State Report – Ohio

This Appendix furnishes detailed information for Ohio, including:

- Statistical Overview – Key characteristics for Ohio households and housing units.
- Needs Assessment – Statistics for Ohio low-income households and estimates of the need for energy affordability and energy efficiency programs.
- Legal and Regulatory Framework – A description of the legal and regulatory framework for low-income programs and identification of any legal or regulatory barriers to program design enhancements.
- Low-Income Affordability Programs – Information on Ohio's publicly funded affordability programs, the ratepayer-funded affordability programs targeted by this study, and an assessment of the share of need currently being met.
- Affordability Program Evaluation – A summary of the available evaluation findings regarding the performance of Ohio's affordability programs.
- Energy Efficiency Programs – Information on Ohio's publicly funded energy efficiency programs and the ratepayer-funded energy efficiency programs targeted by this study.
- Energy Efficiency Program Evaluation – A summary of the available evaluation findings regarding the performance of Ohio's energy efficiency programs.

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I. Statistical Overview

Ohio is the 7th largest state in terms of population. It has about average income and poverty rates (26th in median family income and 24th in individuals below poverty). In 2005, the median housing value was $129,600 and the median rent was $613.

Most housing units (87%) in Ohio are heated with regulated fuels, predominantly natural gas (68%). Energy prices are moderate, with natural gas only 1% above the national average, and electricity 13% below and fuel oil 9% below the national averages. The weather is cold in the winter (5,971 heating degree days compared to the national average of 4,524) and moderate in the summer (738 cooling degree days compared to the national average of 1,242). Households are most at risk from the cold during the months of November through April, and are most at risk from the heat during the months of July and August.

The following population and housing statistics were developed using data from the 2005 American Community Survey (ACS).

Population Profile

Total Population	11.2 million
Individuals 65 and Over	1.4 million (13%)
Individuals Under 18	2.8 million (25%)
Individuals 5 & Over Who Speak a Language Other than English at Home	0.6 million (5%)
Individuals Below Poverty	13% (24th nationally)

Household Profile

Total Households	4.5 million
Median Household Income	$43,493 (30th nationally)
Homeowners	
Total Homeowners	3.2 million (70%)
Median Value	$129,600 (32nd nationally)
Median Housing Burden	20%
Renters	
Total Renters	1.4 million (30%)
Median Rent	$613
Median Rental Burden	27%

The following energy statistics were derived from a number of sources, including the 2005 American Community Survey (ACS), the Energy Information Administration's (EIA) supplier data collection, and NOAA's National Climatic Data Center (NCDC).

Energy Profile

Home Heating Fuel (Source: 2005 ACS)	
Utility gas	68%
Electricity	19%
Fuel Oil	4%
Other	9%
2005 Energy Prices (Source: EIA)	
Natural gas, per ccf	$1.300
Electricity, per kWh	$0.0819
Fuel oil, per gallon	$1.863
Weather (Source: NCDC)	
Heating Degree Days	5,971
Months of Winter (i.e., average temperature below 50°)	6
Cooling Degree Days	738
Months of Summer (i.e., average temperature above 70°)	2
Days with Temperatures Over 90°	14

[Note: Updates are available for energy prices and weather for 2006. Population statistics updates for 2006 will be available in August 2007.]

II. Profile of Low Income Households

Ohio policymakers have chosen to target the publicly funded and ratepayer-funded low income programs at households with incomes at or below 150% of the HHS Poverty Guideline. For 2005, the income standard for a one-person household was about $14,355 and the income standard for a four-person household was $29,025. For the analysis of low-income households in Ohio, we will focus on households with incomes at or below 150% of the HHS Poverty Guideline.

Table 1 furnishes information on the number of Ohio households with incomes that qualify them for the LIHEAP program and the ratepayer-funded programs. About 21% of Ohio households are income-eligible for these programs.

Table 1
Eligibility for Ratepayer Programs (2005)

Poverty Group	Number of Households	Percent of Households
Income at or below 150%	952,150	21%
Income above 150%	3,558,190	79%
ALL HOUSEHOLDS	4,510,340	100%

Source: 2005 ACS

Tables 2A and 2B furnish information on main heating fuels and housing unit type for Ohio low-income households. Table 2A shows that about 64% of low-income households use natural gas as their main heating fuel, somewhat less than the 68% for all Ohio households. Low-income households are more likely to heat with electricity than the Ohio average. Table 2B shows that one of the reasons for the higher rate of electric main heat is that 25% of low-income households are in buildings with 5 or more units. Many multiunit buildings use electric space heating rather than natural gas or fuel oil. About 52% of low-income households live in single family homes, while 16% live in buildings with 2-4 units. Seven percent of low-income households live in mobile homes.

Table 2A
Main Heating Fuel for Low-Income Households (2005)

Main Heating Fuel	Number of Households	Percent of Households
Electricity	231,280	24%
Fuel Oil	32,802	3%
No fuel used	4,512	0%
Other Fuels	72,153	8%
Utility Gas	611,403	64%
ALL LOW INCOME	952,150	100%

Source: 2005 ACS

Table 2B
Housing Unit Type for Low-Income Households (2005)

Housing Unit Type	Number of Households	Percent of Households
Boat, RV, Van, etc	278	0%
Building with 2-4 units	153,924	16%
Building with 5+	236,016	25%
Mobile Home	65,430	7%
Single Family	496,502	52%
ALL LOW INCOME	952,150	100%

Source: 2005 ACS

About 952,000 Ohio households are categorized as low-income. However, only those households that directly pay an electric bill or a gas bill are eligible for the Ohio ratepayer-funded programs. Table 2C shows that about 89% of low-income households directly pay an electric bill and that about 59% of low-income households directly pay a gas bill.

Table 2C
Low-Income Households
Direct Payment for Electric and/or Gas Bill (2005)

Poverty Group	Number of Households	Percent of Households
Electric Bill - Direct Payment	845,176	89%
Gas Bill - Direct Payment	563,876	59%
ALL INCOME ELIGIBLE	952,150	100%

Source: 2005 ACS

Tables 3A and 3B show the distribution of electric bills and burden for low-income households that do not heat with electricity and reported electric expenditures separately from gas expenditures.[1] Table 3A shows the distribution of electric expenditures for households that do not have electricity as their main heating fuel and Table 3B shows the electric energy burden.[2] Among these households, about 67% have electric bill that is less than $1,000 per year while about 15% have an annual electric bill of $1,500 or more. Electric energy burden is less than 5% of income for about 32% of these households, while it is greater than 15% of income for 22% of households.[3]

[1]The ACS allows respondents who have a combined electric and gas bill from one utility to report the total for both fuels. Those households are not included in these tables.
[2] Electric energy burden is defined as the household's annual electric bill divided by the household's annual income.
[3] About 13% of households have their electric usage included in their rent. These households have a nonzero electric energy burden, since part of their rent is used to pay the electric bill. However, since there is no way to measure the share of rent that is used to pay the electric bill, electric energy burden is unknown for these households.

Table 3A
Electric Bills for Low-Income Households without Electric Heat (2005)

Electric Bill	Number of Households	Percent of Households
$1 to less than $500	194,218	30%
$500 to less than $1,000	236,470	37%
$1,000 to less than $1,500	117,434	18%
$1,500 or more	97,613	15%
TOTAL	645,735	100%

Source: 2005 ACS

Table 3B
Electric Burden for Low-Income Households without Electric Heat (2005)

Electric Burden	Number of Households	Percent of Households
0% to less than 5%	207,837	32%
5% to less than 10%	213,913	33%
10% to less than 15%	80,833	13%
15% or more	143,152	22%
TOTAL	645,735	100%

Source: 2005 ACS

Tables 4A and 4B show the distribution of electric bills and burden for low-income households that heat with electricity. Table 4A shows the distribution of electric expenditures and Table 4B shows the electric energy burden. Among these households, almost half have an electric bill that is less than $1,000 per year while about 27% have an annual electric bill of $1,500 or more. Electric energy burden is less than 5% of income for about 17% of these households, while it is greater than 15% of income for 34%.

Table 4A
Electric Bills for Low-Income Households with Electric Heat (2005)

Electric Bill	Number of Households	Percent of Households
$1 to less than $500	35,389	20%
$500 to less than $1,000	52,520	29%
$1,000 to less than $1,500	43,544	24%
$1,500 or more	47,571	27%
TOTAL	179,024	100%

Source: 2005 ACS

Table 4B
Electric Burden for Low-Income Households with Electric Heat (2005)

Electric Burden	Number of Households	Percent of Households
0% to less than 5%	30,069	17%
5% to less than 10%	53,214	30%
10% to less than 15%	34,367	19%
15% or more	61,374	34%
TOTAL	179,024	100%

Source: 2005 ACS

Tables 5A and 5B show the distribution of gas bills and burden for low-income households that heat with gas and report their gas bills separately from their electric bills. Table 5A shows the distribution of gas expenditures and Table 5B shows the gas energy burden. Among these households, just under half have a gas bill that is less than $1,000 per year, while about 31% have an annual gas bill of $1,500 or more. Gas energy burden is less than 5% of income for about 24% of these households, while it is greater than 15% of income for 34%.

Table 5A
Gas Bills for Low-Income Households (2005)

Gas Bill	Number of Households	Percent of Households
$1 to less than $500	125,098	23%
$500 to less than $1,000	139,386	26%
$1,000 to less than $1,500	107,864	20%
$1,500 or more	170,946	31%
TOTAL	543,294	100%

Source: 2005 ACS

Table 5B
Gas Burden for Low-Income Households (2005)

Gas Burden	Number of Households	Percent of Households
0% to less than 5%	132,255	24%
5% to less than 10%	139,874	26%
10% to less than 15%	86,330	16%
15% or more	184,835	34%
TOTAL	543,294	100%

Source: 2005 ACS

Tables 6A and 6B show the distribution of total electric and gas expenditures for low-income households that pay bills directly to a utility company. Table 6A shows the distribution of electric and gas expenditures and Table 6B shows the electric and gas energy burden. About 89% of households have an electric bill, a gas bill, or both. About one-fourth of low-income households have a total electric and gas bill that is less than $1,000 per year while about one-fifth have an

annual bill of $2,500 or more. Electric and gas energy burden is less than 5% of income for 9% of low-income households, while it is greater than 25% of income for one in four low income households.

Table 6A
Electric and Gas Bills for Low-Income Households (2005)

Electric and Gas Bill	Number of Households	Percent of Households
$1 to less than $500	78,149	8%
$500 to less than $1,000	161,360	17%
$1,000 to less than $1,500	177,501	19%
$1,500 to less than $2,000	126,569	13%
$2,000 to less than $2,500	106,743	11%
$2,500 or more	199,874	21%
No Bill	101,954	11%
ALL INCOME ELIGIBLE	952,150	100%

Source: 2005 ACS

Table 6B
Electric and Gas Burden for Low-Income Households (2005)

Electric and Gas Burden	Number of Households	Percent of Households
0% to less than 5%	82,350	9%
5% to less than 10%	195,376	21%
10% to less than 15%	167,783	18%
15% to less than 20%	107,924	11%
20% to less than 25%	62,728	7%
more than 25%	234,035	25%
No Bill	101,954	11%
ALL INCOME ELIGIBLE	952,150	100%

Source: 2005 ACS

We have developed a series of demographic tables for households that pay an electric or gas bill. Table 7 furnishes information on the presence of vulnerable members in the household and illustrates what share of the population might be particularly susceptible to energy-related health risks. Table 8 shows the household structure for these households, and Table 9 presents statistics on the language spoken at home by these households.

Over one-fourth of the low-income households with utility bills are elderly; just over 25% of low-income households do not have any vulnerable household members. Some programs choose to target vulnerable households with outreach procedures and may offer priority to these households.

Table 7
Vulnerability Status for Low-Income Households with Utility Bills (2005)

Vulnerability Type	Number of Households	Percent of Households
Disabled	203,026	24%
Elderly	230,634	27%
No Vulnerable Members	241,066	28%
Young Child	175,470	21%
Total	850,196	100%

Source: 2005 ACS

More than one in three low-income households have children, just over one-fourth are headed by a person 65 or older, and close to four in ten are other household types. Single parent families with children represent almost one-fourth of low-income households with utility bills.

Table 8
Household Type for Low-Income Households with Utility Bills (2005)

Household Type	Number of Households	Percent of Households
Married with Children	100,808	12%
Other	323,679	38%
Senior Head of Household	222,635	26%
Single with Children	203,074	24%
TOTAL	850,196	100%

Source: 2005 ACS

Four percent of low-income households speak Spanish and about 3% speak an Indo-European language (e.g., Russian, Polish). In total, program managers might find that close to one in ten eligible households speaks a language other than English at home.

Table 9
Language Spoken at Home by Low-Income Households with Utility Bills (2005)

Language Spoken	Number of Households	Percent of Households
English	779,610	92%
Spanish	29,815	4%
Indo-European	23,707	3%
Other	17,064	2%
TOTAL	850,196	100%

Source: 2005 ACS

III. Legal and Regulatory Framework

A. The Ohio Universal Service Framework

The Ohio Percentage of Income Payment Plan (PIPP) was developed by the Public Utility Commission of Ohio (PUCO). There were two distinct programs, one for natural gas and one for electric. The electric program is now under the administration of the Ohio Department of Development (ODOD). Currently both programs operate under the framework established by the PUCO prior to the transfer to ODOD.[4] However, statutes grant ODOD with authority to redesign the electric program through the regulatory process.[5]

The PUCO rules distinguish between two seasons of the year in its PIPP regulations: (1) the heating season; and (2) the non-heating season. The regulations are presented in terms of restrictions on the disconnection of service for nonpayment. They provide that "no company shall disconnect the service of any residential customer for nonpayment or refuse to reconnect, because of an arrearage, the service of a residential customer" so long as specified payments are made by the customer.

The payment requirements "during any billing period all or part of which is within the winter period" include:[6]

a. Ten percent of his/her monthly household income to the jurisdictional company that provides the customer with his/her primary source of heat and pays at least five percent of his/her monthly household income to the jurisdictional company that provides the customer a secondary source of heat.

b. Fifteen percent of his/her monthly household income to the jurisdictional company that provides both primary and secondary source of heat.

c. Fifteen percent of his/her monthly household income to the jurisdictional electric company that provides the totality of energy used for heating purposes to his/her residence.

d. Ten percent of his/her monthly household income to the jurisdictional company that provides the primary source of heat when a nonjurisdictional utility company or other person provides the secondary source of heat.

e. Five percent of his/her monthly household income to the jurisdictional company that provides the secondary source of heat when a nonjurisdictional utility company or other person provides the primary source of heat.[7]

For usage during any billing period "no part of which is within the winter period," the customer may not be disconnected for nonpayment so long as the customer makes a percentage of income payment as described above "or the current bill for actual nonwinter usage, whichever is greater."[8]

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[4] ODOD regulations provide that "payment arrangements, and responsibilities for a percentage of income payment plan program customer shall follow the procedures set forth in [specified sections of the Ohio Administrative Code]." See, Ohio Administrative Code, §4901:1-18-04 (2007).

[5] O.R.C., §4928.53(B)(3). ODOD has begun the process of redesigning the rules.

[6] OAC, §4901:1-18-04(B)(2) (2007).

[7] A series of stipulations over the years have changed the PIPP program in some jurisdictions. Cleveland Electric Illuminating (CEI) and Toledo Edison (TE), for example, provide PIPP customers with a reduced rate. All PIPP customers with incomes under 50% of Poverty level pay 3% of income for electricity rather than 5% (13% instead of 15% for all electric homes). In the Dayton Power and Light territory, all PIPP customers pay a 3% electric PIPP. Stipulation and Recommendation, In the Matter of the Review of the Interim Emergency and Temporary PIP Plan Riders Contained in the Approved Rate Schedules of Electric and Gas Companies, Case No. 88-1115-GE-PIP (September 24, 1993).

[8] OAC, §4901:1-18-04(B)(3) (2007).

Under either circumstance, the customer must also apply for "all public energy assistance" for which he or she is eligible[9] as well as apply for all weatherization programs for which he or she is eligible.[10]

Under PUCO regulations, in addition to regulations of ODOD,[11] eligibility for the Ohio PIPP extends to households with income at or below 150% of the Federal Poverty Level. To remain in the program, a participating customer must reverify their income at least once every twelve months.[12]

The issue of PIPP cost recovery is resolved by statute for Ohio electric utilities. In 1999, the Ohio legislature created a "universal service fund" that was for "the exclusive purposes of providing funding for the low-income customer assistance programs and for the consumer education program" in Ohio, including administrative costs.[13] Under the statute, the universal service fund was to include revenues from a variety of sources dedicated exclusively to a statutory universal service fund. The statute reversed one of the major policy decisions that PUCO used to initially support the program, that the customer continues to owe whatever bill exceeds the percentage of income payment.

Similarly, while not dictated by statute, the treatment of natural gas PIP arrearages was agreed to through a negotiated stipulation with three Ohio gas companies.[14] In that proceeding, certain consumer groups and the gas companies agreed to a process by which PIP participants arrears would be forgiven. If a PIP participant pays his or her PIP payment amount on time and in full for twelve consecutive months, the respective gas company will credit the customer's account balance by 33% of the amount outstanding. If the customer continues for another period of twelve consecutive months, the company will credit the customer's account for 50% of the remaining outstanding amount. If a customer continues for a third consecutive twelve month period of full and timely payments, the company will credit 100% of any amount outstanding. Under the agreement, if a customer fails to make his or her PIP payment on time and in full in any given month, the 36-month would begin anew, but any crediting that had occurred in a prior period would remain.[15]

Under the statute, the universal service fund is to include revenues from a variety of sources, dedicated exclusively to the statutorily-created universal service fund. The statute provided that Ohio's universal service programs are to be funded through a "universal service rider," which was to include all revenues previously collected through the PUCO-established Rider, revenues from federal or other sources of funding for those programs, and general fund appropriations. The rider, which is placed under the jurisdiction of the PUCO, was to be sufficient to "provide

[9] OAC §4901:1-18-04(4) (2007).
[10] OAC §4901:1-18-04(5) (2007).
[11] OAC, §122:12-2-04(A) (2007).
[12] OAC, §4901:1-18-04(B)(6) (2007). If the customer reports a $0 income, that income must be reverified at least once every 90 days.
[13] O.R.C., §4928.51 (2007).
[14] In the Matter of the Joint Application of the East Ohio Gas company d/b/a Dominion East Ohio, Columbia Gas of Ohio, Inc, Vectren Energy Delivery of Ohio, Northeast Ohio Natural Gas Corp., and Oxford Natural Gas Company for Approval of an Adjustment Mechanism to Recover Uncollectible Expenses, Case No. 03-1127-GA-UNC, Finding and Order (PUCO December 17, 2003). (hereafter, Joint Application Order). Other stipulations setting forth similar treatment of PIP and pre-PIP arrears were filed for other utilities. In the Matter of the Review of the Interim Emergency and Temporary PIP Plan Riders Contained in the Approved Rate Schedules of Electric and Gas Companies, Case No. 88-1115-GE-PIP (September 24, 1993).
[15] In its approval of the gas uncollectible rider, the PUCO noted the PIPP agreement. It stated further, however, that "the stipulation involving the PIPP arrearage forgiveness program was not filed in this docket for our consideration. . .Therefore, we have no documents to rule on (accept or reject)in this docket, although the signatory parties have readily acknowledged their existence. We believe that, with out approval of this application, those agreements will b triggered. . .However, we are not passing on the reasonableness of those agreements." Joint Application Order, at 14.

adequate funding for these programs."[16] The programs to be funded include rate assistance through PIPP, weatherization, and consumer education.

The Rider is be applied to all "retail electric distribution service rates",[17] so long as PUCO action in setting or adjusting the rider does not "shift among the customer classes of electric distribution utilities the costs of funding low-income customer assistance programs."[18] While the responsibility for administering the funding mechanism for the Ohio universal service programs was placed with PUCO, the responsibility for overall administration of the universal service programs was placed with the director of the Ohio Department of Development (ODOD).[19]

The statute finally provides that customers incurring unpaid bills pursuant to the PIPP will not be responsible for paying those arrears.[20] Under the statute, "a current or past percentage of income payment plan program customer is relieved of any payment obligation under the percentage of income payment program for any unpaid arrears accrued by the customer under the program. . ." To qualify for such "relief," the customer must be current on any payment responsibilities under the program or be disabled or elderly.[21]

Natural gas utilities remain responsible for the management of natural gas PIPP under rules promulgated by the PUCO. Cost recovery for the delta revenue is through a PIPP Rider which is embedded in distribution rates. Utilities file to increase or decrease the rider based on their judgment regarding the need to adjust revenues to cover the shortfall in customer payments. The gas utilities have chosen to contract with ODOD and its partner nonprofit agencies to manage customer education and intake for the programs. Local agencies determine the PIPP payment for individual clients and handle the annual reverification of eligibility. "Zero Income" PIPP clients must reverify every 90 days.

B. Development of the Ohio Percentage of Income Payment (PIP) Plan

The incorporation of the Ohio electric PIPP into statute and regulation culminated a nearly two-decade long initiative to address the problems of low-income Ohio residents who could not afford to pay their home energy bills. The Public Utility Commission of Ohio (PUCO) created the Ohio PIPP in 1983 in response to an emergency arising from the inability of low-income Ohio residents to maintain their home energy service.[22] The Commission found that the disconnection of utility service for nonpayment by those who are financially unable to pay constituted an "emergency" as described by Ohio statute.[23]

The Ohio PIPP, as initially conceived by the PUCO, did not represent a discounted rate for low-income customers. Instead, the PIPP was designed to enable low-income customers to retain their utility service by entering into an agreement pursuant to which the customer would make a utility bill payment equal to a prescribed percentage of income. Customers entering into such agreements, however, would not be relieved of paying bills in excess of the percentage of income. Rather, customers would continue to be liable for those arrears. Those accrued arrears would be subject to repayment by the customers when such customers left the PIPP.

In its 1983 decision, the PUCO found that there were both legal and "practical" reasons to adopt the proposed PIPP. According to PUCO, no legal impediment existed to the adoption of PIPP:

[16] O.R.C., §4928.52(B) (2007).
[17] O.R.C., §4928.52(A) (2007).
[18] O.R.C., §4928.52(C) (2007).
[19] O.R.C., §4928.53 (2007).
[20] This statutory provision thus reverses one of the major policy decisions originally articulated by the PUCO as a basis for the Commission acting without explicit legislative authorization.
[21] O.R.C., §4928.51(C) (2007).
[22] Docket No. 83-303-GE-COI (November 23, 1983).
[23] O.R.C., § 4909.16 (2007).

> Contrary to the arguments of those who oppose the percentage of income payment plan, the plan adopted by the Commission. . .does not constitute income redistribution, and is reasonable and lawful. This plan does not constitute income redistribution because those customers who qualify for the plan are still liable for any arrearages on their bills. There is no debt forgiveness. The Commission is just foreclosing one method by which a utility may exercise its rights to collect for the debt. The utility still has available to it all of its other remedies at law. Because the customer is still liable for his/her arrearages, the Commission's percentage of income payment plan does not constitute free service or a rebate as charged by opponents to the plan. The plan is not confiscatory. After the plan is in effect the utility will be able, as it has always been able, to recoup its bad debts through a rate case as provided in Chapter 4909 Revised Code. Nor does the plan adopted by the Commission unlawfully discriminate. All residential consumers similarly situated can take advantage of this plan. The policy of this Commission to prevent those without the present ability to pay their utility bills from freezing is a valid state purpose and is the basis upon which the Commission has established this plan. We believe it to be a rational basis.[24]

The PUCO proceeding that gave rise to Ohio's PIPP in 1983 did not exclusively concern establishment of the PIPP. Instead, the proceeding considered a broad range of issues relating to payment plans, deposits, and voluntary fuel check-offs as a means to generate energy assistance funding. The proceeding was initiated by Columbia Gas, who filed a proposal to allow for the reconnection of service to customers upon payment by those disconnected customers of one-half of the outstanding arrears and entry into an agreement through which the remaining half would be paid in equal monthly installments. PUCO expanded the proceeding first to include an investigation into the reconnection procedures of all natural gas utilities, and ultimately to include an investigation into the reconnection procedures of all electric utilities as well.

Early in the proceeding, the PUCO declared that an "emergency" existed because of the number of residential gas and/or electric customers who were unable to obtain service for the winter heating season because of the disconnection for nonpayment attributable to economic recession, increases in the cost of gas and electric service, and a decrease in the level of governmental assistance. Based on that emergency, PUCO prohibited the disconnection of gas or electric service during the ensuing winter season, and ordered the reconnection of service by customers who paid either one-third of their outstanding balance or $200, whichever was less. This is commonly referred to as the Winter Reconnect Order. This Order is still issued annually as an "emergency" measure though the payment requirement has been changed to $175 with customers using the rule are required to enroll in a payment plan; PIPP is one of the optional payment plans.[25] Ohio sets the emergency benefit under the Low Income Home Energy Assistance Program at $175. PUCO staff indicate that roughly 20% of those customers using the Winter Reconnect Order qualify for low income assistance programs. The remainder have incomes over 175% of the federal poverty line.

Consideration of the PIPP arose out of ***utility*** objections to the Commission's "failure to take into consideration a customer's ability to pay before imposing the moratorium. . ." At least in partial response to that objection, the PUCO docketed an investigation into "long-term solutions to the problems arising from the winter emergency situations."

[24] Docket No. 83-303-GE-COI, Opinion and Order, at 14.
[25] Docket No. 06-1075-GE-UNC, Entry (September 6, 2006).)

The Commission rejected arguments by Ohio's utilities that proposals such as the PIPP were not "long-term solutions" to winter inability to pay problems. PUCO noted that "the utility position in this proceeding is that the only long-term solution to the problem is economic assistance and that all other proposals, falling short of being long-term solutions, are outside of the scope of this proceeding."

In dismissing this argument, the Commission agreed that "the legislature needs to adequately fund energy assistance and weatherization and conservation programs for low income consumers. That does not mean that such aid is the ***only*** ingredient of a comprehensive solution to the problem, only that it is a necessary ingredient." (emphasis added) Moreover, the Commission said, it sought to "assure itself that its rules are not ***barriers*** to those who need utility service during the winter months." (emphasis added).

Finally, the PUCO found that the proposed Ohio PIPP best accomplished the goals the Commission sought relative to other available alternatives. The goal, PUCO noted, involves protection of the interests of two disparate groups of ratepayers:

> We are not willing to stand by while others, too poor to pay for utility service during the winter, freeze. At the same time, we are ever mindful of protecting the vast majority of customers of utilities under our jurisdiction who pay their bills in full from responsibility for greatly increasing uncollectibles.

The proposed PIPP, according to the Commission, best served both of those goals given available alternatives:

> We have in this proceeding looked at such alternatives to the percentage of income plan as maintaining the status quo, extending payment plans from six months to twelve or more months, and having another moratorium. All things considered, the percentage of income plan adopted by the Commission today will do the most to assist those in need to maintain utility service while protecting the companies' remaining rate payers."

In sum, the PUCO found that "from our perspective, the true long-term solution to the problem is three-fold: adequate tax funded energy assistance programs, adequate tax funded weatherization and conservation programs, and adequate Commission rules. Of those, only the first, energy assistance, is totally outside of this Commission's jurisdiction."

In referring to long-term solutions to "the problem," PUCO found that "there appears to be a consensus as to the problem being addressed in this proceeding, i.e., how best to protect economically disadvantaged customers from the termination of their utility service during the winter months and do this in the fairest and most effective manner."

The PUCO's decision to adopt the PIPP for Ohio was affirmed by the Supreme Court, even though the court disapproved the original cost-recovery mechanism. The Ohio Supreme Court found that the PUCO's approval of the recovery of electric and natural gas PIPP costs through an "electric fuel component" (EFC) and "gas cost recovery" (GCR) rider respectively was unlawful.[26] These two rate rider mechanisms, the court said, were statutorily limited to recovery of fuel costs.

Despite this disapproval of the PIPP cost recovery,[27] the Supreme Court approved the lawfulness of the underlying PIPP decision. The Court noted:

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[26] Montgomery County Board of Commissioners v. Public Utilities Commission of Ohio, 28 Ohio St.3d 171, 503 N.E.2d 167, 171 (Ohio 1986).

[27] The Court informed the PUCO: "while we cannot condone the recovery of arrearages through the EFC rate in light

> Pursuant to its emergency powers under R.C. 4909.16, the PUCO created the PIP plan as a response to growing concern "about the number of residential gas. . .[and] electric customers unable to obtain service as a result of disconnection for nonpayment of bills because of the economic recession, increases in the cost of gas and electric service, and a decrease in the level of governmental assistance . . ." (internal citation omitted). . .[I]t is the opinion of this court that it is clearly within the PUCO's emergency powers under R.C. 4909.16 to fashion such relief as that provided by the PIP plan and we find the plan of the commission to be manifestly fair and reasonable as a solution to the crisis.[28]

The Court relied on the broad grant of authority to the PUCO under the Commission's emergency powers statutory provision. It noted that the Court previously had "recognized that the PUCO's discretionary emergency powers include authority to impair contractual provisions as needed to alleviate an emergency, if it bears a real and substantial relation to the health, safety, morals or general welfare of the public, and if it is not unreasonable or arbitrary."[29]

The Commission continued to investigate long-terms solutions to the disconnection of service during the winter heating months. In 1989, the PUCO staff released the results of its own investigation.[30] The staff noted, and the Commission ultimately cited these staff findings in continuing the PIPP,[31] that multiple factors documented the existence of a continuing emergency:

- It is estimated that in excess of 500,000 households which are customers of gas and electric utilities under the Commission's jurisdiction may need and be qualified to receive the service;
- The number of customers that have qualified for the PIP Plan and have become subscribers has quadrupled since the plan's inception;
- The number of PIP Plan customers continues to grow annually;
- PIP Plan customer enrollment and arrears show seasonal characteristics. This attests to the continued requirement for this type of heating energy assistance program and the necessary funding which coincides with the provision of the emergency service; and
- The amount of money available from the Home Energy Assistance Program is $30 million less in 1988-1989 than received in budget years 1982-1983;[32]
- Currently there are no alternatives to the PIP Emergency Plan which permit certain Ohioans to maintain heating energy in the face of financial inability to pay utility bills; and

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of the specific statutory language of R.C. 4905.01 and 4909.191, we do not express the opinion that the PUCO would be precluded from fashioning an alternative accelerated recovery mechanism which is not contrary to statute, including recovery of arrearages on a more current basis rather than only after a twelve-month delinquency." Id., at fn4. The PUCO quickly approved an alternative cost recovery mechanism. Docket No. 87-244-GE-UNC.

[28] 503 N.E.2d at 170 (internal footnotes omitted).

[29] 503 N.E.2d at 172.

[30] The Staff Report explicitly notes that the findings of the staff are not to be imputed to the Commission.

[31] I/M/O Investigation into Long-term Solutions Concerning Disconnection of Gas and Electric Service in Winter Emergencies, Case No. 83-303-GE-COI (consolidated with Case 87-244-GE-UNC, I/M/O Establishment of an Appropriate Recovery Method for Percentage of Income Payment Plan Arrearages and Case No. 88-1115-GE-PIP, I/M/O Review of the Interim Emergency and Temporary PIP Plan Riders Contained in the Approved Rate Schedules of Electric and Gas Companies), Entry, at 3 – 4 (February 22, 1989).

[32] 1982-1983 was the year in which PIPP was initiated.

- PIP Plan customer debt has increased from $18.7 million after its establishment to current requirements of $188.6 million, demonstrating the level of continuing assistance which is necessary to maintain winter utility service.

The Commission held that "based upon the Staff investigation, the Commission finds that there continues to be an emergency as described by 4909.16, Revised Code, that in response to the emergency, the PIP Plan should continue to be a required utility provision of service to residential customers. . ." The Commission concluded that "the number of current and potential PIP Plan subscribers attests to the continuing existence of the emergency, and demonstrates the need to continue the PIP Plan. It is both necessary and appropriate to require the utilities to continue the provision of this emergency alternative service until permanent long-term solutions are in place." Finally, the PUCO ordered that "all affected electric and gas utilities shall continue to provide the emergency PIP Plan as a necessary alternative service to be available to residential customers."[33]

C. Summary and Conclusions

While the Ohio electric PIPP is embedded in statute, its original development occurred under the general regulatory authority of the Ohio state utility commission. In Ohio, the commission has authority to take action under circumstances that it deems to be an "emergency." Having declared that emergency, the commission was authorized to develop payment plans responding to that emergency. As originally adopted, the Ohio PIPP was simply one type of payment plan. No debt forgiveness, and thus no income distribution, occurs, the Commission said. Electric utilities were banned from disconnecting service to customers who made their percentage of income payment. "The Commission is just foreclosing one method by which a utility may exercise its rights to collect the debt. The utility still has available to it all of its other remedies at law." Moreover, since customers continued to remain responsible for their entire bill, there was no free service or rebate.

Ultimately, the Ohio PIPP was embedded into statute and a statutory funding mechanism was created. Program funding was obtained through all retail electric distribution service rates. Administration of the funding was maintained in the Public Utility Commission of Ohio (PUCO), while program administration was placed with the Ohio Department of Development (ODOD). Natural gas PIPP programs remain a creature of PUCO regulation.

The development of the Ohio program offers one additional insight that could beneficially be emulated by the analysis of programs (or the need for low-income programs) in other states. The development of the Ohio PIP program was not done in a vacuum, nor done in the abstract. Rather, the PIP was determined to be the best mechanism to accomplish the objectives of the PUCO from among the available alternatives. The PUCO stated that it considered maintaining the status quo, extending the terms of payment plans, and expanding its winter moratorium as options to the PIP. Given its objective to maintain service for all customers, the PUCO determined that the PIP was the optimal choice when considering the effectiveness of achieving the objective and the costs involved.

[33] Docket No. 83-303-GE-COI (consolidated), at 4 – 5.

IV. Low-Income Affordability Programs

The two major affordability programs available to low-income households in Ohio are the LIHEAP Program and the Percentage of Income Payment Program (PIPP).

- LIHEAP Program – In 2005, the Ohio LIHEAP program received about $104.7 million in funding from the Federal government.[34] Since about 88% of low-income households use natural gas or electricity for their home heating fuel, we will estimate that about $92.1 million was made available to gas and electric customers for LIHEAP benefits.

- Percentage of Income Payment Program – In 2005, the Ohio Percentage of Income Payment Program furnished about $210.4 million in electric and gas benefits to eligible households.[35] This amount includes benefits for both electric and gas customers.

In total, about $303 million was available to help pay the electric and gas bills for low-income households. Using the ACS data, we estimated the following statistics regarding the aggregate electric and gas bills for low-income households in Ohio.

- Aggregate Electric and Gas Bill – The total electric and gas bill paid directly by low-income households is estimated to be about $1.53 billion. The available funding of $303 million in benefits would cover about 20% of the total bill for low-income households.

- 5% Need Standard – Some analysts suggest that 5% of income is an affordable amount for low-income households to pay for the energy needs. The aggregate value of electric and gas bills that exceeds 5% of income is estimated to be about $1.07 billion. The available funding of $303 million in benefits could cover about 28% of the unaffordable amount for low-income households. [Note: If benefits from either of these two programs are allocated to households with an energy burden less than 5% of income, the program would not cover 28% of the estimated need.]

- 15% Need Standard – Some analysts suggest that 15% of income is an affordable amount for low-income households to pay for the energy needs. The aggregate value of electric and gas bills that exceeds 15% of income is estimated to be about $504 million. The available funding of $303 million in benefits could cover about 60% of the unaffordable amount for low-income households if it were targeted to only those households with energy bills greater than 15% of income.

- 25% Need Standard – Many low-income households pay more than 25% of income for energy service. Among the ratepayer-funded low-income programs that have used a percent-of-income guideline in their benefit determination process, none have been as high as 25% of income for combined use of electric and gas. The aggregate value of electric and gas bills that exceeds 25% of income is estimated to be about $297 million. The available funding of $303 million in benefits could cover all of the unaffordable amount for low-income households if it were targeted to households with energy bills greater than 25% of income.

These statistics demonstrate that the Ohio programs cover a significant share of the total low-income need, and would cover 100% of the need for the 25% affordability standard.

The Electric PIPP and the Gas PIPP are the programs targeted for analysis by this study. The programs were first authorized by the PUCO in 1983. Restructuring legislation transferred

[34] Source: LIHEAP Clearinghouse
[35] Source: LIHEAP Clearinghouse

administration of the Electric PIPP to the Ohio Department of Development (ODOD). [Note: ODOD administers the LIHEAP program.

Some important features of the program include:

- ODOD Administration – The Ohio Office of Development is responsible for administering the program. ODOD has the authority to redesign the program through the regulatory process.
- Program Operations – The LIHEAP offices within ODOD are responsible for operation of the program, including the development of systems for program intake, benefit determination, and financial reporting.
- Program Funding/Participation – Program funding for 2006 was about $107 million and served 209,960 electric customers (in April).
- Targeting – The program is available to all customers who pay more than the targeted percent of income for electricity.
- Benefit Type – The program is a percent of income fixed payment. During the winter months, the customer pays the PIPP amount. During the summer months, the customers pays the higher of the PIPP amount or the actual bill.

The following table furnished detailed information on the program.

Program State	Ohio.
Program Name	Ohio Electric Percentage of Income Payment Program.
Utility Company (If Applicable)	n/a
Program Goals	Allow customers to make affordable energy payments.
Funding Source (SBC or Rates)	SBC – ratepayer surcharge or PIPP rider.
Annual Program Funds – Allocated (2006)	$107,259,201.
Annual Program Funds – Expended (2006)	$104,848,941.
# of Households Served (2006)	209,960. [NOTE: This was the program's maximum caseload, occurring in April 2006.]
Participation Limit (Maximum # of Enrollees)	None.
Eligibility – % of Poverty Level	Gross annual household income at or below 150% of poverty. Or, if a household cannot qualify based on the 12-month test, they can qualify for PIPP based on its three-month income.
Eligibility – Other Criteria	1) A client's utility company must be regulated by the PUCO. 2) A client must apply for all energy assistance for which they are eligible.
Targeted Groups	None.
Benefit Calculation Type (% of Income, Benefit Matrix, etc.)	Percentage of Income.
Benefit Calculation (Document Formula)	**STANDARD PIPP** <u>Heating Season (November 1 – April 15)</u> If the utility company provides both gas and electric or if the client has an all-electric home, the payment is 15% of gross monthly income. Households that have separate PUCO-regulated utilities for electric and gas service pay 10% of gross monthly income to the utility providing the main heating fuel (usually the gas company) and

	5% of gross monthly income to the utility providing the fuel for the secondary heat source. A client may choose to join PIPP for only one utility company. The Electric PIPP benefit for households that heat with a bulk fuel is 5% of gross monthly income. Non-Heating Season (April 16 – October 31) For electric PIPP, the payment is the higher of the actual current bill or the PIPP amount. **THREE PERCENT PIPP** Heating Season (November 1 – April 15) If a household is at or below 50% of the poverty, the household pays 3% instead of 5% for its electricity. Non-Heating Season (April 16 – October 31) Payment is the higher of the actual current bill or the PIPP amount.
Benefit Amount (Mean Subsidy)	$434.
Benefit Limit	None.
% of Program Dollars Spent on Administrative Costs	2.46%.
Benefit Distribution (Fixed Payment, Fixed Payment with a Limit, Fixed Credit, Fixed Credit with Budget Billing, etc.)	Fixed payment. During the summer, electric customers pay their actual bill if it's higher than their PIPP payment.
Arrearage Forgiveness Plan – Y/N	Yes.
Amount Eligible for Forgiveness (Dollars, %, or Unlimited)	Unlimited. ALL arrears are eligible for forgiveness under this program.
Forgiveness Requirement (Payments, On-Time Payments)	The most common crediting program among electric companies is the PIPP graduate program. Year 1: Payment is the PIPP amount. Year 2: Payment is the actual bill. Year 3 and Subsequent Years: Payment is the actual bill plus any amount up to $20. The utility forgives an amount equal to the additional paid. This continues monthly until the arrearage is eliminated. The customer must make all payments on time and in full to remain in the program.
Forgiveness Period (One-Time, 12 months, 24 months, etc.)	n/a (i.e., until the arrearage is eliminated through payments/forgiveness).
Program Manager (PUC, State, Utility)	Ohio Department of Development, Office of Community Services (OCS).
Data Manager (PUC, State, Utility, Other)	Ohio Department of Development, Office of Community Services (OCS).
Enrollment Responsibility (Utility, CAP, etc.)	Local community action agencies and the state HEAP office.
Application Method (Mail, In-Person, Phone)	The Combined Energy Assistance Application must be completed at a local agency.
Joint Application	Yes. The joint application can be used to apply for federal and state energy assistance programs administered by OCS – HEAP, E-HEAP, and PIPP, as well the federally funded HWAP program.
Recertification Required – Y/N	Yes.
Recertification Frequency	All PIPP clients must reverify annually. Zero-PIPP clients must reverify every 90 days.
Recertification Method (Agency, Automatic Enrollment, Self-Certification)	Each company submits an annual file electric PIPP that marks those customers who need to be recertified. The OCS first compares these files to its HEAP database to determine if a record exists that contains updated household income. If so, this information is sent to the utility. If not, the OCS forwards a Combined Energy Assistance application to the customer with a return request of 30 days. If no application is received, a second letter is sent to the customer instructing them to go to the local community action agency to recertify income eligibility within another 30 days. If the customer fails to respond, a drop file is forwarded to the utility.
Recertification Procedures	1) Make required monthly payments.

	2) Re-verify gross monthly household income at least once every 12 months. 3) Reapply for all available energy assistance programs at least once every 12 months. 4) Apply for weatherization if contacted by a utility or state agency representative.
Removal Reasons	1) Failure to make required monthly payments. 2) Failure to re-verify gross monthly household income at least once every 12 months. 3) Failure to reapply for all available energy assistance programs at least once every 12 months. 4) Failure to apply for weatherization if contacted by a utility or state agency representative. 5) Experience a service disconnection. 6) Voluntarily withdraw from the program.
Other Communications	None.
Budget Counseling	Budget counseling is not required by the program, but some CAPs will offer it as part of their services.
Evaluation Frequency	There is no standard, periodic evaluation of the program.
Coordination with LIHEAP	Yes, a client must apply for all energy assistance for which they are eligible. Clients who apply for an Emergency HEAP benefit must also apply for PIPP or another payment plan. There is a joint application available for LIHEAP and PIPP.
Coordination with WAP	Yes, a client must apply for all energy assistance for which they are eligible.
Coordination with Energy Efficiency Programs	PIPP participants must apply for weatherization if contacted by their utility or a state agency representative. High-use electric PIPP customers are targeted for the EPP.
Coordination with Other Energy Affordability Programs	Yes, a client must apply for all energy assistance for which they are eligible.

Some important features of the program include:

- PUCO Administration – PUCO is responsible for administering the program.
- Program Operations – The utilities are responsible for operation of the program, including the development of systems for program intake, benefit determination, and financial reporting.
- Program Funding/Participation – Program funding data for 2006 were not available. The program served about 194,400 gas customers.
- Targeting – The program is available to all customers who pay more than the targeted percent of income for gas.
- Benefit Type – The program is a percent of income fixed payment. During the winter months, the customer pays the PIPP amount. During the summer months, the customer pays the higher of the PIPP amount or the actual bill.

The following table furnished detailed information on the programs.

Program State	Ohio.
Program Name	Ohio's Percentage of Income Payment Plan (Gas).
Utility Company (If Applicable)	n/a
Program Goals	Allow customers to make affordable energy payments based upon total monthly household Income.
Funding Source (SBC or Rates)	SBC – ratepayer surcharge or PIPP rider.
Annual Program Funds – Allocated (2006)	Data not available.

Annual Program Funds – Expended (2006)	Data not available.
# of Households Served (2006)	194,400. [NOTE: This was the program's maximum caseload, April 2006.]
Participation Limit (Maximum # of Enrollees)	None.
Eligibility – % of Poverty Level	Gross annual household income at or below 150% of poverty. Or, if a household cannot qualify based on the 12-month test, they can qualify for PIPP based on its three-month income.
Eligibility – Other Criteria	1) A client's utility company must be regulated by the PUCO. 2) A client must apply for all energy assistance for which they are eligible.
Targeted Groups	Customers who are at or below 150% of the federal poverty level.
Benefit Calculation Type (% of Income, Benefit Matrix, etc.)	Percentage of Income.
Benefit Calculation (Document Formula)	**STANDARD PIPP** <u>Heating Season (November 1 – April 15)</u> Payment is 10% of gross monthly household income to the gas company and 5% of gross monthly income to the electric company. <u>Non-Heating Season (April 16 – October 31)</u> PIPP clients who use natural gas as the primary heating source pay the 10% PIPP payment year-round. Payment to the electric company is the higher of the actual current bill or the PIPP amount. **THREE PERCENT PIPP** <u>Heating Season (November 1 – April 15)</u> If a household is at or below 50% of the poverty and uses electricity as its secondary source of heat, the household pays 3% instead of 5% for its secondary heat. <u>Non-Heating Season (April 16 – October 31)</u> Payment is the higher of the actual current bill or the PIPP amount.
Benefit Amount (Mean Subsidy)	Data not available.
Benefit Limit	None.
% of Program Dollars Spent on Administrative Costs	Data not available.
Benefit Distribution (Fixed Payment, Fixed Payment with a Limit, Fixed Credit, Fixed Credit with Budget Billing, etc.)	Fixed payment.
Arrearage Forgiveness Plan – Y/N	Yes.
Amount Eligible for Forgiveness (Dollars, %, or Unlimited)	Unlimited.
Forgiveness Requirement (Payments, On-Time Payments)	For all 3 years, the customer's monthly payment is the PIPP amount. Arrearage forgiveness: Year 1: 33% of total arrearages. Year 2: 50% of total arrearages. Year 3: Arrearage balance (17% of total arrearages). The customer must make all payments on time and in full to remain in the program. [NOTE: This program model is used by the three largest gas utilities in Ohio and applies to most Gas PIPP customers.]
Forgiveness Period (One-Time, 12 months, 24 months, etc.)	3 years. [NOTE: The three-year clock is reset if the customer fails to make a PIPP payment on time.]
Program Manager (PUC, State, Utility)	Individual utility companies.
Data Manager (PUC, State, Utility, Other)	Individual utility companies.

Enrollment Responsibility (Utility, CAP, etc.)	Gas companies and local community action agencies.
Application Method (Mail, In-Person, Phone)	The Combined Energy Assistance Application must be completed at a local agency.
Joint Application	Yes. The joint application can be used to apply for federal and state energy assistance programs administered by OCS – HEAP, E-HEAP, and PIPP, as well the federally funded HWAP program.
Recertification Required – Y/N	Yes.
Recertification Frequency	All PIPP clients must reverify annually. Zero-PIPP clients must reverify every 90 days.
Recertification Method (Agency, Automatic Enrollment, Self-Certification)	Each company submits an annual file for gas PIPP that marks those customers who need to be recertified. The OCS first compares these files to its HEAP database to determine if a record exists that contains updated household income. If so, this information is sent to the utility. If not, the OCS forwards a Combined Energy Assistance application to the customer with a return request of 30 days. If no application is received, a second letter is sent to the customer instructing them to go to the local community action agency to recertify income eligibility within another 30 days. If the customer fails to respond, a drop file is forwarded to the utility.
Recertification Procedures	1) Make required monthly payments. 2) Re-verify gross monthly household income at least once every 12 months. 3) Reapply for all available energy assistance programs at least once every 12 months. 4) Apply for weatherization if contacted by a utility or state agency representative.
Removal Reasons	1) Failure to make required monthly payments. 2) Failure to re-verify gross monthly household income at least once every 12 months. 3) Failure to reapply for all available energy assistance programs at least once every 12 months. 4) Failure to apply for weatherization if contacted by a utility or state agency representative. 5) Experience a service disconnection. 6) Voluntarily withdraw from the program.
Other Communications	None.
Budget Counseling	Budget counseling is not required by the program, but some CAPs will offer it as part of their services.
Evaluation Frequency	There is no standard, periodic evaluation of the program.
Coordination with LIHEAP	Yes, a client must apply for all energy assistance for which they are eligible. Clients who apply for an Emergency HEAP benefit must also apply for PIPP or another payment plan. There is a joint application available for LIHEAP and PIPP.
Coordination with WAP	Yes, a client must apply for all energy assistance for which they are eligible.
Coordination with Energy Efficiency Programs	PIPP participants must apply for weatherization if contacted by their utility or a state agency representative. High-use electric PIPP customers are targeted for the EPP.
Coordination with Other Energy Affordability Programs	Yes, a client must apply for all energy assistance for which they are eligible. The majority of customers are enrolled in PIPP through the Emergency HEAP program.

V. Affordability Program Evaluation Findings

There has been no evaluation of the PIPP Electric or Gas Programs.

VI. Low-Income Energy Efficiency Programs

The four major sources of funding for energy efficiency programs available to low-income households in Ohio are the DOE Weatherization Assistance Program (WAP), the LIHEAP Program, and the Ohio Electric Partnership Program (EPP).

- DOE WAP Program – In 2005, Ohio received about $15.0 million in funding for the Weatherization Program. These funds were distributed to local agencies to deliver weatherization services to low-income households.[36]

- LIHEAP Program – In 2005, Ohio elected to use $16.9 million (16%) of its LIHEAP funding for weatherization.

- Ohio Electric Partnership Program (EPP) – In 2005, the Ohio Electric Partnership Program (EPP) was funded at a level of about $14.9 million.[37]

- Utility Programs – In 2005, both electric and gas utilities furnished low-income energy efficiency services. The LIHEAP Clearinghouse estimates that those programs consisted of about $3 million in electric baseload programs and about $10 million in gas weatherization programs.

In total, about $59.8 million was available to help furnish energy efficiency services to low income households in Ohio.

It is a little more challenging to estimate the need for energy efficiency programs. In general, we would suggest that energy efficiency programs should be used in place of affordability programs when the energy efficiency programs result in cost-effective savings to the household. The literature on energy efficiency programs demonstrates that programs that target high users achieve the highest savings levels and are the most-effective. For electric baseload, programs that target households that use 8,000 kWh or more are most cost-effective. For electric heating, programs that target households that use 16,000 or more kWh are most cost-effective. For gas heating, programs that target households that use 1,200 or more therms are most cost-effective.

Our primary state-level data source, the ACS, does not ask respondents to report on the amount of electricity or natural gas that they use. However, we can develop a proxy for usage based on the respondent's estimate of the household's electric and gas bill. [Note: kWh price = 8.19 cents, therm price = 1.30].

Using the ACS data, we developed estimates of the number of households that would be eligible for energy efficiency programs using the cost-effectiveness targets. Table 10 shows that 58% of households could be targeted for high baseload bills, 37% could be targeted for high electric heat bills, and 31% could be target for high gas usage.

Table 10
Need for Energy Efficiency Programs for Low-Income Households (2005)

Group	Number of Households with Bills	Number of Households with High Bills	Percent of Households with High Bills
Electric Baseload Services[38]	658,992	382,464	58%
Electric Heating Services	179,024	65,488	37%
Gas Heating Services	519,864	162,726	31%

Source: 2005 ACS

[36] Source: State of Ohio.
[37] Source: State of Ohio.
[38] For households that report electric and natural gas expenditures as one bill, we allocated half of the cost to electricity and half of the cost to natural gas.

In general, low income weatherization programs spend about $3,000 per unit including all costs for administration and service delivery. With the available funds, Ohio could serve about 20,000 low income households annually, or about 9% of the high usage homes needing weatherization assistance and 5% of the homes need electric baseload services. These statistics demonstrate that Ohio is making a significant investment in the energy usage reduction for low-income households.

The Electric Partnership Program was targeted for analysis by this study. Some important features of the EPP include:

- ODOD Program Administration – The Office of Energy Efficiency in ODOD administers this program.
- Service Delivery – The program is delivered by a combination of community organizations and private contractors.
- WAP Office Collaboration – OEE is the Ohio WAP office.
- Demographic/Program Targeting – The program targets high usage electric PIPP customers.
- Usage Targeting – The high use program targets customers with at least 6,000 kWh per year. The weatherization program (TEE) targets customers with 6,000 kWh of heating or cooling usage. The moderate use program targets customers with 4,000 to 6,000 kWh per year.
- Funding/Service Delivery – The EPP program was funded at the level of about $14.9 million. It delivered electric baseload services to about 8,500 electric customers.

The following table furnishes detailed information on the program.

Program State	Ohio.
Program Name	Ohio Electric Partnership Program.
Utility Company (If Applicable)	n/a
Program Goals	Reduce electric energy consumption of PIPP-eligible households. A secondary goal of the EPP is to reduce the growth of PIPP clients' arrears and, over time, reduce revenues needed from the USF rider.
Funding Source (SBC or Rates)	SBC – electric universal service rider.
Annual Program Funds – Allocated (2005)	$14.9 million (FY2005). Provider budgets totaled $13.1 million.
Annual Program Funds – Expended (2006)	$12,378,992.
# of Households Served (2005)	8,476 (FY2005).
Participation Limit	None.
Eligibility – % of Poverty Level	[By means of PIPP eligibility] Gross annual household income at or below 150% of poverty. Or, if a household cannot qualify based on the 12-month test, they can qualify for PIPP based on its three-month income.
Eligibility – Home Type	All.
Eligibility – Energy Usage	Clients with annual baseload usage of 6,000 kWh or more are targeted for baseload services. Clients with annual heating or cooling usage of 6,000 kWh or more are targeted for weatherization services. Clients with annual baseload usage between 4,000 and 6,000 kWh or more are targeted for moderate-

	use measures (i.e., inclusion in the moderate use program component).
Eligibility – Participation in Energy Assistance	Must be participating in the Ohio PIPP Program.
Eligibility – Other Criteria	[By means of PIPP eligibility] A client's utility company must be regulated by the PUCO. A client must apply for all energy assistance for which they are eligible.
Targeted Groups	PIPP-eligible clients who live in high-cost, high-volume use structures.
Measure Determination	The service provider conducts a computerized energy audit. Any measure with an SIR greater than 1 is considered for installation.
Mean Costs per Home (2005)	$834 (PY2005, July 1, 2005, through June 30, 2006).
Targeted Average Cost (2006)	None.
Cost Limit	None.
Landlord Contribution	Cash payment or in-kind health- and safety-related repair for conservation work that will improve or stay on the property to be serviced. If appliances to be replaced are owned by the landlord, the landlord is required to contribute 50 percent of the costs of the materials and labor.
% of Program Dollars Spent on Administrative Costs	7.3%
Efficiency Measures	**BASELOAD EFFICIENCY (HIGH-USE)** Water Measures · Hot water tank insulation · Reducing hot water temperature · Energy-efficient showerheads · Energy-efficient faucet aerators · Water line insulation · Fuel-switching of hot water tanks · Repair of leaks on hot water line if electric water tank. Lighting Measures · Compact fluorescent lights · Replacement of a halogen torchiere lamp with a fluorescent torchiere · Hard wired fluorescent fixtures · Timers for lights · Photocells. Refrigerator/Freezer Measures · Refrigerator/freezer replacement · Removal of secondary refrigerator or freezer · Two-for-one refrigerator swaps. Waterbed Measures · Waterbed mattress replacement · Insulation blanket on waterbed · Reduce temperature on thermostat. Other Measures · Custom measures · Fuel switches. **MODERATE-USE EFFICIENCY** Measures are the same as those offered as baseload efficiency measures except the audit is less detailed than the high-use audit. **WEATHERIZATION** Cost-effective baseload efficiency measures as noted above plus measures aimed at reducing heating and cooling usage, which may include: ▸ Insulation (attic and wall) ▸ Air sealing ▸ Heating and cooling equipment repair ▸ Heating and cooling equipment upgrades ▸ Heating and cooling equipment replacements ▸ Distribution system repairs.
Customer Education – Y/N	Yes.

Education as Part of Service Delivery – Y/N	Yes.
Education Separate from Service Delivery – Y/N	Yes, for a small percentage of clients.
Follow-Up with Customers – Y/N	Yes.
Program Manager (PUC, State, Utility)	Ohio Department of Development, Office of Energy Efficiency (OEE).
Data Manager (PUC, State, Utility, Other)	OEE obtains quarterly usage data from OH electric utilities for all PIPP clients for determining program eligibility and targeting. Agencies collect additional data during service delivery; the Office of Energy Efficiency ultimately receives and manages those data.
Enrollment Responsibility (Utility, CAP, etc.)	OEE screens clients and targets them for inclusion in different program components. Lists of PIPP clients are given to service providers, who recruit clients for the EPP program.
Number of Provider Agencies and/or Contractors	[As of September 2006] There are 7 authorized providers and 20 sub agencies.
Type of Provider (For-Profit, CAA, etc.)	Mix of for-profit companies and nonprofit agencies.
Application Method (Mail, In-Person, Telephone)	Through participation in the PIPP program.
Joint Application	Yes – PIPP/LIHEAP application.
Reasons for Service Denial	n/a
Type of Follow-Up	All clients receive a follow-up contact by mail, phone, or personal visit, based on an assessment of which would be of most benefit to the client. The goal is to remind clients of their responsibilities and review the program benefits. Follow-up plans included: ▸ For one year following the home visit, the provider would check the client's monthly payment and usage patterns. ▸ Usage tracking, to determine if savings are being achieved and to discuss solutions if the projected savings are not being met ▸ Payment tracking, to determine if clients are meeting their commitments to make payments and to help the client prioritize energy payments as the third or fourth spending priority.
Quality Control (Inspections?, etc.)	There are three OEE monitors for the EPP, each responsible for spending ten days on site for each of three authorized providers. Monitors are working to observe each auditor at least once per year. Monitoring forms have been loaded into the Tablet PC so that monitors can enter data while they are on site. 99 units visited (observed or inspected) between July 1, 2004 and May 31, 2005.
Evaluation Frequency	An extensive evaluation was conducted at the original program implementation. Other impact evaluations are conducted periodically.
Coordination with LIHEAP	Common PIPP/LIHEAP application.
Coordination with WAP	Not usually, but some coordination may be done at the agency level.
Coordination with Energy Affordability Programs	EPP clients are selected from among PIPP-participant households. The authorizing legislation states that "Acceptance of energy-efficiency and weatherization services provided by the program shall be a condition for the eligibility of any such client to participate in the Percentage of Income Payment Plan Program."
Coordination with Other Energy Efficiency Programs	No.

VII. Energy Efficiency Program Evaluation Findings

Ohio's Office of Energy Efficiency (OEE) contracted with APPRISE and M. Blasnik & Associates in August 2001 to conduct an independent evaluation of the Ohio Electric Partnership Program, to be implemented in January 2002. APPRISE conducted process evaluation through 2005 and M. Blasnik & Associates conducted impact evaluation through 2006. The evaluations assessed

program design, program implementation, and program impacts. The most recent process evaluation assessed the fourth year of program implementation, July 2004 through June 2005.[39] The most recent impact evaluation assessed impacts from April 2004 through March 2005.[40] This section summarizes the findings from these evaluation reports.

The most recent process evaluation focused on the fourth year of program implementation. EPP production grew steadily as the program matured. Approximately 10,000 homes were completed in the fiscal year, with a total of over 27,000 homes served by the end of state FY 2005. The service delivery mechanism improved, with refinements to the program software and introduction of a Tablet PC as the new program hardware. OEE revised the formula for light bulb replacements to increase program cost-effectiveness. The evaluation recommended that OEE work with providers to improve energy education, increase refrigerator removal rates, and increase the use of custom measures.

The main findings of the impact evaluation were:

- The average net savings of the program were 1,650 kWh or 12.2 percent of pre-treatment usage for the high use component; 697 kWh or 10.8 percent of pre-treatment usage for the moderate use component; and 3,151 kWh or 10.7 percent of pre-treatment usage for the TEE component.

Table 11
Usage Impact Results

		Usage (kWh)		Gross Savings		Net Savings	
	# of Households	Pre	Post	kWh	Percent	kWh	Percent
High Use	4,789	13,525	11,841	1,684	12.5%	1,650	12.2%
Moderate Use	1355	6,468	5,657	811	12.5%	697	10.8%
TEE	238	29,364	25,904	3,461	11.8%	3,151	10.7%

- The high use component and the TEE component, with savings to investment ratios of 1.5 and 1.3, are cost-effective. The moderate use program, with a savings to investment ratio of 0.9, is not cost effective.

Table 12
Cost Effectiveness Analysis

	Average Program Cost	Present Value of Lifetime Savings	Savings to Investment Ratio (SIR)
High Use	$904	$1,345	1.5
Moderate Use	$726	$635	0.9
TEE	$2,203	$2,808	1.3

The impact evaluation concluded that the EPP has improved cost-effectiveness over time by reducing program costs and doing a better job of targeting measures in the high use program. The moderate use program will need cost reduction and more selective measure selection to become cost-effective.

[39] Ohio EPP Process Evaluation, Final Report, APPRISE, July 2005.
[40] Ohio Electric Partnership Program Impact Evaluation, Results for April 2004 – March 2005 Participants, Final Report, M. Blasnik & Associates, June 30, 2006.