census, mapped to service territory, gas heat only)

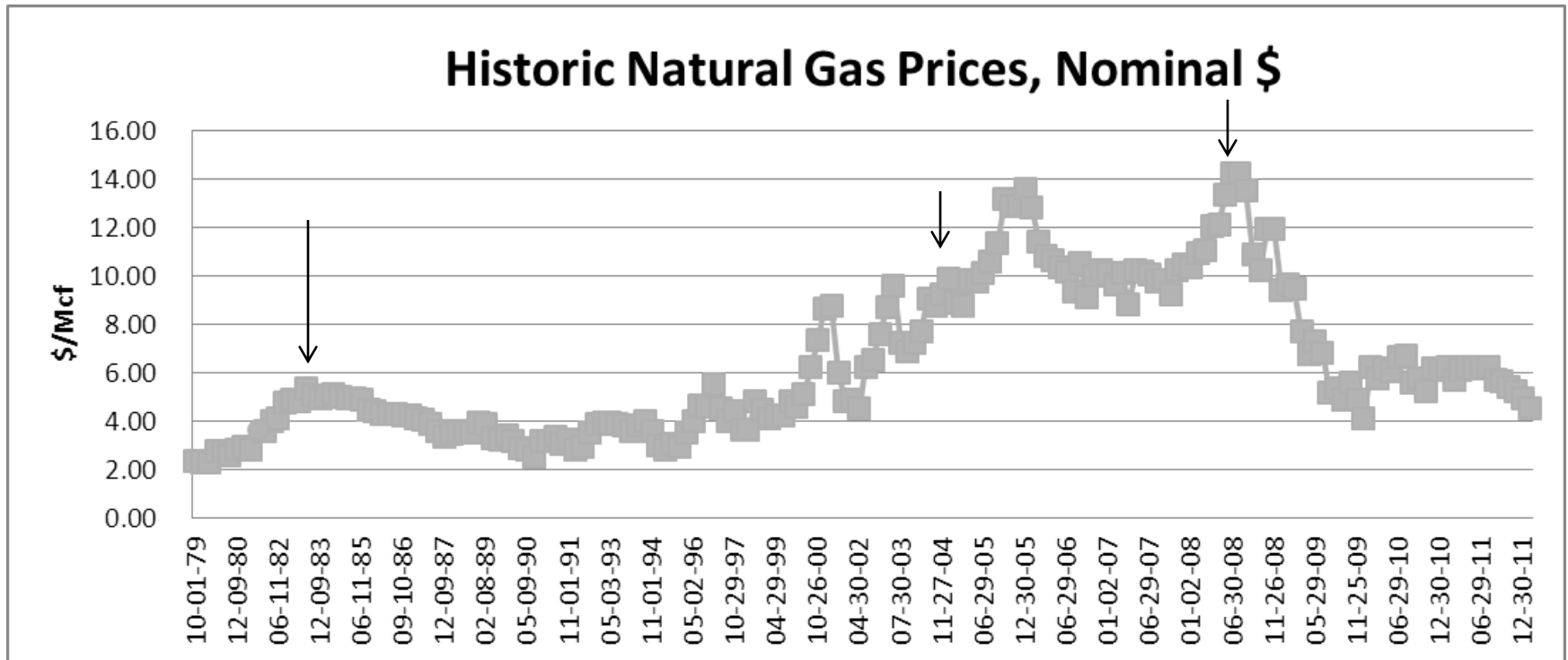
Year Built	Building Type				Total
	Single Family	Mobile Home	Multifamily 2- 4 units	Multifamily 5+ units	
1999-Mar 2000	18,970	1,226	421	239	20,856
1995-1998	66,433	6,002	1,861	896	75,192
1990-1994	61,680	6,130	1,413	910	70,133
1980s	76,718	10,623	3,272	1,645	92,258
1970s	110,372	14,590	6,012	2,726	133,700
1960s	165,230	5,571	6,376	1,756	178,933
1950s	214,890	1,204	7,555	948	224,597
1940s	108,716	387	6,484	528	116,115
pre1940	278,193	1,238	20,570	1,107	301,108
Total	1,101,202	46,971	53,964	10,755	1,212,892

Low-income Customer Gas Usage – The Need for LI Wx.

Household Income By Decile and Annual Average Natural Gas Usage



Price Increases that Impacted LI Wx Funding at COH



Income vs. Energy Bills

- **2010 - in Ohio the LIHEAP allocation covered 46.9% of the Heating/Cooling Affordability Gap**
 - \$250MM Gap after LIHEAP
 - <http://www.homeenergyaffordabilitygap.com/>

HOME ENERGY AFFORDABILITY GAP

April 16, 2012

Home

What is it?
An explanation of the Home Energy Affordability Gap.

How Can This Help Me?
Use Affordability Gap info for research, legislative analysis, program-planning, advocacy.

Where Can I Get Data?
FSC offers Affordability Gap data, analysis & applications.

NEW April 2011
2010 Summaries & Ranks

Prior Year Summaries

2010 State Fact Sheets released April 2011

Prior Year Fact Sheets

Prior Year Summaries and State Rankings

This data is provided on a complimentary basis. Click on a link below to download a zip archive containing the Summary reports indicated:

- [2003 Summaries](#) (Released April 2004)
- [2004 Summaries](#) (Released May 2005)
- [2005 Summaries](#) (Released April 2006)
- [2006 Summaries](#) (Released April 2007)
- [2007 Summaries](#) (Released April 2008)
- [2008 Summaries](#) (Released April 2009)
- [2009 Summaries](#) (Released April 2010)
- [2010 Summaries](#) (Released April 2011)

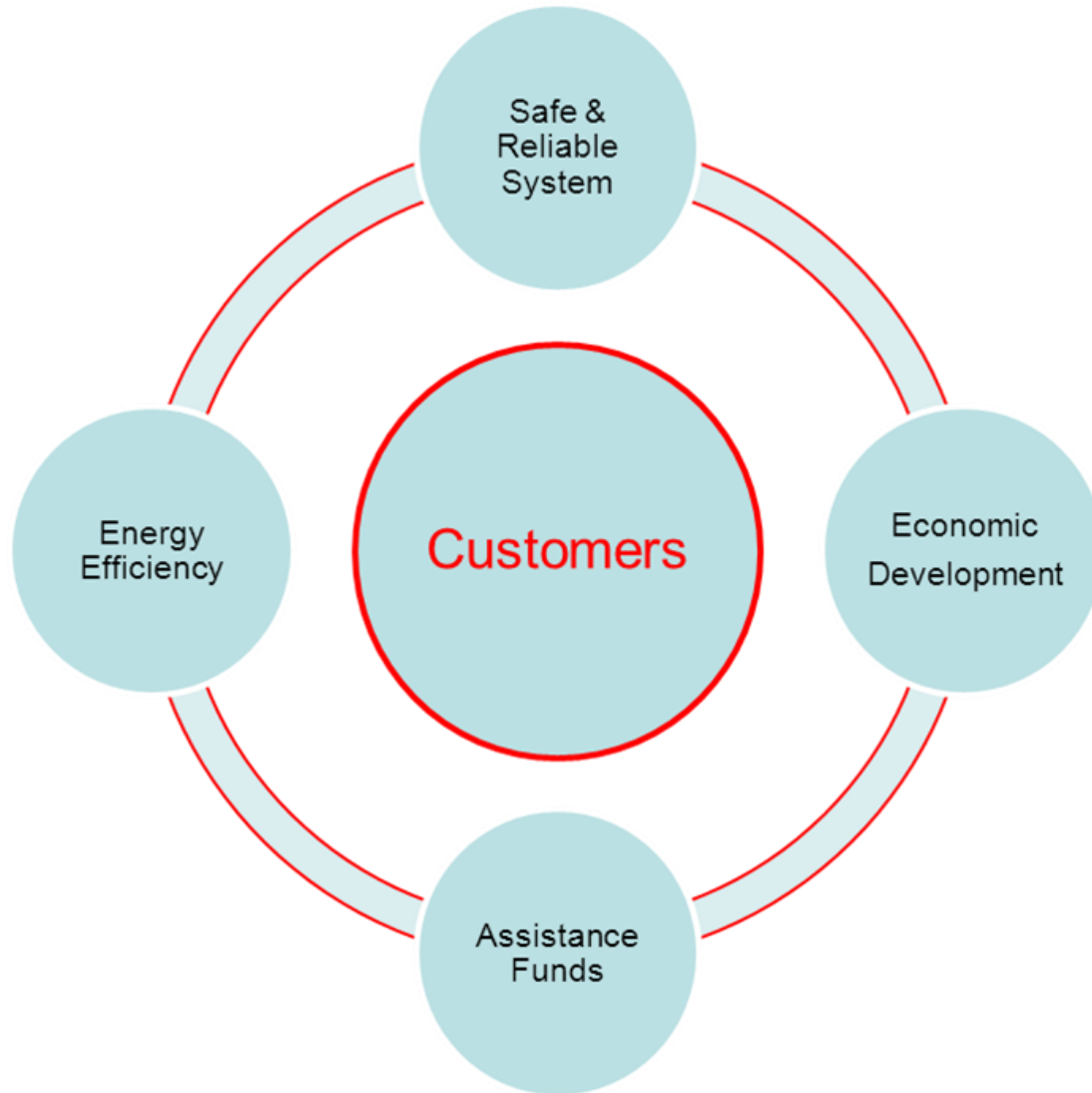
Prior Year State Fact Sheets and County Data Tables

This data is also provided on a complimentary basis. Select a state and year below to download a zip archive of the State Fact Sheet and the underlying County Data Table.

Select a STATE
Ohio

State	2008 LIHEAP Allocation	2008 LIHEAP Coverage	2008 LIHEAP Coverage %
Alabama	\$1,200,000,000	\$1,200,000,000	100.0%
Alaska	\$100,000,000	\$100,000,000	100.0%
Arizona	\$1,000,000,000	\$1,000,000,000	100.0%
Arkansas	\$1,000,000,000	\$1,000,000,000	100.0%
California	\$1,000,000,000	\$1,000,000,000	100.0%
Colorado	\$1,000,000,000	\$1,000,000,000	100.0%
Connecticut	\$1,000,000,000	\$1,000,000,000	100.0%
Delaware	\$1,000,000,000	\$1,000,000,000	100.0%
District of Columbia	\$1,000,000,000	\$1,000,000,000	100.0%
Florida	\$1,000,000,000	\$1,000,000,000	100.0%
Georgia	\$1,000,000,000	\$1,000,000,000	100.0%
Hawaii	\$1,000,000,000	\$1,000,000,000	100.0%
Idaho	\$1,000,000,000	\$1,000,000,000	100.0%
Illinois	\$1,000,000,000	\$1,000,000,000	100.0%
Indiana	\$1,000,000,000	\$1,000,000,000	100.0%
Iowa	\$1,000,000,000	\$1,000,000,000	100.0%
Kansas	\$1,000,000,000	\$1,000,000,000	100.0%
Kentucky	\$1,000,000,000	\$1,000,000,000	100.0%
Louisiana	\$1,000,000,000	\$1,000,000,000	100.0%
Maine	\$1,000,000,000	\$1,000,000,000	100.0%
Maryland	\$1,000,000,000	\$1,000,000,000	100.0%
Massachusetts	\$1,000,000,000	\$1,000,000,000	100.0%
Michigan	\$1,000,000,000	\$1,000,000,000	100.0%
Minnesota	\$1,000,000,000	\$1,000,000,000	100.0%
Mississippi	\$1,000,000,000	\$1,000,000,000	100.0%
Missouri	\$1,000,000,000	\$1,000,000,000	100.0%
Montana	\$1,000,000,000	\$1,000,000,000	100.0%
Nebraska	\$1,000,000,000	\$1,000,000,000	100.0%
Nevada	\$1,000,000,000	\$1,000,000,000	100.0%
New Hampshire	\$1,000,000,000	\$1,000,000,000	100.0%
New Jersey	\$1,000,000,000	\$1,000,000,000	100.0%
New Mexico	\$1,000,000,000	\$1,000,000,000	100.0%
New York	\$1,000,000,000	\$1,000,000,000	100.0%
North Carolina	\$1,000,000,000	\$1,000,000,000	100.0%
North Dakota	\$1,000,000,000	\$1,000,000,000	100.0%
Ohio	\$1,000,000,000	\$469,000,000	46.9%
Oklahoma	\$1,000,000,000	\$1,000,000,000	100.0%
Oregon	\$1,000,000,000	\$1,000,000,000	100.0%
Pennsylvania	\$1,000,000,000	\$1,000,000,000	100.0%
Rhode Island	\$1,000,000,000	\$1,000,000,000	100.0%
South Carolina	\$1,000,000,000	\$1,000,000,000	100.0%
South Dakota	\$1,000,000,000	\$1,000,000,000	100.0%
Tennessee	\$1,000,000,000	\$1,000,000,000	100.0%
Texas	\$1,000,000,000	\$1,000,000,000	100.0%
Utah	\$1,000,000,000	\$1,000,000,000	100.0%
Vermont	\$1,000,000,000	\$1,000,000,000	100.0%
Virginia	\$1,000,000,000	\$1,000,000,000	100.0%
Washington	\$1,000,000,000	\$1,000,000,000	100.0%
West Virginia	\$1,000,000,000	\$1,000,000,000	100.0%
Wisconsin	\$1,000,000,000	\$1,000,000,000	100.0%
Wyoming	\$1,000,000,000	\$1,000,000,000	100.0%

Protecting Our Most Important Asset



Program Resources

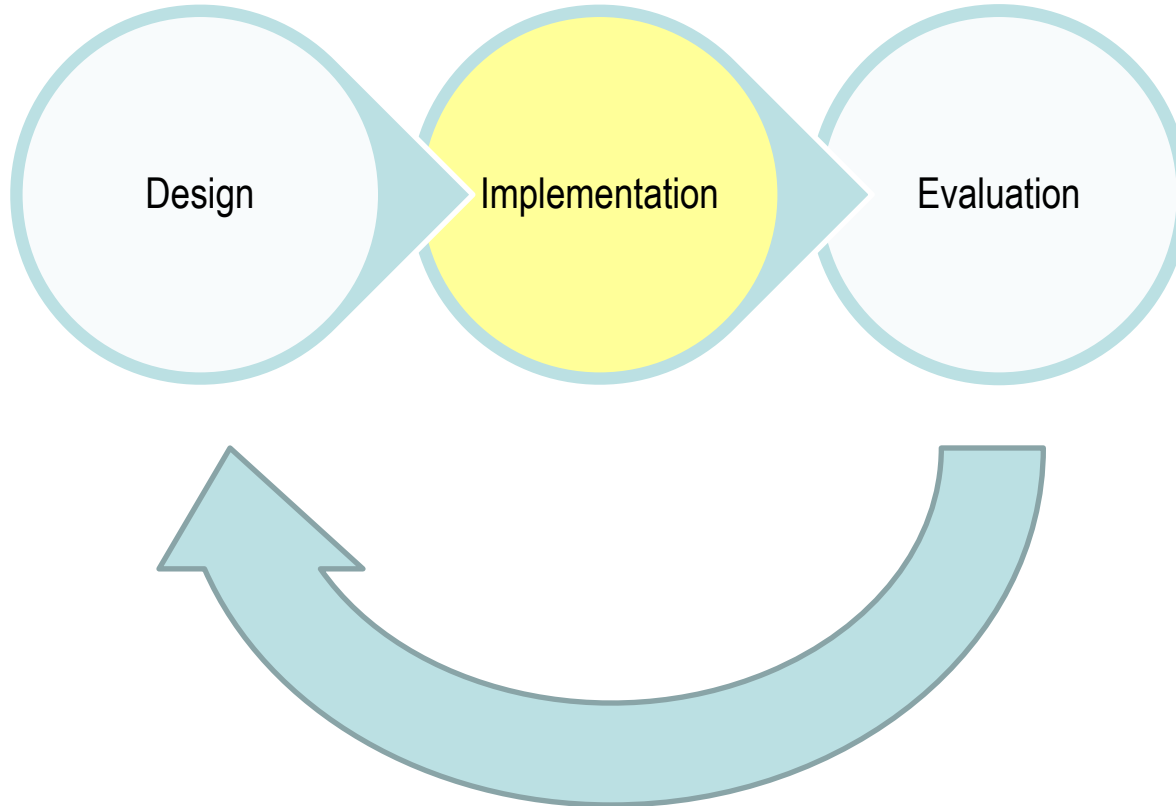
Program	Federal	LDC
Energy (Bill) Assistance	<ul style="list-style-type: none"> Low Income Home Energy Assistance Program (LIHEAP) 	<ul style="list-style-type: none"> HeatShare Pipeline Refunds Other Negotiated Amts.
DSM/Energy Efficiency	<ul style="list-style-type: none"> USDOE Weatherization Assistance Program for Low-income Persons (WAP) 	<ul style="list-style-type: none"> Low Income Weatherization (WarmChoice) Home Performance
Payment Programs	n/a	<ul style="list-style-type: none"> Percentage of Income Payment Program (PIPP)
Low-Income Customer Rates	n/a	n/a

Columbia Gas of Ohio Ratepayer Historical Funding

Program	Program Costs	Cost/Year, Ave.
Low-Income DSM/Energy Efficiency (WarmChoice and predecessors, 1983-2011)	<ul style="list-style-type: none">• \$124MM	<ul style="list-style-type: none">• \$4.9MM (current funding \$12MM)
Percentage of Income Payment Plan (PIPP, 1985 - 2011)	<ul style="list-style-type: none">• \$681MM	<ul style="list-style-type: none">• \$26.2MM



- **Continuous Program Development Cycle**





- **COH, CBOs jointly designed the program**
- **Integrated what we learned together from WAP**
 - Formal program policies and procedures
 - Robust technical Standards for Energy Conservation Measure (ECM) inspection, installation and post-inspection
 - Diagnostic inspections and work orders for installers
 - Building science and Installation practices that result in performance; risk mitigation; do no harm
 - Competency-based Training (Ohio Weatherization Training Center)
 - Continuous, multi-level Quality Assurance
 - Electronic data tracking and reporting; Metrics
 - Impact Evaluation (billing analysis based, PRISM)



- **Key components**

- Flexibility, continuous improvement approach
- Management and Operations fees as % of total funding
- Fee for service for ECMs, etc. (price schedule)
- Income Verification, Referrals from and to WAP
- Cost share (encouraged) or stand alone services allowed
- Furnace replacements to help keep WAP H&S costs down
- Diagnostic testing: Required combustion analysis, blower door testing
 - IR thermography added over time
- COH internal QA staff
- Targeting (weather normalized usage); customer lists
- Service Providers/CBOs with different Implementation Models



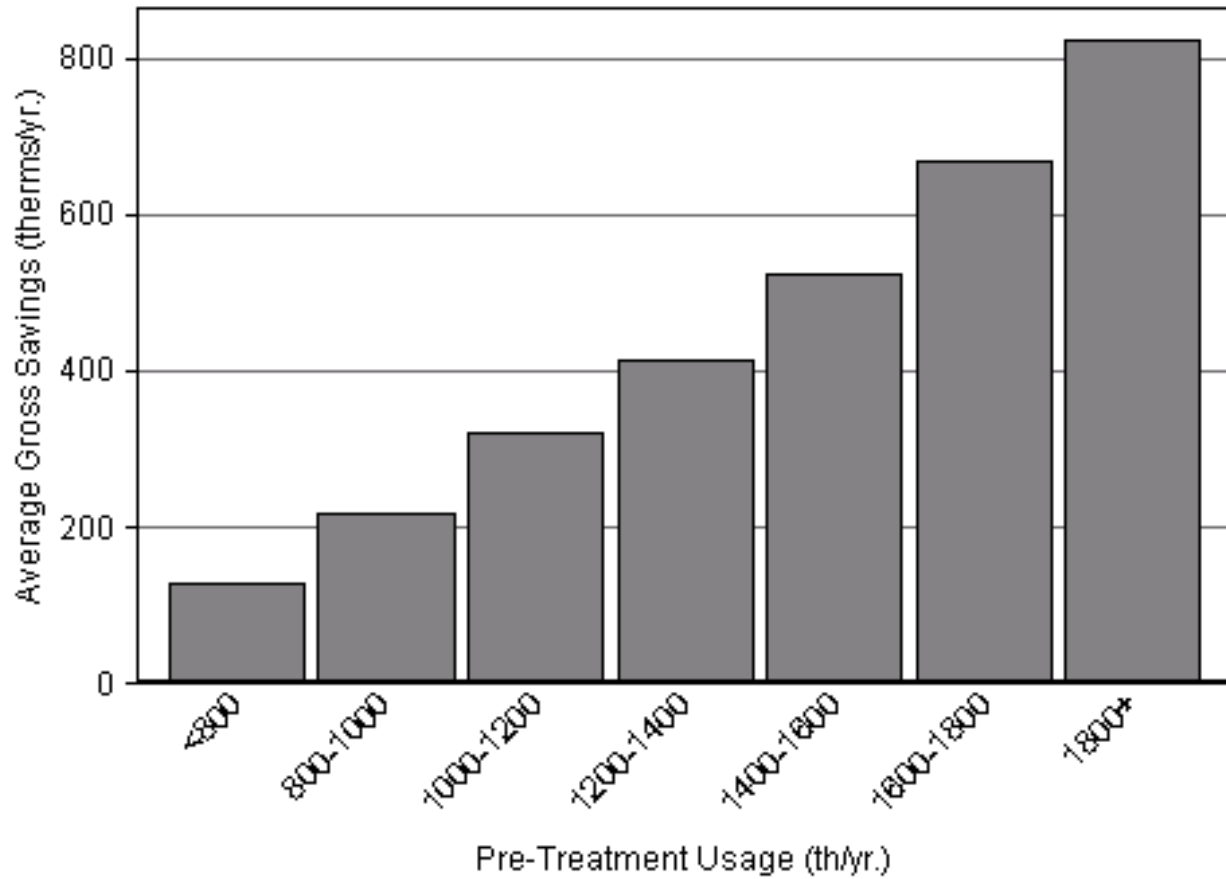
- **Energy Conservation Measure (ECM) Savings**

EE Improvement	Savings Potential, ccf/yr	Savings Potential, other	Typical, Average Evaluation Results, ccf/yr
Attic Insulation	65-150	.1 ccf/yr/ft2	56
Wall Insulation	190	.2 ccf/yr/ft2	100
Air Sealing	50-100	7 ccf/yr/100CFM50 reduction	56
High Efficiency Heating System	100-180	12%-20% of heating load	90
Programmable Thermostat	50		30
EE Showerhead	13		10

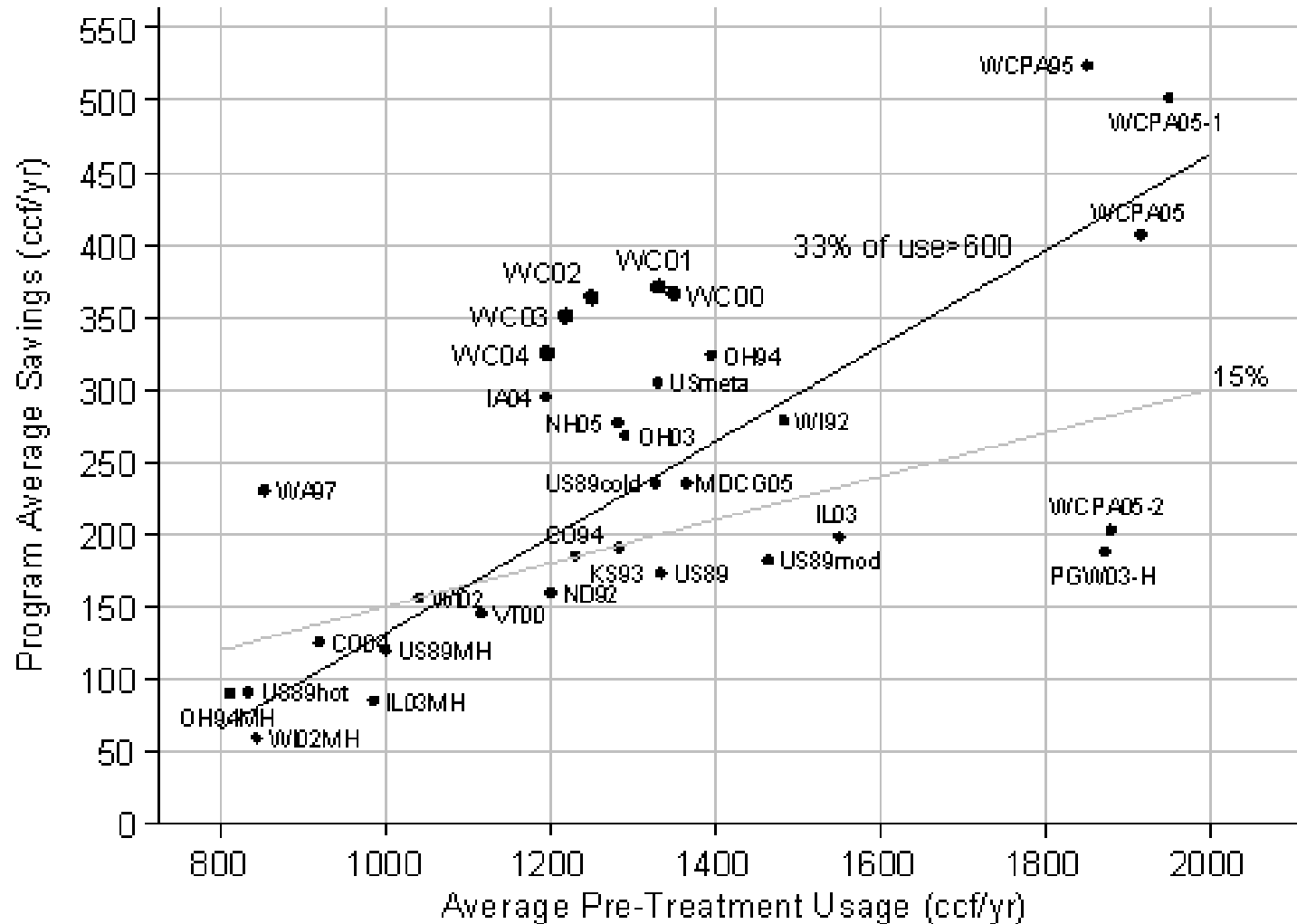
Note: other measures include duct sealing in unconditioned spaces, water heater, duct and pipe insulation, heating system and water heater repairs, general repairs to protect Wx measures, floor insulation over unconditioned spaces



- Targeting on Pre-Wx. Normalized Annual Consumption



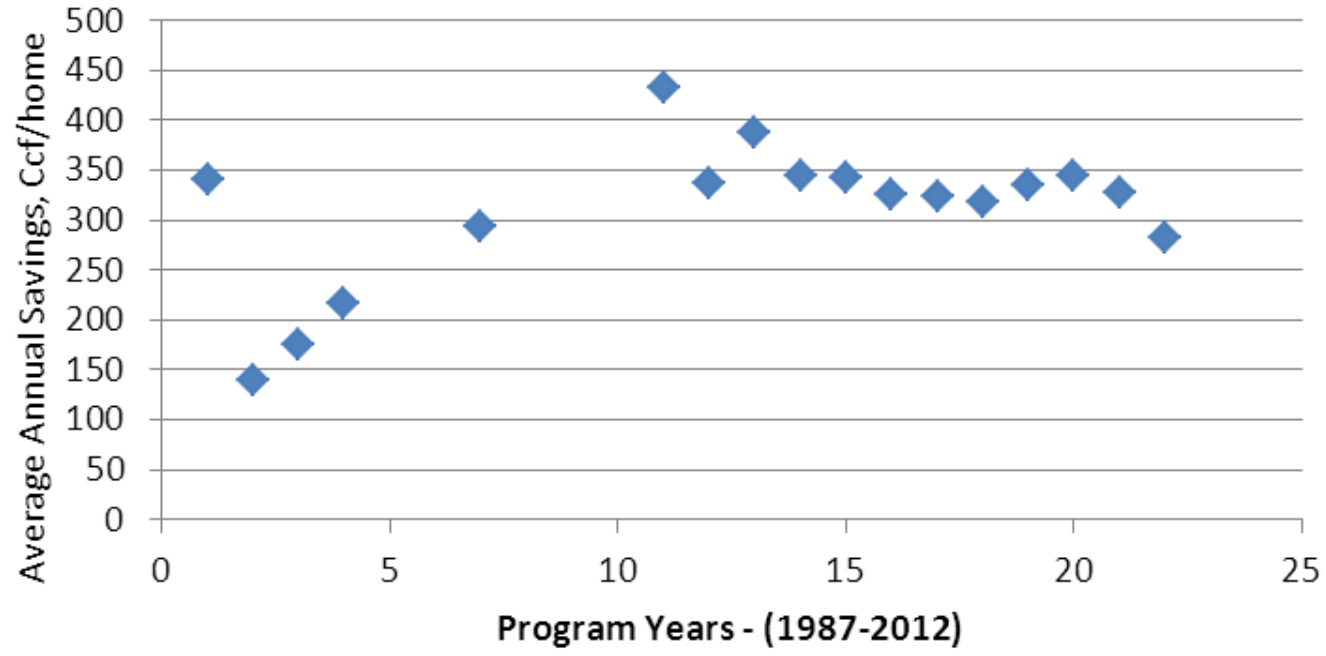
LI Wx. Program Billing Analysis-based Impact Evaluation Results



Courtesy Michael Blasnik



Average Annual Savings, ccf/home





- **Key Results and Takeaways**

- Partnering with the Federal Weatherization Assistance Program was important
- Cost Share opportunities with other EE and Housing program resources
- ~57,000 LI households served via WarmChoice; about 70% cost shared with WAP
- Average natural gas usage reductions of 26-29%; ~320 Ccf/year
- Long life of major energy efficiency measures means long term savings
 - 24,546,515 Mcf over 25 year life of WarmChoice
- Quality Assurance inspections improved/maintained work quality; Callbacks
- Program Design, Evaluation, and Policies and Procedures need to be data driven, peer-reviewed
- Capacity building is time consuming, must be planned, controlled growth
- Weatherization is not performed by unskilled labor
- Developed a Home Performance program that serves above income customers, subsidizes Wx. cost for incomes up to 80%AMI

More Key Results

- **LI Customer Benefits**

- Lower bills
- PIPP arrearage growth control
- Comfort, Health and Safety
- One Stop Shop for Federal and Utility EE Services

- **Utility Company Benefits**

- PIPP arrearage growth control
- Professional partnerships and business relationships with Key Stakeholders, CBOs
- Customer Satisfaction
- Recovery of Program Costs
- Customer Retention
- Community Relations and Corporate Citizenship
- Dow Jones Sustainability Index

Key Barriers, Challenges

- Federal Budget
 - Reduced funding for energy and weatherization assistance for LI customers
 - Loss of Service Provider Delivery Network Capacity (Human Resources)
- Lower Natural Gas prices
 - Program Cost Effectiveness challenges
 - Reduced interest in Energy Efficiency by customers?
- Repairs prior to Wx.
 - Need outstrips home repair program funds
 - Adding to Total Resource Cost test negatively impacts cost effectiveness
- Cost Tests/Program match
 - In federal programs, can count as leverage to get extra funds; in TRC just adds to total cost and lowers cost-effectiveness

Contact Information

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