Natural Gas Efficiency Programs Report

2009 Program Year

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Appendix A

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INTRODUCTION

Awareness of the energy economy has steadily grown beyond the purview of business and public policy. Economic and environmental concerns have become increasingly important drivers of consumer decisions about energy. With this has come heightened attention to the potential for energy efficiency to moderate consumer cost increases, reduce greenhouse gas emissions and enhance energy security. For natural gas distributors, investing in natural gas efficiency programs presents an opportunity to achieve these objectives and benefit the communities they serve. Many have long-performing natural gas efficiency programs, while others are working with their regulators to pave the way for new programs that will accelerate progress towards realizing a clean energy future while building sustainable value for their businesses and customers.

The *AGA Natural Gas Efficiency Programs Report - 2009 Program Year* presents data collected from members of the American Gas Association and the Consortium for Energy Efficiency[1] on ratepayer-funded natural gas efficiency and conservation programs. The report aims to portray the extent of this rapidly growing market in the United States and Canada and to identify practices and trends in program planning, funding, administration and evaluation.

This fourth annual study looks retrospectively at the status of the natural gas efficiency market in 2009, including expenditures and savings impacts, and presents a snapshot of budgets for 2010. Also explored are regulatory approaches to advancing the natural gas efficiency market. The findings illustrate how natural gas utilities have worked with their customers to help them reduce their carbon footprint and increase cost savings and with their regulators to bring about progressive policies that support such initiatives.

An important contributor to this data gathering project is the Consortium for Energy Efficiency (CEE). The data collection effort has expanded significantly since AGA and CEE began coordinating collection of these data in 2009. By joining forces, AGA and CEE have reduced the reporting burden for respondents, eliminated duplicative efforts for our organizations, and significantly enlarged the sample pool—extending the survey to more utilities in the U.S. and Canada and to third-party administrators of ratepayer-funded efficiency programs.

AGA would like to thank the members of AGA and CEE in the U.S. and Canada for participating in this important data-collection effort. We appreciate tremendously the time and effort given by all survey respondents throughout the data collection process, including extensive clarification and data validation follow up. (See Appendix E for a listing of participating companies).

[1] The Consortium for Energy Efficiency (www.cee.org) is a nonprofit public benefits corporation that develops initiatives for its North American members to promote the manufacture and purchase of energy-efficient products and services. CEE members include utilities, statewide and regional market transformation administrators, environmental groups, research organizations and state energy offices in the U.S. and Canada.

EXECUTIVE SUMMARY

In 2010 the American Gas Association (AGA) and the Consortium for Energy Efficiency (CEE) surveyed their U.S. and Canadian members and other efficiency program administrators on the status of their 2009 *ratepayer-funded* natural gas efficiency programs, including low-income weatherization. Based on survey findings for the 2009 program year:

- By investing in successful and innovative efficiency programs—which include strategic partnerships, education campaigns, targeted marketing, low-income usage programs, energy audits, whole house projects, customer rebates and incentives, and customized retrofits of large facilities—natural gas utilities continue to help their customers to reduce energy usage and lower annual energy bills.

- Natural gas utilities fund 111 natural gas efficiency programs—106 in 38 states and five in Canada. U.S. utilities plan to launch six new programs in 2010.

- Residential natural gas efficiency program participants in the U.S. saved on average nine percent of usage or about 69 Therm per year, averaging $83 in cost saving on their annual energy bill.

- In the United States, utilities invested nearly $803 million in natural gas efficiency programs in 2009 and have budgeted about $1.1 billion in 2010. This represents a 42 percent increase[2].

- Natural gas efficiency program expenditures approached $870 million in North America in 2009, and they are estimated to grow to more than $1.2 billion in 2010 (a 41 percent increase).

- Utilities spent from 0.01 to 9.5 percent of net natural gas distribution revenues (net of gas costs) on natural gas efficiency programs in 2009.

- In 2009 U.S. customers saved nearly 53 trillion Btu through natural gas efficiency programs (a nine percent increase from 48 trillion Btu in 2008[3]), thus avoiding 2.8 million metric tons of carbon dioxide (CO_2) emissions.

- Natural gas savings impacts from efficiency programs reached nearly 90 trillion Btu in North America, an 11 percent increase from 81 trillion Btu in 2008 and the equivalence of 4.7 million metric tons of avoided CO_2 emissions.

- Eighty-five percent of natural gas efficiency programs provide conservation or energy efficiency activities to low-income customers.

- Twenty-eight states require that utilities fund natural gas efficiency programs, and 25 states mandate that utilities implement programs specific to low-income customers.

- Thirty-four states allow utilities to recover natural gas efficiency direct program costs, 23 permit them to recoup lost margins, and 12 approve financial incentives for utilities based on program implementation and performance.

[2] The 2009 and 2010 survey samples are similar; however, 2010 budgets include data for six newly launched programs.

[3] Natural gas efficiency program savings for the 2008 program year have been revised for the U.S. and Canada since this report was last published in December 2009.

- Recovery of natural gas efficiency direct program costs are allowed via the following mechanisms:
    - special tariff or rider in 25 states
    - base rates in 13 states
    - system benefits surcharge in eleven states
    - other mechanism in four states.

- Sixteen percent of regulator-approved natural gas efficiency programs encourage fuel switching, and 14 percent measure efficiency from the energy source to the usage site by applying a full fuel cycle analysis.

- U.S. spending on evaluation, measurement and verification activities surpassed $12 million in 2009, and it is estimated to approach $31 million in 2010 (a 150 percent increase).

METHODOLOGY AND SURVEY SAMPLE

In 2010 the American Gas Association (AGA) and the Consortium for Energy Efficiency (CEE) surveyed their U.S. and Canadian members and other efficiency program administrators on the status of their 2009 *ratepayer-funded* natural gas efficiency programs, including low-income weatherization[4]. Also included are data from non-utility or "third-party" administrators of utility funded natural gas efficiency programs[5]. In this report, the term "natural gas efficiency program" refers to a set of activities designed to promote a cost-effective and prudent approach to energy usage**,** including single and multifamily residential low-income weatherization; indirect impact activities; and new and existing building direct impact activities (see page 8 for examples of such activities).

The sample frame consisted of all member organizations of AGA and CEE and nonmember organizations identified as large program administrators. The response rate was 88 percent. Therefore, natural gas efficiency statistics may be understated in this report. Responses were received for 106 programs implemented in the U.S. in 2009 and five in Canada. We also received responses for six U.S. programs planned for 2010. Two variations of the survey were distributed: 1) a short form (which focuses on natural gas efficiency program funding and savings impacts) was distributed primarily to CEE members, including administrators of statewide energy programs; and 2) a long form (which includes questions on program characteristics, expenditures, budgets, evaluation and regulatory treatment) was distributed to all AGA members. The introductory part of this report and part II encompass all collected data from short and long forms, and the remainder discusses responses from a subset of companies that completed the long form (92 companies in the U.S. and two in Canada).

The gas utilities represented in this report (including those that fund third-party programs) have natural gas service territories in 38 states and Canada. These utilities account for nearly 69 percent of the natural gas delivered by gas distribution companies in the United States, which have an aggregate annual U.S. throughput of 9.2 trillion cubic feet (Tcf)[6]. These companies also served more than 45 million residential customers cumulatively, corresponding to 69 percent of the U.S. residential natural gas market.

The survey asked respondents to describe their natural gas efficiency programs during the 2009 calendar year (or coinciding program year for which data were available). Also, 2010 data were collected for approved natural gas efficiency program budgets and estimated participant counts. Not all reporting companies answered every question on the survey. The sample therefore varies question to question. Because the sample pool is not normalized and varies year to year, this report does not directly compare 2009 with prior year data, except for illustrative purposes when discussing program expenditures and savings impacts. Tables and charts represent a simple tally of the responses to the survey questionnaire.

Report footnotes and section introductions provide additional information regarding methodology.

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[4] Because many low-income weatherization programs are run by non-participating state agencies, report data understate low-income programs budgets.

[5] Appendix E lists the companies represented in this report, including those that did not respond directly but whose data were provided by third-party administrators. While only aggregate information is presented in the report, Appendix B, C and D present data at a state and/or region level only for companies that agreed to release their information.

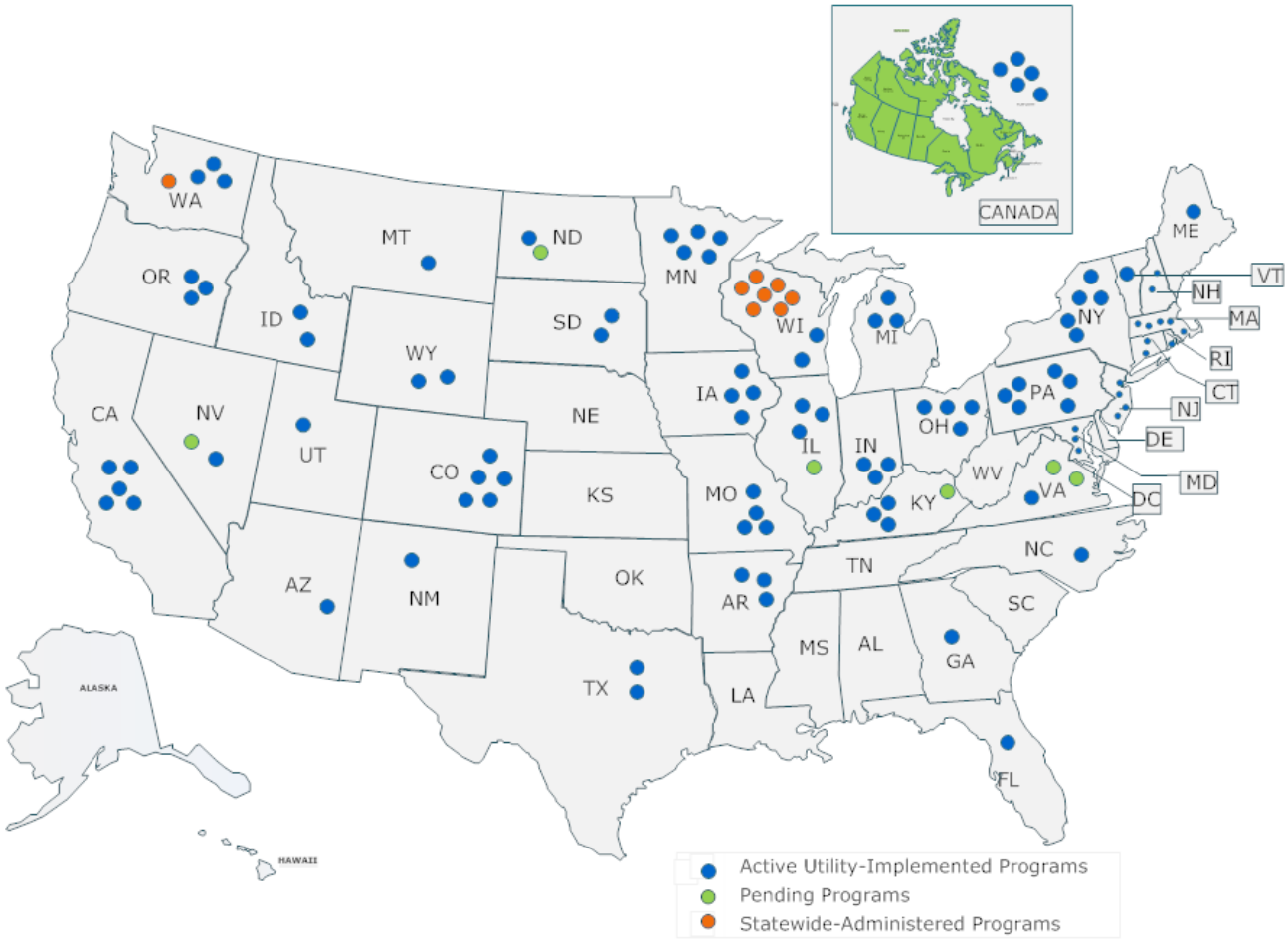
[6] Based on Energy Information Administration consumption data: Natural Gas Annual 2008 (Released March 2010)

I. Natural Gas Efficiency Program Characteristics

According to 2009 program year data, there are at least 111 active natural gas efficiency programs in North America—106 in the U.S. and five in Canada—that are funded by local natural gas utilities. Utilities also plan to launch six new programs in the U.S. in 2010 (see Figure 1).

Figure 1

Utility-Funded Natural Gas Efficiency Programs
(111 Active & 6 Planned Programs in 38 States & Canada in 2009)



The 106 U.S. programs include 98 that are administered by utilities (in part or whole) and eight that are implemented solely by a third-party agency, generally as part of a collaborative, such as the Energy Trust of Oregon, New Jersey Clean Energy Program, New York State Energy Research and Development Authority, and Wisconsin Focus on Energy. Ten of the 98 utilities fund third-party administered programs in conjunction with their own utility-implemented programs; however, to avoid double-counting, these are not counted separately in this report.

Program Structure

From this point forward, except in part II, Natural Gas Efficiency Program Funding and Impacts, this report describes a subset of utility-implemented natural gas efficiency programs for which a more comprehensive set of data was obtained. This subset comprises 94 programs (92 in the U.S. and two in Canada) implemented by 52 natural gas distributors, 40 combination gas-electric utilities and two municipally-owned utilities (see Table 1).

Table 1

Natural Gas Efficiency Program by Utility Type		
Company Type	Programs	Percentage
Investor-Owned Natural Gas Distributor	52	55%
Investor-Owned Gas & Electric Utility	40	43%
Municipally-Owned Utility	2	2%
TOTAL	**94**	**100%**

Of the 94 natural gas efficiency programs, 72 are administered solely by the utility, two by a government agency, five by a nonprofit organization, and 15 by more than one entity. This latter category includes utilities that administer their own programs while funding statewide programs; support community action programs in implementing low-income programs; and/or outsource the delivery of specific activities (such as rebate processing, energy audits or education programs) to third-party nonprofit or for-profit firms (see Table 2).

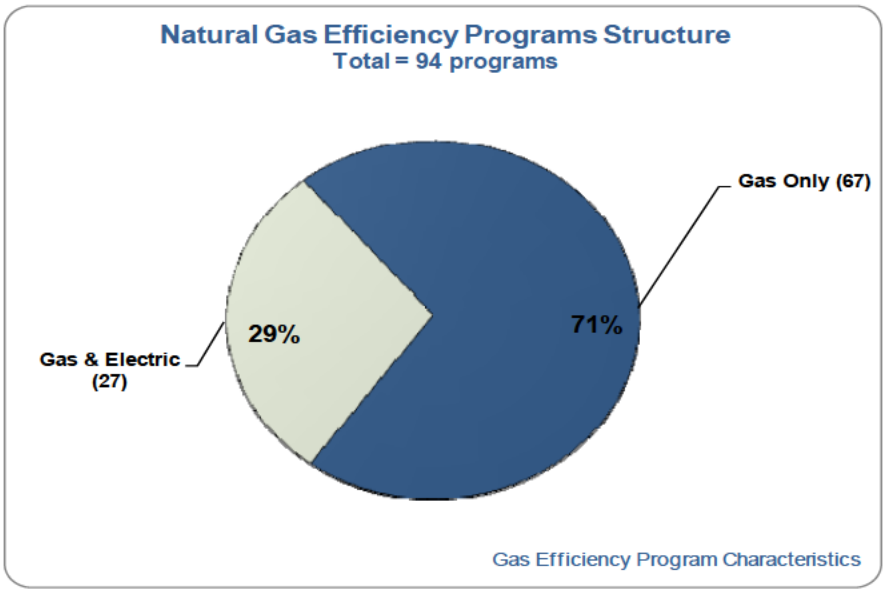
Table 2

Natural Gas Efficiency Programs Administration		
	Programs	Percentage
Utility-Administered	72	77%
Nonprofit Organization	5	5%
Government Agency	2	2%
Other or a Combination of Entities	15	16%
TOTAL	**94**	**100%**

The majority of natural gas efficiency programs (67 out of 94) are administered as natural gas-only, while 27 are combined with electric efficiency programs (see Figure 2). Forty-two of 93 respondents (45 percent) reported that they coordinate efficiency activities with other organizations

or utilities (natural gas, electric or combination), thereby reducing costs and ensuring consistency in program offerings and delivery.

Figure 2



Natural gas efficiency programs average 10 years of service, ranging from newly launched to mature programs that span 20 or more years, and nearly all have run without interruption since inception. Forty-six percent have been in place for 10 years or longer (see Table 3).

Table 3

Natural Gas Efficiency Programs Since Inception	
Years of Service	Number of Programs
Less than 1 (2009 start)	16
1 ≥ < 10	35
10 ≥ < 20	22
20 or more	21
TOTAL	94

Forty-five percent of natural gas efficiency programs (42 of 93) grew since the 2008 program year. Utilities accomplished this by targeting new markets and customer classes, increasing funding and participation levels, and developing new programs (such as Home Performance with Energy Star, building operator certification and new commercial construction). They also expanded low-income weatherization programs to include no-cost and low-cost equipment replacement programs, enhanced outreach (via marketing and conservation education), boosted rebate programs by augmenting rebate amounts or adding new measures, and piloted new technologies.

Objectives

When asked to select all goals that drive their natural gas efficiency programs, respondents identified them as follows: 98 percent target direct impact on energy savings; 85 percent engage

in behavioral change (with education, training or direct outreach to customers and others); 65 percent seek market transformation (through manufacturers, distributors, retailers and consumers of energy-related products and service); and 43 percent aim for avoided emissions. Thirty-five percent (33 out of 94) maintain that all four goals drive their programs. Also fourteen percent sited other or supplementary goals, including economic development and job creation; reducing households' energy burden; assisting hard-to-reach markets under distress; reducing uncollectible expenses due to write offs of arrears for low-income customers; moderating growth in electric consumption and dependence on other fuels; and avoiding system transmission capacity upgrades (see Table 4).

Table 4

Purpose or Goal of Natural Gas Efficiency Program (94 natural gas efficiency programs with one or more goals)		
Goal	Number of Programs	Percentage
Direct Impact on Energy Savings	92	98%
Behavior Change	80	85%
Market Transformation	61	65%
Direct Impact on Avoided Emissions	40	43%
Other	13	14%

Customer Segments

Respondents were asked to identify all customer classes included in their natural gas efficiency programs. Eighty-seven percent of programs (82 of 94) provide natural gas efficiency and conservation services to residential customers, 84 percent (79 programs) to low-income customers, and 69 percent (or 65 programs) to small commercial and industrial (C&I) customers. Six of the 94 respondents offer natural gas efficiency measures only to residential customers, eleven provide only programs specific to low-income customers, and one program has only C&I efficiency activities. Fifty-nine percent (or 55 programs) include all customer classes in their natural gas efficiency programs.

Participant counts were obtained for 70 active natural gas efficiency programs in 2009, and estimated counts were gathered for 70 programs in 2010. Many programs do not track or report participation rates, while others had low to no participation in 2009 due to late program implementation. In cases where respondents do not actively monitor participants, they provided estimated instead of exact counts. Also some program administrators keep track of processed rebates and installed measures or projects instead of tallying enrolled customers. Methodology approaches vary regarding whether to count online audits and students participating in school-based education programs. Thus participant figures should be regarded as very rough estimates.

During 2009, 1,287,561 residential customers, 256,133 low-income participants, and 44,942 C&I customers were enrolled in natural gas efficiency programs. The median count is 3,457 participants in residential programs, ranging from as few as 15 to as many as 326,943 customers. For low-income programs, ranging from 1 to 100,340 participants, the median customer count is 319. C&I programs have from four to 15,672 accounts, and the median count is 107 accounts. Two million participants are estimated for the 2010 program year of which 1,678,789 are residential, 416,053 are low income, and 59,151 are C&I customers.

Survey respondents were asked to identify all natural gas efficiency activities offered to customers in each sector. Based on data reported for 94 programs, the majority provide indirect and direct impact efficiency services to all or several customer segments. These activities are provided to

residential single family homes in 81 programs, multi-family housing in 69 programs, low-income homes in 80 programs, and C&I customers in 65 programs. Thus 85 percent of utility-implemented programs offer low income customers conservation and efficiency activities, including weatherization measures (in 71 percent of programs).

When asked whether they offered enhancements for low-income qualified programs, 79 percent of respondents (73 of 92) indicated that this customer segment does have access to a portfolio of programs exclusively available to them. Nineteen of these enhanced low-income programs are administered by the utility, 17 by a community action agency, three by the state, and 33 by another entity or jointly among several entities. These coordinated efforts include joint delivery of gas and electric low-income efficiency programs. Also several utilities that do not administer their own low-income efficiency activities provide funding to state-implemented low-income programs.

Services and Products

As shown in Table 5, besides low-income customers, the residential single family and residential multi-family customer segments benefit from weatherization services in 48 and 37 percent of programs respectively. Indirect impact activities are also offered to one or more customer segments, and these include customer education (in 74 percent of programs), online tools (68 percent), technical assessments or energy audits (56 percent), and contractor and building operator training and certification (41 percent). Programs also offer direct impact efficiency measures to existing residential single family homes (in 78 percent of programs), multi-family housing (66 percent), low income homes (75 percent), and C&I properties (66 percent). These direct impact activities include equipment replacement and upgrades (e.g., appliances, doors, windows, and thermostats), building retrofits, commercial food service, process equipment, energy management systems and custom process improvements. Direct impact activities are also available for new buildings and expansions, and these include energy efficient homes, energy efficiency design assistance, and industrial efficiency. Other activities include residential school-based education programs, low income instituted test measures for new technologies, commercial nonprofit weatherization, and custom prescriptive programs.

Table 5

UTILITY-IMPLEMENTED NATURAL GAS EFFICIENCY PROGRAM ACTIVITIES BY CUSTOMER CLASS Total = 94 reporting EE programs with one or more EE activities				
ENERGY EFFICIENCY ACTIVITIES	RESIDENTIAL SINGLE FAMILY 81 PROGRAMS	RESIDENTIAL MULTI-FAMILY 69 PROGRAMS	RESIDENTIAL LOW INCOME 80 PROGRAMS	C & I 65 PROGRAMS
Weatherization	45	35	67	
Indirect Impact Programs Certification	17	12	17	13
Education	69	49	61	53
Online Tools	63	40	45	41
Technical Assessment	52	35	49	41
Training	35	26	29	38
Direct Impact Programs – Existing Buildings	73	61	70	61
Direct Impact Programs – New Construction/Expansion	45	26	22	37
Other	5	2	3	4

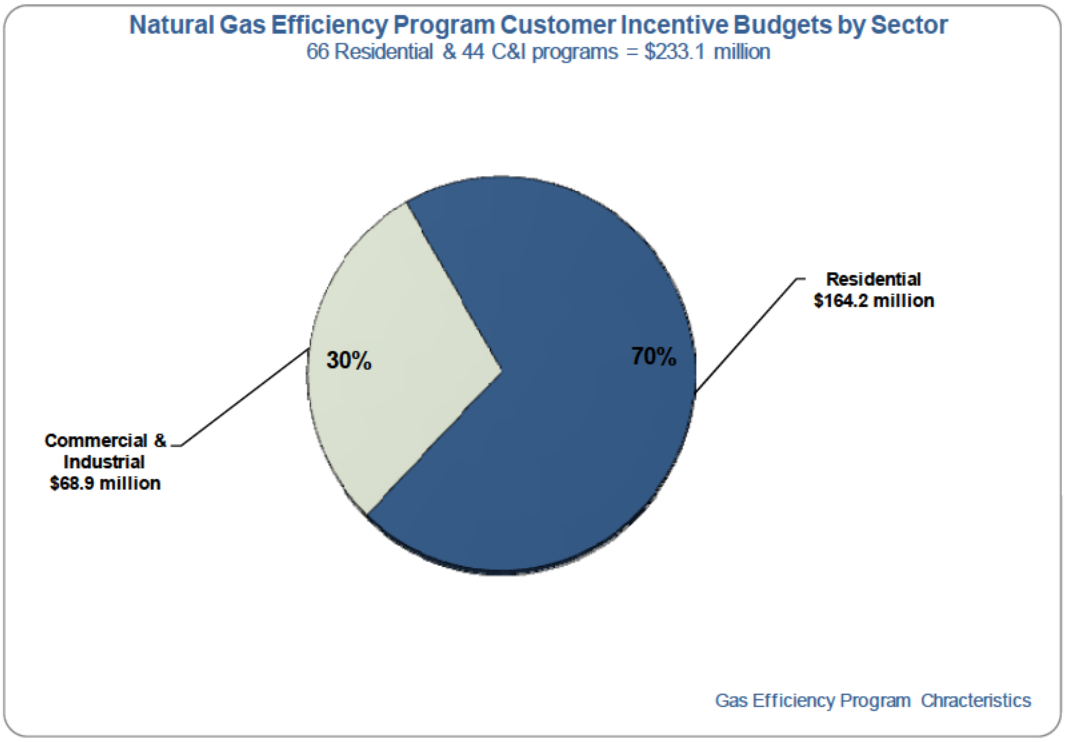
When asked to identify all products offered in their residential natural gas efficiency programs, 92 respondents selected furnaces (in 81 programs), boilers (67), comprehensive whole house efficiency (for existing homes in 66 programs and for new construction in 44 programs), storage water heaters (65), tankless water heaters (53), tune ups and controls upgrades (38), HVAC quality installation (32), clothes washers (23), windows (14), dishwashers (9) and solar water heaters (7). C&I programs include boilers (59 programs), furnaces (59), storage water heaters (55), tankless water heaters (45), tune ups and controls upgrades (44), commercial kitchens (42), HVAC quality installation (24), energy management or continuous energy improvement (19), and solar water heaters (13). Several programs also offer separate industrial programs that are either custom (40 programs), prescriptive (29) or include plant assessments (25).

Other products were listed by 29 respondents, including programmable thermostats, radiant heaters, and drain water heat recovery. Additional residential products include chimney dampers, low-flow faucet aerators and showerheads, pilot-less hearth, and air duct sealing and attic insulation. Additional C&I products include rooftop gas pack units; prescriptive gas cooling; custom gas engine drives; boiler tune ups; steam traps; vent dampers; low-flow pre-rinse spray nozzle; new construction energy design assistance; retro commissioning of gas building controls; energy audits; engineering studies; commercial kitchen griddles, steamers, fryers, combination ovens, and modulating burners; and combined heat and power distributed generation.

Customer Incentives

Many natural gas efficiency programs offer customers financial incentives toward energy savings, such as appliance rebates and equipment financing. Respondents reported an aggregate 2009 annual incentive budget of $164 million for 66 residential programs and $69 million for 44 C&I programs (see Figure 3). The estimated incentive budget for 2010 is $241 million for 74 residential programs and $157 million for 59 C&I programs (including budgets for newly launched 2010 programs).

Figure 3



Eighty-one percent of natural gas efficiency programs (75 of 93) offer their customers cash incentives for high-efficiency natural gas appliance installations. Of those that have rebate programs, 97 percent offer them to residential customers, 72 percent to commercial customers and 52 percent to small industrial customers. Forty-three percent of the residential rebates are used by low-income customers. Thirty-two percent (or 24 programs) offer rebates to all customer classes. As seen in Table 6, rebate dollar amounts vary widely, depending on the type and number of measures.

Table 6

Gas Appliance Rebates Programs					
	Boilers	Furnaces	Water Heaters	Programmable Thermostats	Other
Residential (70 Responses)					
Available Programs	53	67	59	45	27
Dollar Range	$75 $1,400	$75 $1,600	$35 $900	$10 $50	$10 $1,300
Low Income (28 Responses)					
Available Programs	25	28	26	22	14
Dollar Range	$150 $3,500	$100 $2,500	$50 $1,400	$20 $300	$20 $50,000
Commercial (50 Responses)					
Available Programs	40	42	38	25	23
Dollar Range	$75 $50,000	$75 $50,000	$30 $50,000	$20 $50	$30 $5,000
Industrial (24 Responses)					
Available Programs	20	22		12	12
Dollar Range	$150 $50,000	$100 $50,000		$25 $50	$200 $500,000

Customers are normally required to submit rebate forms with required documentation to qualify for reimbursement. As a pre-requisite to accessing rebates, some programs require their customers to accept a free energy audit (and include a programmable thermostat and weatherization kit for residential customers). This helps encourage a whole house or whole system approach to efficiency. Often programs vary the value of the rebate or incentive, based on the efficiency rating of the replacement appliance or efficiency savings of the project.

Eligible appliances for residential cash rebates include high-efficiency boilers (53), furnaces (67), storage and tankless water heaters (59 programs), and programmable thermostats (45). In 27 residential programs, other measures are offered, including insulation and sealing, ranges, clothes washers, dryers, dishwashers, combined space and water heating units, drain water heat recovery, new construction Energy Star Homes and Energy Star windows, boiler reset controls, shower heads, free weatherization kits, and free thermostats.

Income-qualified rebate programs also cover Energy Star windows, insulation, combination space and water heating systems, dishwashers, clothes washers, dryers and drain water heat recovery. Some programs double the rebate amount for low-income customers, offer them free energy audits, or help with loans through a community bank. Furthermore, several programs supplant rebates to low-income customers by paying the full cost of high-efficiency measures, including appliance repairs and replacements. In other low-income programs, the utility pays up to 90 percent of the total installation costs, capped at a specific dollar limit. Still others include the full appliance replacement cost only if it can be justified by the energy savings, health and safety criteria or pass a Total Resource Cost test.

For C&I programs, the rebate amount varies even more widely than in residential programs. Some incentive reimbursements consist of a set dollar amount per high-efficiency appliance unit; some involve a percentage of total insulation or equipment purchase cost, capped at a specific dollar amount; while others have a specific dollar amount per square footage or Therm saved. In some programs, the reimbursement is a percentage of the incremental cost of adopting a higher efficiency standard for a particular measure. In others, bigger incentives are provided to larger volume customers for adopting higher-efficiency measures. Many of the C&I rebates are awarded on a custom, or site-specific, basis.

Other measures that qualify for rebates in C&I programs include insulation and sealing, direct-fired heaters, integrated water heating and condensing boilers, gas cooling, combined heat and power, chillers, boiler tune ups, infrared heat, pre-rinse sprayers, steam traps, drain water heat recovery, system/water clothes washers, food service equipment including Energy Star gas fryers, steamers, ovens, ranges, and griddles.

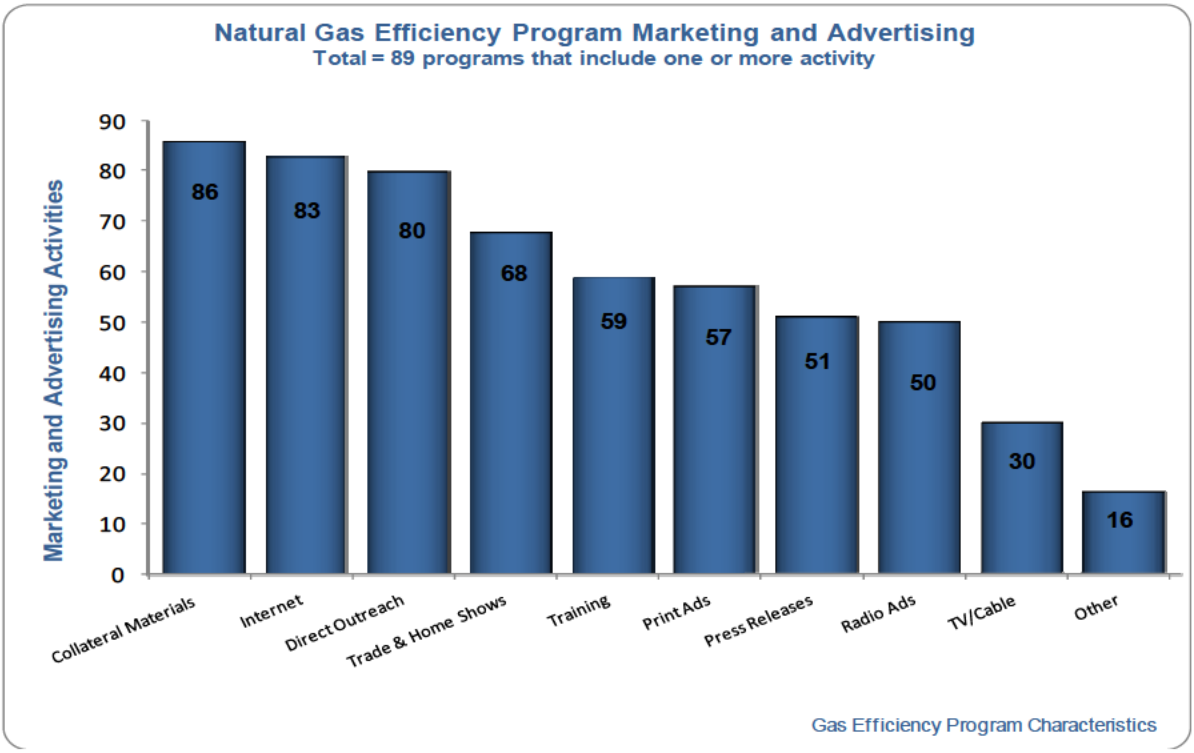
A number of programs help customers finance high-efficiency natural gas appliance purchases. Nineteen percent (18 of 94) grant these loans to qualifying customers. One program leverages and helps promote financing that is administered by neighboring electric companies. Of the 18 programs, 14 offer financing to residential customers, ten to commercial customers, and three to industrial customers. Three of those offer loans to all customer classes.

Six of the 18 programs offer interest-free loans; four provide interest rate buy-down and two include both. Six programs have other types of loans, such as low-fixed rates and other annual percentage rates. Fifty percent of these programs (9 of 18) administer loans in house, while 44 percent (8 programs) assign loan processing to a third-party. Only one program splits loan administration between in-house staff and an outside consultant. Six of the 18 programs (or 33 percent) use on-bill financing, where loan installments are added directly to a qualifying customer's monthly bill.

Ninety-five percent of natural gas efficiency programs (89 of 94) are promoted via an array of marketing and outreach efforts in the form of collateral materials, internet tools, direct outreach, trade and home show promotions, training, print ads, press releases, radio commercials and/or TV and cable advertisements. Twenty-three percent of programs (20 of 88) employ all these approaches

As seen in Figure 4, the most widely used approach is the distribution of collateral materials (e.g., brochures and bill inserts), followed closely by internet tools and direct outreach.

Figure 4



Sixty-seven respondents provided the percentage of overall natural gas efficiency program budget spent on marketing activities. Expenditures for marketing range from less than one to 58 percent of overall natural gas efficiency program dollars, and the median spending is 4.7 percent of total efficiency program dollars. Table 7 breaks down program outreach spending into percentage ranges of total program dollars. As shown, more than half the programs spend five percent or less of their efficiency program budget on marketing and outreach.

Table 7

MARKETING DOLLARS AS PERCENTAGE OF OVERALL NATURAL GAS EFFICIENCY PROGRAM BUDGET 67 PROGRAMS	
PERCENTAGE OF PROGRAM BUDGET	NUMBER OF PROGRAMS
1% or less	9
1% > ≤ 5%	30
5% > ≤ 10%	12
10% > ≤ 25%	11
25% > ≤ 50%	4
Greater than 50%	1
TOTAL	67

Nine percent of respondents (8 of 93) indicated that their natural gas efficiency program includes a regulator-approved codes and standards advocacy program that promotes improvements to building efficiency codes and appliance standards. This is performed through studies, drafting guidelines, expert testimony, stakeholder meetings, research, and marketing and compliance improvement activities (such as funding for statewide contractor training on adopted building codes).

Eighteen percent (17 of 94) of respondents indicated that their natural gas efficiency program includes pre-commercial demonstrations of emerging technologies. Of the 17, three stated that their public utility commission requires such demonstrations.

II. Natural Gas Efficiency Program Funding and Impacts

This section describes utility funding for natural gas efficiency programs in the U.S. and Canada and the resulting annual energy saving impacts. Program year 2009 expenditures correspond to funding by 108 utilities for programs they or other parties administer. These third-party administrators include nonprofit public benefit organizations and state agencies that run statewide programs. A small part of 2009 expenditures were not finalized and will be subject to true-up. Approved budgets for 2010 represent planned funding for 115 programs (including five launched in 2010). Budget data were collected during spring and summer 2010; therefore, any budgetary changes made after this period—due to newly approved programs or funding cuts—are not reflected in this report. Some dollars reported for 2010 represent carryover of unspent funds from 2009.

Respondents were asked to break down 2009 expenditures and 2010 approved budgets by customer class or segment. Where data were not available by segment, a slight percentage of respondents reported overall spending amounts in the "Other" category. In cases where respondents were unable to break down spending for certain activities (such as evaluation, measurement and verification) into discrete customer segments, they placed all dollar amounts corresponding to this activity under "Other." Also in some cases, respondents were not able to separate low-income program dollars from residential program funds (either overall or for specific activities, such as education and online resources), and a small number of commercial program dollars were combined with residential program funds.

All natural gas efficiency program dollars discussed in this report are sourced from ratepayers; however, some program funds originate from other sources, such as utility shareholders and American Recovery and Reinvestment Act (ARRA) dollars. These non-ratepayer dollars have been excluded from this report, and they account for 0.24 percent of 2009 spending on efficiency program in North America and 0.41 percent of 2010 reported funds. Given that the reporting methodology varies among respondents, expenditure and budget data should be regarded as estimates rather than exact figures.

Natural Gas Efficiency Program Expenditures and Funding

In the U.S. utilities spent nearly $803 million in 2009 on natural gas efficiency programs and plan to spend about $1.1 billion in 2010. Program expenditures approached $870 million in North America in 2009 and are expected to exceed $1.2 billion in 2010 (see Table 8). See Appendix B and C for state and region breakdowns of natural gas efficiency program funding by companies that agreed to release their data.

Table 8

Natural Gas Efficiency Program Expenditures and Budgets by Customer Class[1]						
	2009 Expenditures ($ Million) 108 Programs			2010 Approved Budgets ($ Million) 115 Programs (4 Pending)		
Customer Segment	U.S.	Canada	N. America	U.S.	Canada	N. America
Residential	$296.3	$20.1	$316.4	$463.5	$19.0	$482.5
Low-Income	$275.6	$6.8	$282.4	$313.6	$14.9	$328.5
C & I	$170.2	$22.8	$193.1	$278.1	$24.6	$302.7
Other[2]	$60.5	$17.2	$77.6	$88.8	$26.5	$115.3
TOTAL[3]	**$802.6**	**$66.9**	**$869.6**	**$1,144.0**	**$85.0**	**$1,229.0**

[1] Subcategories might not add up exactly to reported totals due to rounding.

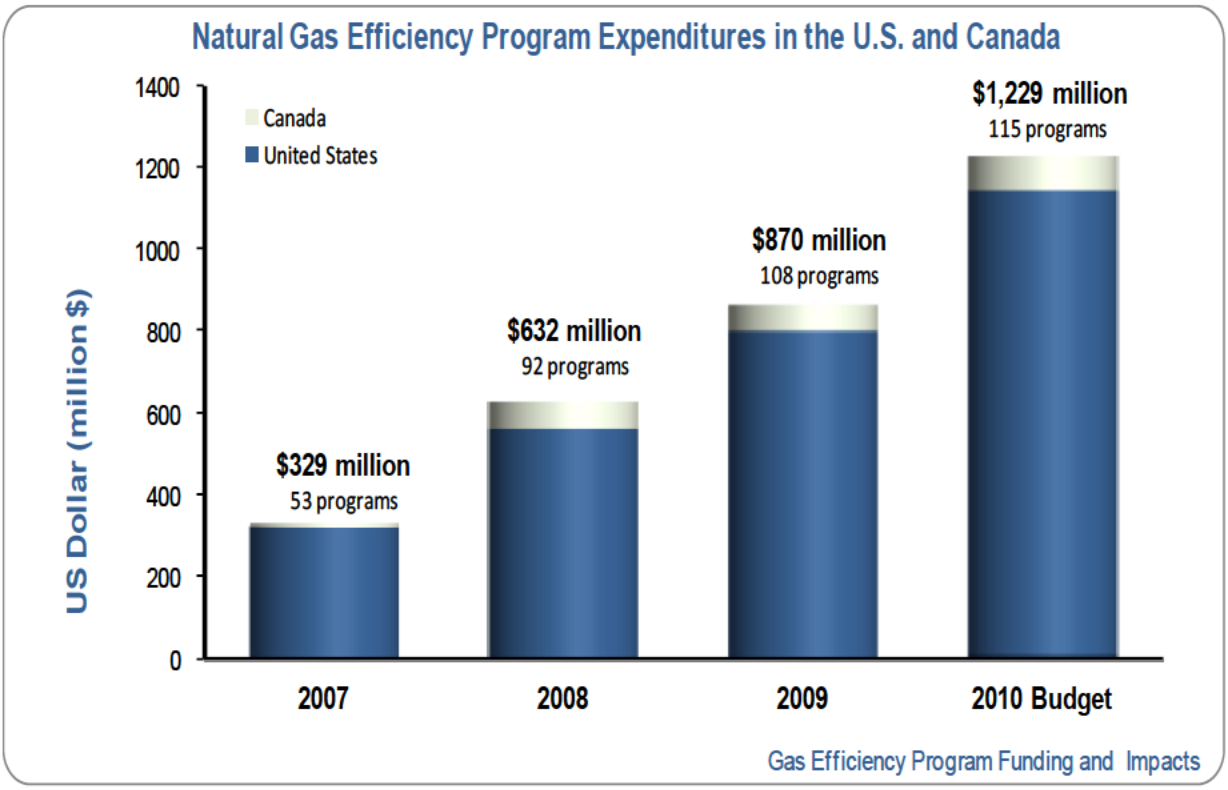
[2] A small percentage of funds in "Other" represent EM&V funds not included in the segment categories.

[3] All currency is reported in U.S. dollars. This report uses the July 8, 2010 exchange rate of 0.9544 USD = 1 CAD.

Program funding in North America increased by 38 percent from 2008 to 2009 and is expected to grow by 41 percent in 2010. In the U.S., program funding grew by 42 percent from 2008 to 2009 and is expected to grow by 43 percent from 2009 to 2010. This comparison is intended for illustrative purposes only, since spending growth cannot be entirely attributed to new and expanded programs but also to differences in survey samples from one year to the next.

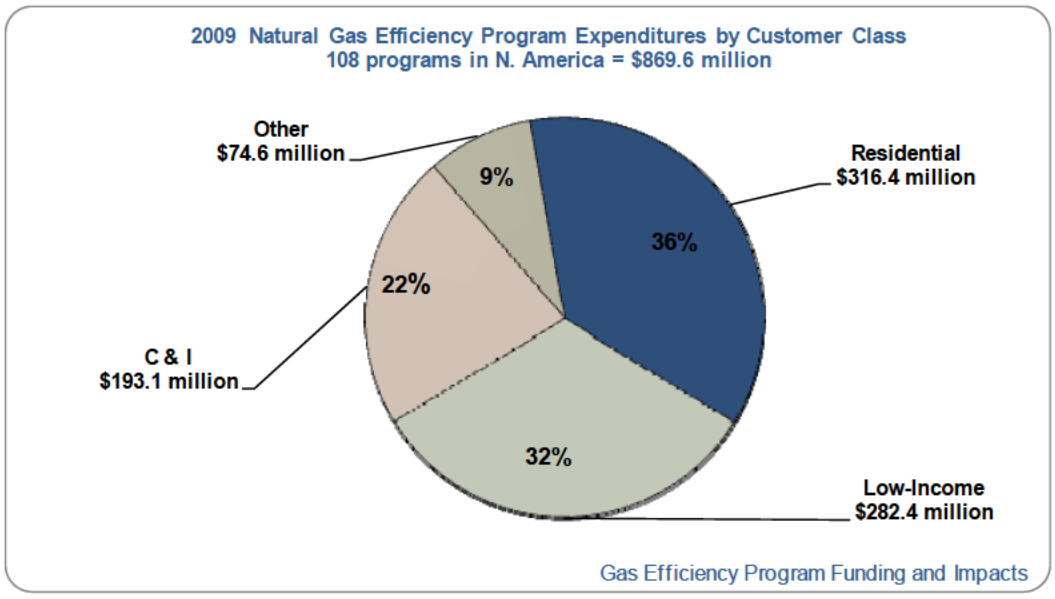
Figure 5 presents natural gas efficiency program funds from 2007 through 2010.

Figure 5



A look at 2009 natural gas efficiency program expenditures across sectors shows that North American utilities apportioned 36 percent of funding for residential programs, 32 percent for low-income, 22 percent for C&I, and nine percent for other program activities (see Figure 6).

Figure 6

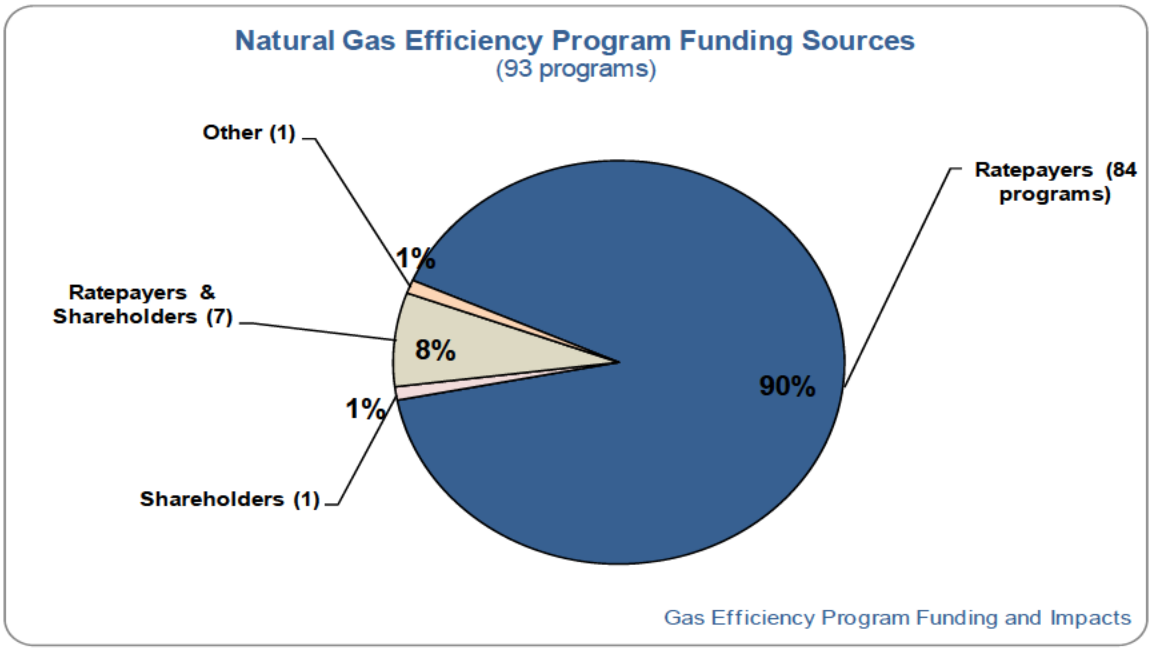


Expenditures that were not include in the segment categories includes labor and administrative costs; market research and transformation; planning and development; pilot programs; marketing and outreach; education campaigns; contact centers; tracking systems; EM&V; codes and

standards; emerging technologies; renewable energy; DSM coordination; regulatory filing and state oversight charges; and contractor training.

Figure 7 shows the distribution of natural gas efficiency program funding among sources in 2009. Ninety percent of programs are funded solely by ratepayers (via base rates, system surcharges or special natural gas efficiency tariffs), one percent by shareholders only, eight percent by shareholders and ratepayers, and one percent by other means.

Figure 7



Based on 80 survey responses, utilities disbursed from 0.01 to 9.5 percent of net natural gas distribution revenues (net of gas costs) for natural gas efficiency programs in 2009. The median spending is close to one percent of net distribution revenues. Of the 80 responding companies, half used less than one percent of net distribution revenues for natural gas efficiency programs, 34 used one percent to less than five percent, and six spent five percent or more.

Natural Gas Efficiency Program Savings Impacts

Estimated 2009 annual natural gas savings impacts were reported for roughly 98 programs by customer class. Respondents were requested to report energy savings realized by gas efficiency measures during the 2009 calendar. This includes calendar year savings from natural gas efficiency measures already in place at the beginning of the year as well as incremental savings realized from new measures implemented during the year. A number of respondents (about 10 percent) were limited by the manner in which they track and report energy savings and thus did not provide annualized savings as defined above (with pre-existing measures and participation taken into account) but rather reported only incremental, or first-year, Therm savings.

Data were not available for a number of respondents, either because savings are not tracked or not yet available for 2009. In some of these cases, estimates were provided based on prior year data. While the majority of respondents provided calendar year savings accumulated in 2009, some were able to report only for the most recent program year (with, for example, some program months falling in 2008 and some in 2009). Where data were not available by segment, a slight percentage of respondents reported overall savings in the "Other" category.

Respondents were also asked for net impacts—that is, to exclude free riders, savings due to government mandated codes and standards, reduced usage owed to weather or business cycle fluctuations, and reduced usage because of natural operations of the marketplace (e.g., higher

prices). Many respondents report deemed savings—a set calculation of savings per measure, developed pre-installation, with built-in assumptions regarding free ridership and other specifications. About 47 percent of the respondents that reported savings data were able to provide net impacts, and the remainder provided gross savings.

Some respondents were unable to separate low-income program savings from overall residential program savings, while others combined commercial program savings with residential impacts. Still others included savings for multi-family programs with C&I program savings. These combined categories represent a very small percentage of the data. Given that the reporting methodology varied among respondents, natural gas savings data should be regarded as estimates rather than exact figures.

As shown in Table 9, in 2009 U.S. utilities saved nearly 529 million Therm (or 52.9 trillion Btu) through natural gas efficiency programs, thus avoiding 2.8 million metric tons of carbon dioxide emissions (CO_2). Natural gas
savings in North America were about 898 million Therm (or 89.8 trillion Btu), the equivalence of 4.7 million metric tons of avoided CO_2 emissions. For a breakdown of savings impacts by region, see Appendix D.

Table 9

2009 Natural Gas Efficiency Program Savings Impacts by Customer Class (Million Therm) - 98 Programs

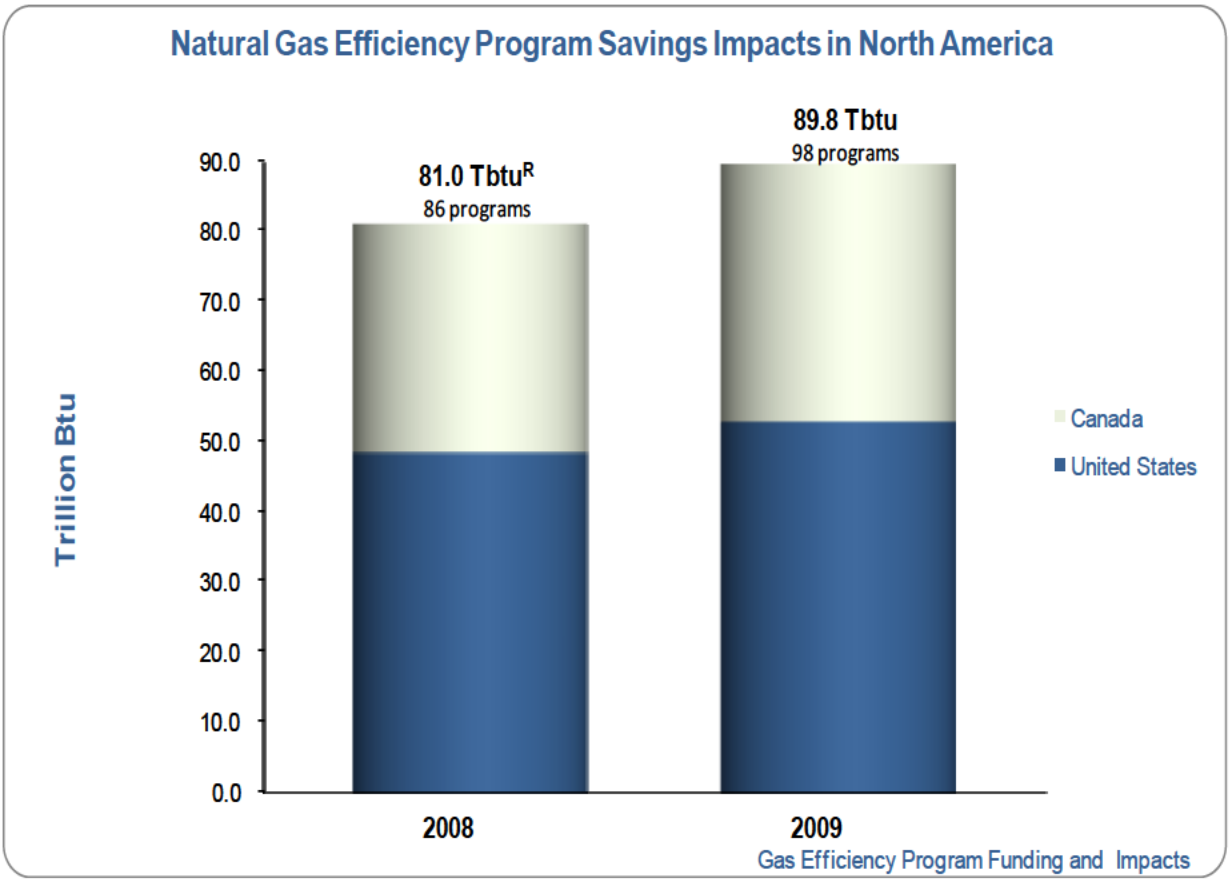
Sector	United States	Canada	N. America
Residential	179.4	84.2	263.6
Low-Income	38.1	4.6	42.7
Commercial & Industrial	288.2	283.7	571.8
Other[1]	23.3	(3.1)	20.2
TOTAL[2]	**529.0**	**369.4**	**898.4**

[1] The negative number represents interactive effects of DSM electric savings.

[2] Subcategories might not add up exactly to reported totals due to rounding

Natural gas savings from U.S. efficiency programs grew by nine percent in 2009 to 52.9 trillion Btu (from 48.4 trillion Btu in 2008). Figure 8 compares 2009 savings with prior year data and shows that natural gas savings in North America increased eleven percent (from 81.0 trillion Btu in 2008 to 89.8 trillion Btu in 2009)[7]. This comparison is for illustrative purposes, because this growth cannot entirely be attributed to new and expanded programs but also to differences in survey samples from one year to the next.

Figure 8

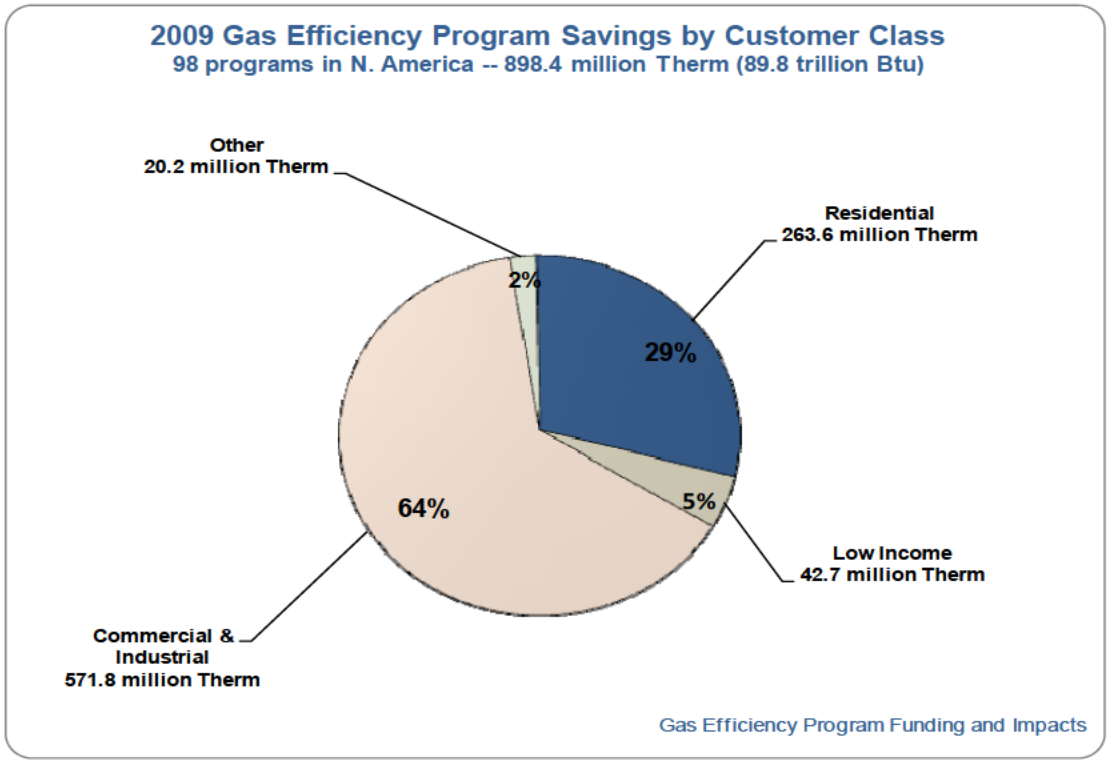


In the United States, residential savings account for 41 percent of overall savings (of which seven percent are from low-income programs), and C&I program savings account for 54 percent. Four percent of U.S. savings is classified as other, representing data not allocable by customer class and including estimated savings for education, general outreach, codes and standards, and pilot programs.

[7] Natural gas efficiency program savings for the 2008 program year have been revised for the U.S. and Canada since this report was last updated in December 2009. A number of companies had provided first year savings for newly installed measures in 2008 rather than annualized savings for all measures that achieved savings during 2008 (whether pre-existing or newly installed). They therefore revised 2008 numbers to meet the specific definition for annualized savings (see page 15), thus provided comparable data for 2008 and 2009. In Canada, annual savings from established natural gas efficiency programs are generally high. This is because of substantial savings opportunities from gas heating programs in this cold climate and the long-term nature of installed measures.

A look across segments at 2009 natural gas efficiency programs in North America shows that 29 percent of savings are attributed to residential programs, 5 percent to low-income activities and 64 percent to C&I programs (see Figure 9). Two percent of North American natural gas savings is classified as "other,"

Figure 9



In the U.S. annual natural gas savings per efficiency program participant averaged nine percent for residential participants and 7.4 percent overall. Natural gas savings per year averaged 122 Therm per U.S. customer overall and 69 Therm per residential customer, which translates to average cost savings per residential customer of $83 on annual energy bills[8].

[8] Natural gas efficiency program data for both participant counts and annual savings were available for 69 programs. Average cost savings were derived from survey data for the 69 programs, 2008 Energy Information Administration (EIA) consumption data per company by end use, and EIA average natural gas end-use price.

III. Natural Gas Efficiency Program Planning and Evaluation

Survey respondents were asked to describe their approach to natural gas efficiency program planning, measurement and evaluation. Forty-six percent of respondents (42 of 91) completed a full scale or smaller market assessment (or some form of efficiency potential, baseline, or feasibility study) before implementing their natural gas efficiency programs.

Seventy-seven percent of respondents (72 of 93 active programs) include an evaluation, measurement and verification (EM&V) component in their natural gas efficiency program. However, not all were able to report expenditures and budget figures, either because 1) these are not separated from other administrative budgets; 2) evaluations and reports are completed in house and incremental costs are not itemized; 3) program evaluations are not due in 2009 or 2010; or 4) contract negotiations with third-party EM&V vendors are ongoing.

Expenditures for 2009 EM&V were obtained for 46 of the 72 active programs that have EM&V activities, and 2010 EM&V budgets were provided for 56 active and two planned programs. EM&V expenditures surpassed $12 million in the U.S. in 2009 and are estimated to approach $31 million in 2010—a 150 percent increase. In North America, 2009 EMV spending approached $14 million and is expected to exceed $32 million in 2010 (see Table 10).

Table 10

Evaluation Measurement & Verification Expenditures and Budgets		
Region	2009 Expenditures ($) 46 Programs	2010 Budget ($) 58 Programs
United States	$ 12,371,305	$ 30,976,904
Canada	$ 1,340,707	$ 1,651,518
N. America	$ 13,712,012	$ 32,628,422

In 90 percent of programs (79 of 88), the utility is responsible for conducting the impact evaluation, and in the remaining 10 percent, the evaluation is the regulatory commission's purview. When the utility is the responsible party, the evaluation is conducted by a consultant for 61 percent of programs (48 of 79), by in-house staff for 35 percent (28 of 79), and by both internal staff and outside agent for four percent (3 of 79). In the latter case, in-house staff may oversee and coordinate multiple independent evaluation consultants undertaking impact evaluations and process assessments.

Eighty-seven of 93 survey respondents (94 percent) indicated that they are required to report natural gas efficiency program impacts at regular intervals to their regulator or other authority. Others are asked for informal evaluations by their regulators instead of a formal impacts report. When asked how often evaluators must submit a program report, respondents selected one or more timeframes, depending on the type of evaluation and intended recipient.

Table 11 shows the required reporting cycles for program evaluators. Eighty-three percent of respondents are required to submit an annual report. Other than monthly, quarterly and annually, reporting frequencies include semi-annual, once in three years, in five years and in six years.

Table 11

EE Program Reporting Frequency 87 survey responses with one or more reporting cycles	
Monthly	17
Quarterly	25
Annually	72
All of the above	10
Other	11

Thirty-six percent of respondents are required to report net savings impacts, 49 percent report gross savings and 15 percent include both in their report. Fifty-five of 93 respondents indicated that their organization has quantitative program savings goals. These goals may be set by the regulatory commission, oversight board, state legislature, natural gas utility, a consultant, or advisory council. Often they are negotiated among utility, regulator and stakeholders through a regulatory process. Most often the Therm savings goals is set for one calendar or program year; however, in some cases the goal is for a range of years.

When assessing annual energy savings derived from direct impact natural gas efficiency programs, 42 percent of respondents (38 of 90) determine savings at the individual program level, four percent (4 of 90) at the overall portfolio level, and 52 percent (47 of 90) at both levels. Eighteen percent of respondents (17 of 92) determine energy savings achieved from indirect impact programs (such as conservation and efficiency education), and one other is considering this approach.

Of the 82 natural gas efficiency programs for which cost effectiveness is evaluated, 32 percent (26 of 82) are assessed only at the individual program level, 11 percent (or 9 programs) for the overall portfolio, and 1 percent (or 1 program) by customer segment. Forty percent (33 programs) determine cost effectiveness for both individual program and the entire portfolio, and 16 percent (13 programs) conduct tests at all three levels. In several programs, cost-effectiveness tests are conducted at the measure level, including custom measures. In another case, the investor-owned utilities in the state are required to conduct various cost-benefit tests at multiple levels, and the small and multi-jurisdictional utilities are allowed to mimic their program savings.

Table 12 shows how respondents answered when asked to describe all tests used to determine cost-effectiveness. Total Resource Cost testing was used by 76 percent of respondents (62 of 82). Fifteen percent (or 12 respondents) reported using all five tests.

Table 12

Tests Used to Determine Natural Gas Efficiency Program Cost-Effectiveness[9] 82 responses with one or more test	
Participant Test (PCT) Calculates quantifiable costs (e.g., out of pocket expenses of participating in program) and benefits (e.g., reduction in utility bill, rebate payments, tax credits) to participating customers	42
Ratepayer Impact Measure (RIM) Applies only to utility programs—measuring impact on all consumer bills/rates because of changes in utility revenues and operating costs due to program implementation	38
Utility Cost Test (UCT) Narrower version of TRC—excluding participant costs and measuring net costs incurred by program administrator (e.g., customer rebates and other financial incentives) at the utility (UCT applies) or at other organization (PAC applies)	51
Total Resource Cost (TRC) Measures net program costs—including both participants' and utility's costs (e.g., equipment and installation, operation and maintenance and other related costs of participant and utility) and benefits (e.g., avoided supply costs, natural gas delivery cost reductions, tax credits)	62
Societal Test (SOC) Broader version of TRC adopting a societal perspective—measuring not only participants' and utility's costs but also externality cost and benefits (e.g., environmental impacts)	29

Sixteen percent of respondents (14 of 90) indicated that a reduction of greenhouse gas (GHG) or carbon emissions is a performance target for their natural gas efficiency program. Of the 15, nine respondents (or ten percent) track such reductions. Five others do not consider emissions reduction a performance measure, yet they track it and, in some cases, report their findings. Some opt to do so as a means to determine the cost-effectiveness of their program. Two others that do not track emission savings reported that they do contemplate them when selecting cost effective measures.

When asked how they calculate energy efficiency gains for specific programs or measures, respondents indicated that they use source-to-site energy measurement in 14 percent of programs (12 of 86), and site-only measurement in 86 percent of programs.[10] Thirty-four percent of respondents (29 of 86) use a given metric because they are required (mostly through regulatory precedent or filing requirement but also by legislation), 47 percent because of available resources, and 19 percent for other or unspecified reasons. Other reasons given for their current approach are ease of use; common practice for utility-sponsored programs; consistent with other utilities in same jurisdiction; limited to deemed savings computations developed by regulator; based on energy Star standards; existing practice for statewide programs; considered as a true measurement of efficiency; and not approved by regulator.

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[9] For a thorough description of each cost-effectiveness test, see Appendix C-4 in *Model Energy Efficiency Program Impact Evaluation Guide*, A Resource of the National Action Plan for Energy Efficiency, November 2007, www.epa.gov/cleanenergy/documents/evaluation_guide.pdf

[10] Source energy—also known as full fuel cycle analysis—is a more accurate measurement of efficiency. Site energy analysis accounts for energy used or consumed only by the end-user at the usage site. On the other hand, a full fuel cycle analysis takes into account not only onsite energy consumption but also consumption and losses during the production, generation, transmission and distribution cycles. This allows for a realistic comparison of relative efficiency among different technologies, especially when comparing the efficiency of natural gas applications from source to site with that of other fuels.

IV. Natural Gas Efficiency Regulatory Requirements and Cost Recovery Treatment

This section describes some of the regulatory and legal requirements and allowances that surround natural gas efficiency programs in the U.S., including direct program cost recovery, lost revenue treatment and financial incentives for well-performing programs. Data were provided for 94 natural gas efficiency programs (including two in Canada), although not all respondents answered all questions.

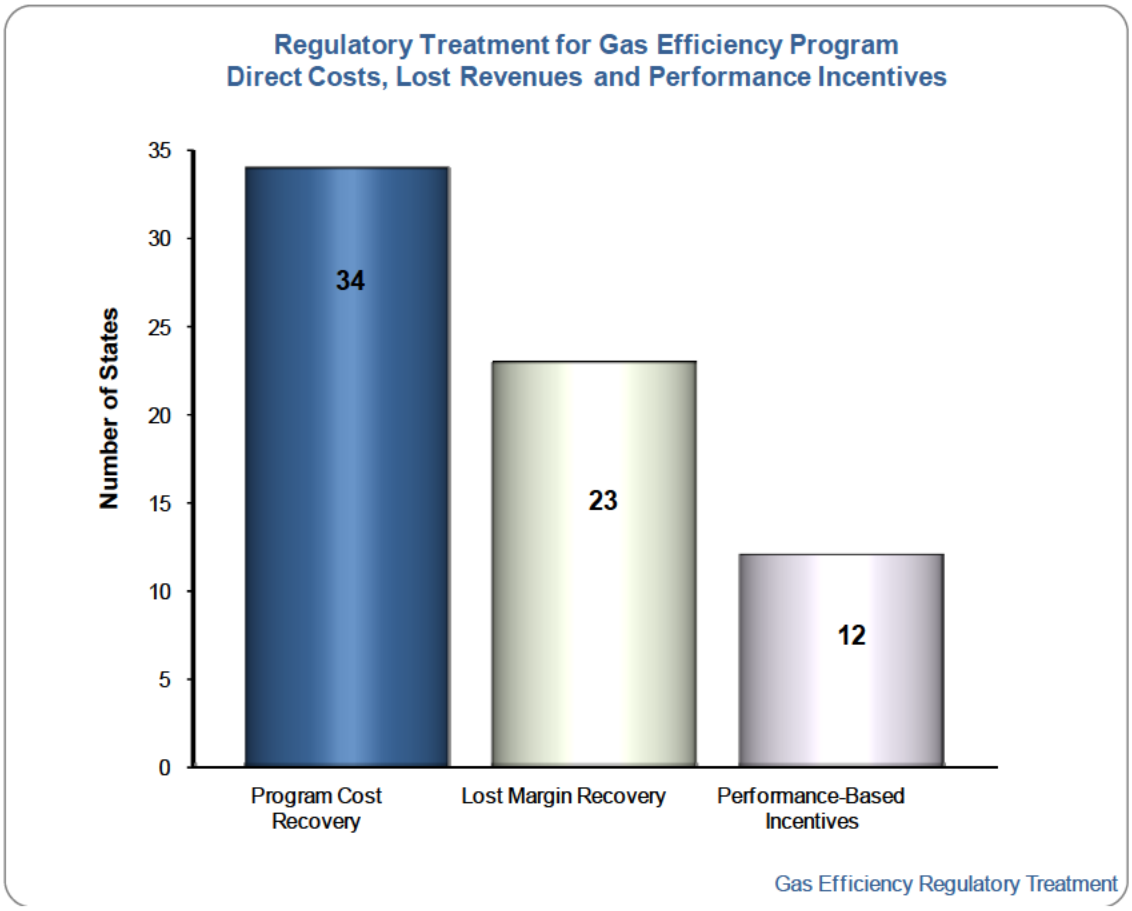
According to survey responses, market studies were conducted in 22 states and Ontario to assess the economic and efficiency potential of natural gas efficiency program implementation. Twenty-eight states and Ontario require utilities to support natural gas efficiency programs with either ratepayer or shareholder funds—by way of regulatory ruling (eight states and Canada), legislative act (seven states) or both rule and bill (in 13 states). The goals that drive this efficiency program funding requirement are energy conservation and savings (66 respondents in 26 states and Canada); customer dollar savings (29 in 17 states and Canada); greenhouse gas emission reductions (28 in 13 states and Canada); and job creation (17 in ten states). Eighteen states and Ontario have set more than one goal, of which eight pursue all four goals. In five states, other goals have been stipulated, such as least cost planning, expenditure levels, or required low-income program implementation as part of a rate case settlement or approval for revenue decoupling.

Only one state in which GHG or carbon emissions reduction is a measureable goal allows a return on investment for carbon offset programs. In two other states, approval is pending for earning credit for such programs (either through cost recovery or investment returns). Individually, five of 83 respondents successfully sought regulatory approval for cost recovery or earnings on projects for which GHG emissions reduction is a primary goal. These programs include renewable energy certificate purchase programs and carbon offset purchase programs, supporting wind farms and biogas generating plants. Three respondents were denied cost recovery or earnings credit for their carbon offset programs, and seven others are exploring similar options.

Twenty-five states and Canada require utilities to fund conservation and efficiency programs for low-income customers. According to 36 respondents in 22 states and Canada, income-qualified programs are subject to a cost-effectiveness “litmus test” that determines program sustainability and/or eligibility for cost recovery. Seventy-two percent of respondents (67 of 93) said that their regulator requires them to use a specific cost-benefit test (such as ones listed in Table 12) as a performance measure. This calculation is based on net savings for 61 percent of respondents (41 of 67), on gross savings for 37 percent (or 25 respondents) and on both net and gross impacts for two percent (one of 67).

Respondents identified, besides Canada, 34 states that allow recovery of natural gas efficiency program costs, 23 that allow lost margin recovery owed to implementing efficiency programs, and twelve that offer utilities financial incentives for well-performing natural gas efficiency programs (see Figure 10).

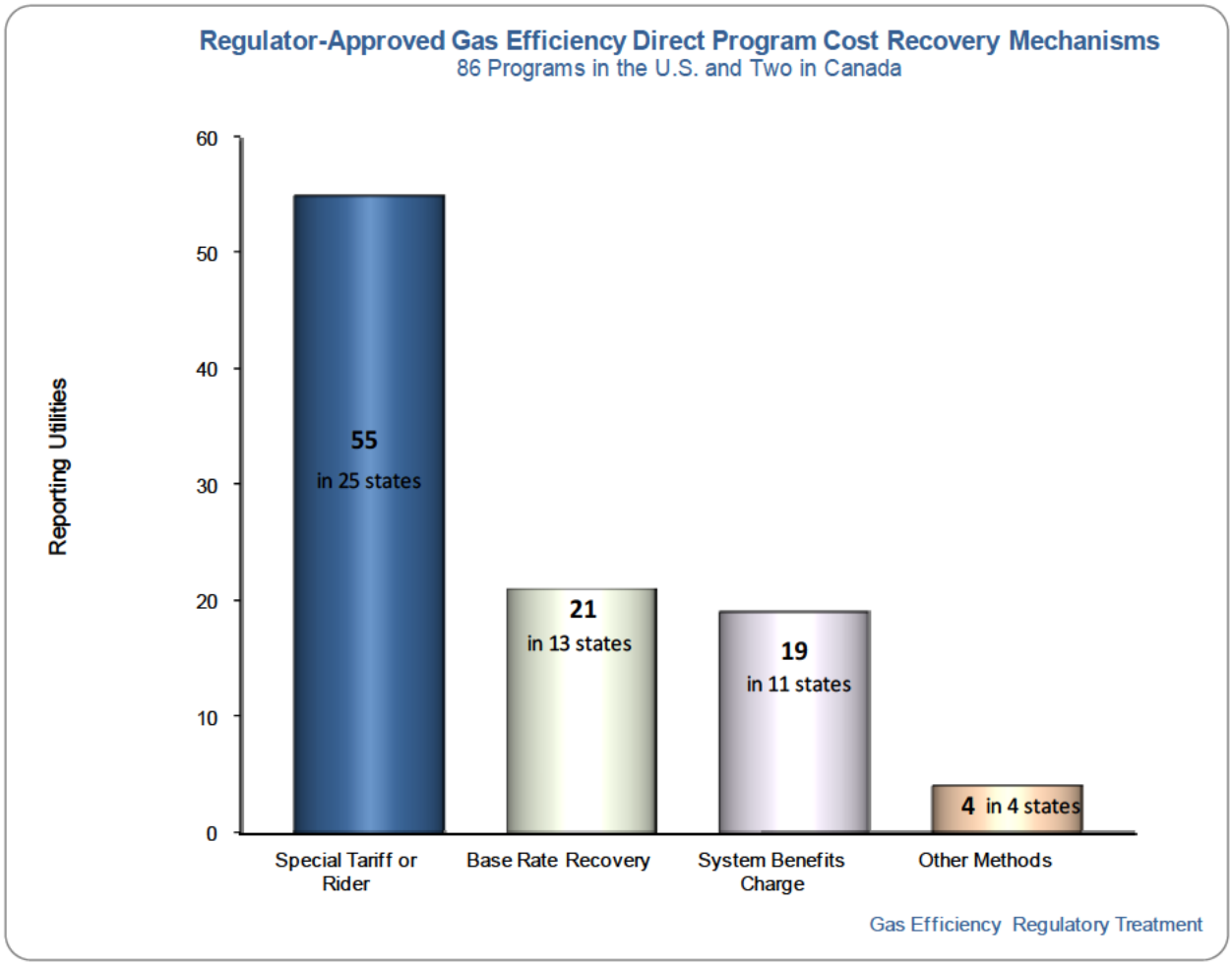
Figure 10



Eighty-six natural gas efficiency programs are administered in the 34 states identified as having assured recovery of natural gas efficiency program costs (e.g., rebates and administrative costs). Program cost recovery is pending regulatory approval in one other state. Only four respondents reported an inability to recover natural gas efficiency program costs.

Utilities use one or more mechanism to recover costs as follows: 55 companies in 25 states and one in Canada use a special efficiency or conservation tariff rider; 21 in 13 states and one in Canada embed natural gas efficiency program costs in base rates; and 19 in eleven states apply a mandated system benefits (or public goods) surcharge on customer bills (see Figure 11). Four in four states use other mechanisms in the form of other ratepayer surcharges, such a Regional Greenhouse Gas Initiative Recovery Charge, Conservation Adjustment Mechanism, and a charge on electric bills to recover low-income weatherization program costs).

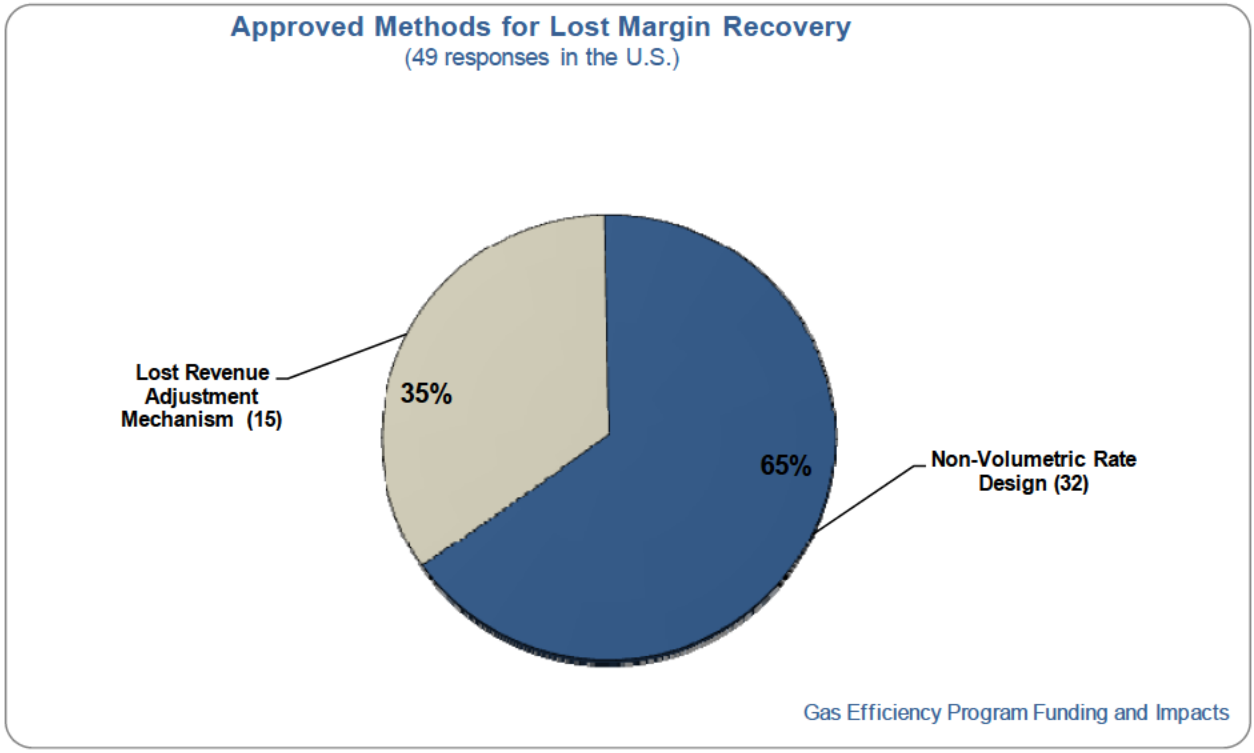
Figure 11



Forty-nine natural gas efficiency programs are implemented in the 23 states identified in the survey as having approved recovery of lost revenues and margins that result from natural gas efficiency program implementation. Lost margin recovery provisions are pending for seven utilities in two states. Thirty-four respondents reported that they are not allowed to recover lost margins owed to implementing natural gas efficiency programs.

As shown in figure 12, of the 49 U.S. utilities allowed recovery of lost margins, 32 in 15 states have a non-volumetric rate design and 15 in 13 states use a lost revenue adjustment mechanism (an after-the-fact surcharge or conservation rate adjustment mechanism applied specifically to efficiency programs).

Figure 12

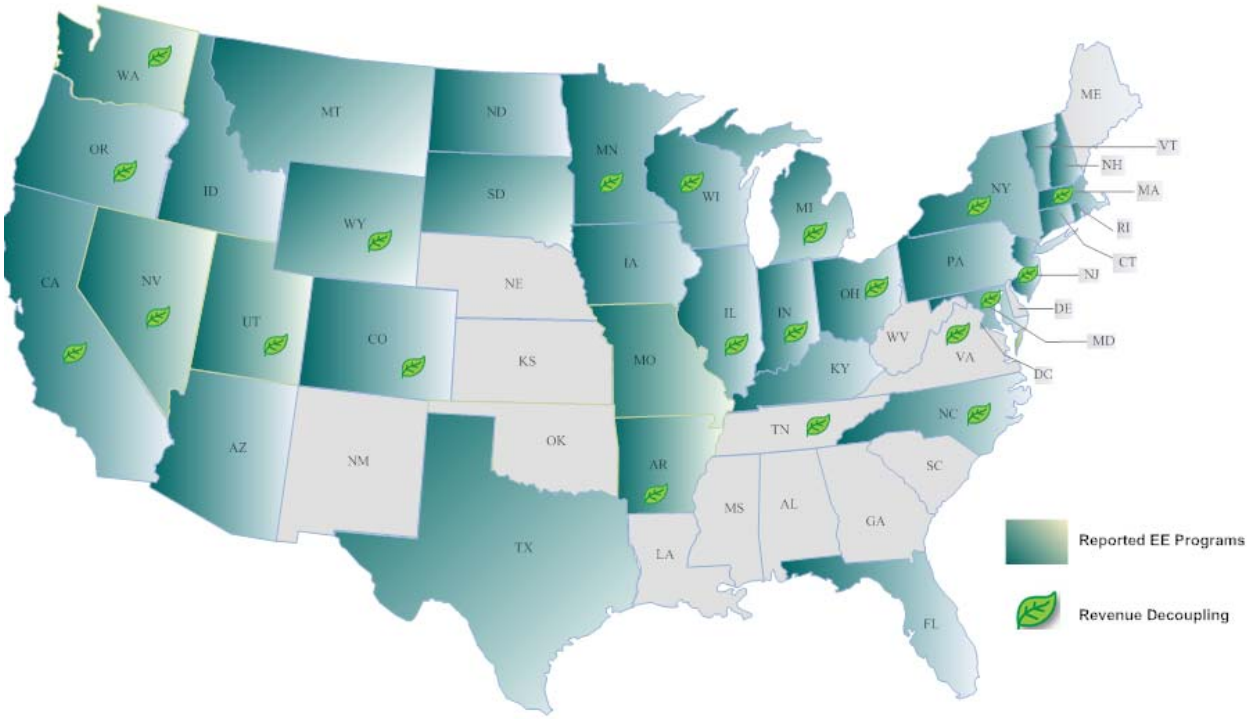


Of the 32 respondents in the 15 states with non-volumetric rate designs, 17 (or 53 percent) have full revenue decoupling, three have partial revenue decoupling, nine have revenue decoupling with restrictions, and three have a straight fixed variable (SFV) rate design. For those with partial revenue decoupling, the recovered lost margins are either limited to a specific percentage of revenues or must be equal to the achieved natural gas cost saving. Restrictions on revenue decoupling include 1) limiting margin recovery to a pre-determined return on equity, 2) applying a limited billing determinant adjustment that offsets customer or volumes losses in the residential and small business class with gains in large business customer or volumes; 3) excluding industrial customers and weather adjustments; 4) basing adjustments on actual usage per pre-existing customer and DSM triggers; 5) applying an earnings and energy savings test; and 7) basing margin-per-customer rate adjustment on fixed therm savings measures for each energy efficiency program and stipulated rates for each service classification.

As seen in Figure 13, natural gas efficiency programs are implemented in nearly all states that allow decoupling of natural gas utility revenues.

Figure 13

States with Natural Gas Efficiency Programs and Revenue Decoupling – 2009 Year



Source: 2010 Natural Gas Efficiency Programs Survey and Natural Gas Rate Round-Up – Update on Regulatory Approaches to Promoting Energy Efficiency, May 2009

Thirty programs are run in the twelve states identified as having regulator-approved financial incentives for implementing natural gas efficiency programs—including performance targets, rate of return incentives, and shared savings. Of the 30 respondents, 16 have a performance target incentive mechanism that bases financial rewards on meeting or exceeding specific program goals. Performance targets may include prog7ram-specific Therm saving thresholds; percent achievement beyond the mandated energy savings minimum (ranging from 115% to 125% of target); compliance with least cost procurement provisions; sector-level total resource cost effectiveness ratios; and explicit net economic benefits to consumers. The financial bonus may be based on a percentage of before-tax design level program expenditures; capped at specific dollar amounts; a percentage of program savings and metrics; or a percentage of the net economic benefits resulting from the DSM plan over the period under review.

Nine respondents have a shared saving mechanism that gives them a share of program savings, and three have a combination of performance targets and shared savings. Based on twelve responses, utilities are eligible to share between four and 30 percent of customer savings, and the median share is 20 percent of customer savings.

Two respondents have rate of return incentives, allowing them to make a profit on their natural gas efficiency investments equivalent to their authorized rate of return for utility supply-side investments. One respondent is awaiting regulatory approval for energy efficiency-related utility performance incentives.

Sixteen percent of U.S. respondents (14 of 86) reported that their regulator-approved natural gas efficiency program encourages fuel switching through financial incentives (e.g., rebates, loans and other benefits) to customers who install natural gas equipment in new homes, convert to natural gas from other fuels, or replace old equipment with new higher-efficiency natural gas equipment.

Appendix A summarizes natural gas efficiency program practices and regulatory requirements by state and for Canada. This includes market assessment studies, mandated utility funding for natural gas efficiency programs, requirements for low-income residential programs, approved recovery for direct program costs and lost margins, utility performance incentives, fuel switching and source-to-site energy measurement[11].

[11] For a more thorough explanation of regulatory treatment that supports energy efficiency programs, including specific program examples, see *Natural Gas Rate Round-Up — A Periodic Update on Rate Designs: Update on Regulatory Approaches to Promoting Energy Efficiency, AGA: May 2009*. Also visit AGA's *Rates & Regulatory Policy* web page for periodic updates on innovative rate designs: http://www.aga.org/OUR-ISSUES/RATESREGULATORYISSUES/RATESREGPOLICY/Pages/default.aspx.

V. THOUGHTS AND COMMENTS

Program administrators were asked to share their experiences with implementing natural gas efficiency programs. The following is an anecdotal account based on respondent observations regarding lessons learned, program delivery barriers, market penetration, most successful attributes and program innovation.

Delivery Barriers and Lessons Learned

The economic downturn, particularly in hard hit areas, continued to pose a challenge for many program administrators during 2009. This prevented customers with limited resources from taking advantage of appliance replacement rebates. Also businesses elected to extend the life of their existing equipment rather than invest in new high efficiency natural gas appliances. One remedy was to raise rebate levels to strengthen participation. In other markets, on the other hand, the general state of the economy and media coverage of gas prices spurred customers to invest in higher efficiency measures that would save them money in the long term.

In mature markets, hurdles to program delivery generate from competing energy efficiency service providers. Also with the low-hanging efficiency targets already garnered, the challenge for program implementers in such markets is to develop innovative efficiency programs while maintaining cost-effectiveness. For them, the need for newer energy efficiency technologies is more pressing and may help stimulate these saturated markets. Automated rebate systems also help streamline administrative processes for large programs, and monitoring and tracking systems provide program administrators with essential data for evaluating, validating and sustaining their programs.

In newer programs, among the most cost-effective measures are programmable thermostats and conservation education. Rehab projects and weatherization are other areas that provide greater savings potential, particularly with high-use, low-income residential customers. However, to optimize savings, it is necessary to set adequate levels of funding for materials per customer and an appropriate poverty qualification threshold.

When starting new programs, it is important to build in a realistic timeframe for program ramp up (from program launch to customer awareness and participation), taking into account the many factors that can impact this phase. Establishing early a robust marketing budget is a key factor: Well-timed, simple, and targeted advertising helps shorten the time needed to build up participation levels. Direct, regular outreach to customers is also a quick way to ensure that they are properly educated about program availability and offerings. Programs that have partnered with other utilities and organizations—including community-based agencies—have found success in reaching a wider audience and encouraging behavioral change by customizing pro-conservation messages for specific geographic regions and different consumer cultures.

Demand for residential high-efficiency space heating programs is high in many areas; however, certain factors can determine the outcome. Essential for these contractor-driven programs are networks of trained contractors that are incentivized and aware of program offerings and incentives and can carry out quality installations. As one respondent has stated, “contractors are the most influential channel in selling high-efficiency equipment and providing information on rebates.” Thus it is generally agreed that a necessary component of successful program delivery is a strong trade alliance (with HVAC contractors, energy auditors, plumbers, mechanical contractors, foodservice dealers and so on). Regular contact with these trade allies not only helps with program marketing but also improves the likelihood that high-efficiency equipment, such as water heaters, will be stocked rather than special ordered. In some markets, poor inventories are a common barrier.

Commercial programs are often more difficult to implement because they require even more targeted marketing and a longer ramp up timeframe, although this market is showing promising results in many regions. The small multi-family market (2-8 units) was cited as particularly hard to

reach, necessitating several customer contact points to achieve overall therm savings. One program addressed this challenge by adding air sealing as a measure to encourage greater participation and data analysis to identify higher energy users.

Market Penetration

Respondents were asked to specify the degree by which customers recognized and took advantage of natural gas efficiency products and services. This varied by program age, customer segment and program type. Based on 17 of 43 responses, the market penetration for natural gas efficiency programs ranged from less than one to 70 percent in 2009 (calculated in most cases as the ratio of participants to total eligible customers, with the numerator representing the number of enrollments, submitted rebates or subscriptions to online tools). However, looking only at the ratio of participating customers to total eligible customers in order to evaluate program growth generally yields a relatively small percentage.

The median market penetration rate was three percent. Five programs had a participation rate of less than one percent; four had from one to less than five percent; four achieved from five to less than 15 percent; and four reached at least 15 percent of the potential market.

Other respondents provided qualitative or anecdotal answers, ranging from low participation to rapidly increasing. The low ratings were generally for new programs. Others reported strong and rapidly growing participation, while others seem to have hit a plateau. Some of the positive ratings were based on market surveys indicating increased customer awareness resulting in behavioral change, incorporating weather stripping and equipment replacements. Others were based on independent evaluations using statistical analysis of use per customer during the program implementation period. Some respondents were unsure about market penetration in 2009, either because programs were either too new or because data were not available.

Most Successful Attributes

When asked about their most successful program attributes, respondents focused on specific implementation approaches, individual program components and program results. Here is a listing of the most successful attributes of surveyed programs, beginning with the most cited aspects:

Partnerships with Other Stakeholders: Strong trade alliances are fostered in many programs through outreach, education, incentives, training, and shared goals. Many find that contractors, when educated about natural gas efficiency and its benefits to their businesses, are the most effective resource to inform and persuade customers to take advantage of rebate offers.

Many programs have benefited from joining forces with other utilities, in many instances combining or matching natural gas, electric and water saving measures, thus managing to reduce administrative costs and improve process efficiency, while benefiting customers by offering comprehensive services and enhanced financial incentives. Also successful are multi-utility collaboratives that offer consistent market transformation programs across jurisdictions (e.g., GasNetworks collaborative in MA, NH and RI).

Involvement in community-level grassroots conservation efforts has also been constructive, and particularly productive are coalitions with community action agencies that deliver home heating assistance and weatherization services to low-income households. Such ties help to leverage utility low-income energy efficiency program dollars with federal low-income heating assistance program (LIHEAP) funds as well as utility customer assistance program funds. This presents a win-win for customers and utility as it helps minimize write offs of customer payment arrears and thus reduces uncollectible expenses.

Low-Income Usage Programs: As just mentioned, low-income weatherization programs provide many economic and societal benefits, including customer comfort, safety, and cost savings for both the utility and its customer base. For many programs, the low-income weatherization component is the most successful in achieving high energy savings and cost-effectiveness. Another way of

coordinating among programs is when higher usage customers are identified via the customer assistance program and those most in need are provided with furnace repairs or replacements.

Commercial and Residential Rebates and Incentives: Without rebates and other incentives such as fixed or low interest financing, many customers would be reluctant to move forward with energy efficiency measures, particularly in this economic climate. Many programs reported a steady growth in residential high-efficiency equipment rebate programs. In some cases, enrollments doubled in 2009 from prior year (e.g. Energy Star Home programs). In other newly launched programs, the level of interest in the residential HVAC replacement program was not well-anticipated by program administrators, and some programs even exceeded their targets.

Residential and Commercial Audits and Customized Retrofits of Large Facilities: Home and business energy audits provide an educational opportunity for customers to learn about energy efficiency, improved natural gas efficiency measures, and cost savings through lower bills. Many programs offer free or low cost energy audits to encourage a whole house approach to energy efficiency. Audit information gives business customers, for example, the opportunity to create an energy plan and seek approval to initiate energy efficiency projects. It was reported that commercial customers regularly implement a large percentage of audit recommendations, and others credited small business outreach programs for improving market penetration.

Other Success Factors: Other elements that are critical to the success of natural gas efficiency programs include expedited program startup; regulatory support via approved cost and lost margin recovery and performance incentives; a renewed ability to market the natural gas advantage; multi-media marketing, including web-based applications; simpler advertising messages via brochures and TV/radio ads; comprehensive portfolios accessible to all segments in the customer base; ongoing customer and vendor communications; customer-friendly programs with a simple rebate process; commercial shared savings programs that alleviate pressure on businesses for up-front capital for natural gas efficiency technologies; hiring, training and using in-house Building Performance Institute (BPI) certified home energy auditors; low cost programs with high energy and cost savings; leveraging dollar savings for new and expanded programs; and an overall commitment to program growth and adaptability.

Successful Programs and Products: Specific products and activities were mentioned as most successful within program offerings. These include a student education program administered by a third party that proved to be very cost-effective; a fuel conversion program from propane to natural gas; residential whole house retrofit programs; multi-family direct install program; custom commercial programs; outreach through multi-media platforms (including web-based tools); ability to leverage trade allies within service franchise; residential equipment replacement program; and customer and vendor communications.

Most Innovative Features

Respondents were asked to share the most innovative features of their natural gas efficiency program. Many of the most successful attributes discussed above were highlighted as the most innovative of these programs. These include strategic partnerships, a whole home or project approach to efficiency, targeted marketing and education campaigns, and new technologies. Specific program components were also featured in the comments submitted for 41 efficiency portfolios. Of course, one feature or component considered innovative in one program might be considered standard in another more mature program.

Strategic Partnerships – Various collaborations were touted as both innovative and successful, including those between two neighboring utilities (e.g., gas, electric and water), multi-utility collaboratives, and strategic partnerships with business that involve program design and delivery and with non-energy related institutions that are interested in promoting energy efficiency green products. Two examples of this success include a joint effort among four natural gas utilities to build a DSM program that saved a considerable amount of money compared to building separate programs. These savings enabled them to pass along higher rebate incentives to their customers.

Another example is the GasNetworks collaborative of several LDCs across three states. Many utilities also collaborate with a competing local electric utility to deliver both natural gas and electric conservation and energy efficiency measures. An example of this is a joint High Efficiency Furnace with Electronically Commutated Motor (ECM) program.

Energy Surveys and a Whole House or Project Approach to Efficiency – Home audits, particularly when coupled with a comprehensive approach to efficiency, yield very favorable results, according to survey respondents. Several programs reported a whole project or portfolio approach to efficiency and a comprehensive assessment of measures for cost-effectiveness. Some programs require a home energy audit to identify opportunities in the shell of the home. Others, after the diagnostic stage, follow-up with customers take extra seal-up steps, gaining their permission to share contact information with BPI-accredited contractors who can provide Tier III seal-ups. Another program links significant financial furnace replacement rebates with prerequisite free energy audits, again with the goal of shifting customers to a whole house approach. Other programs provide larger incentives to higher use residential customers to help them achieve the type of savings traditionally seen in low-income customer weatherization programs. Still others subsidize a portion of the recommended measures, including insulation and air duct sealing.

Targeted Marketing and Education – Many program administrators find conservation education, outreach and targeted marketing to be the most cost-effective tools to achieving energy savings. Some programs have comprehensive school education programs. Others target customers directly via 1) natural gas usage letters that educate customers on ways to conserve energy and lower utility bills; 2) online tools (e.g., My Energy Analyzer); and 3) complimentary energy efficiency kits, some of which are customized for particular markets. Some use the local media to distribute energy efficiency information, while others target trade allies with dealer spiffs incenting them to promote natural gas efficient appliances. Here are a few other examples of successful, innovative approaches to deliver pro-conservation messages to customers:

- Customer Take Control of Your Natural Gas Bill dashboard feature. This program enables customers to go on-line to determine the cause of natural gas bill increases or decreases. Customers can easily navigate to statewide programs to learn more about energy efficiency programs.
- Strategic account managers proactively work with customers on new energy-efficient improvements (e.g., HVAC, appliances and shell measures) to reduce natural gas consumption.
- An advertising campaign to raise awareness and encourage rebate submissions tells customers "You might have $350 hidden in your home." The goal is to encourage new submissions and find customers who had installed space or water heaters during the program year but had not submitted their rebate application.

New Technologies – Many program administrators identified new natural gas efficiency technologies as key to growing their programs. A few have been able to incorporate research and development of new and alternative technologies into their energy efficiency programs. A few others are allowed to pilot new technologies within their space and water heating programs, which if successful, will enable them to transfer many custom or innovative features over to mainstream programs (e.g., tankless water heaters).

Other Innovative Features – Other program features that were identified as innovative include the following:

- Annual balancing adjustment to true up program
- Air sealing for 2-8 family units as a new outreach tool to help improve market penetration with this hard to reach customer
- Custom prescriptive program for commercial customers that do not qualify for energy efficiency projects in the regular commercial prescriptive program, offering them up to $25,000 for a qualifying project

- Financing for residential retrofit and equipment replacement customers at zero or very low interest rates; also basing loan and repayment amounts on customer rates and energy bills
- Large scale, pilot residential Home Energy Reports program—provided to customers via the web and by mail—which combines advanced analytics to evaluate customers' energy usage patterns with proven behavioral science techniques to motivate action. Each report compares individual monthly energy use with similar households within the same geographic location and recommends household-specific energy efficiency tips.
- Leveraging rate payer funds with ARRA funds through community action agencies to provide more effective and complete weatherization services to more homes
- Low-income multi-family program that is both cost-effective and comprehensive (achieves about 30% savings per unit)
- New technology embraced, adding smart low-flow showerheads as new program measures. This showerhead has a low flow rate and a thermal actuated valve that slows the hot water to a trickle until the bypass valve is pulled by the user. This reduces the amount of hot water that goes down the drain, saving both natural gas and water.
- Novel administrative structure: 80 percent of portfolio implemented by women and minority-owned firms and local nonprofit organizations
- Pre-rinse spray valve direct install program for small commercial customers, providing Therm savings and allowing survey intake on other natural gas appliances at the customer's facility
- Programs such as fuel conversion from propane to natural gas; home hearth and space heating; and multi-family direct install program
- Other programs such as appliance recycling and customized performance tracking systems
- Public utility commission leadership in state low-income energy efficiency program—providing a wealth of subsidies and programs to low income customers
- Shared savings program for commercial and industrial customers to finance energy-efficient improvements
- Umbrella approach to design, implementation and marketing of programs and efficiency information.

APPENDIX A – STATE ENERGY EFFICIENCY PROGRAM PROVISIONS AND PRACTICES

State Natural Gas Efficiency Program Provisions and Practices

STATE	Active EE Program(s)	EE Market Assessment Studies	Utility Funding Requirement of EE Programs	Low-Income EE Program Requirements	Program Cost Recovery	Lost Margin Recovery	Performance-Based Incentives	Fuel Switching	Full Cycle EE Measurement	EM&V Reporting Requirement
AL										
AK										
AR	●	●	●		●	●				●
AZ	●		●	●	●					●
CA	●	●	●	●	●	●	●		●	●
CO	●	●	●	●	●	●	●	●	●	●
CT	●	●	●	●	●	●				●
DC										
DE										
FL	●		●		●	●		●	●	
GA	●		●			●				●
HI										
IA	●	●	●	●	●					●
ID	●		●		●			●		●
IL	●	●	●	●	●	●				●
IN	●	●			●	●		●	●	●
KS										
KY	●			●	●	●	●			●
LA										
MA	●	●	●	●	●	●	●	●	●	●
MD	●	●	●	●	●	●				●
ME	●		●	●	●					●
MI	●	●	●	●	●	●	●		●	●
MN	●	●	●	●	●	●	●		●	●
MO	●		●	●	●	●				●
MS										
MT	●				●	●				●
NC	●				●	●				●
ND	●				●				●	●
NE										
NH	●	●	●	●	●		●			●
NJ	●	●	●	●	●	●	●	●		●
NM	●		●	●						●
NV	●									
NY	●	●	●	●	●	●	●	●		●
OH	●	●	●	●	●	●				●
OK										
OR	●	●	●	●	●	●		●		●
PA	●	●	●	●	●			●		●
RI	●	●	●	●	●		●			●
SC										
SD	●				●	●				●
TN										
TX	●				●				●	●
UT	●	●		●	●	●			●	●
VA	●		●		●	●				●
VT	●	●	●	●	●			●		●
WA	●	●	●	●	●	●	●	●		●
WI	●	●	●	●	●		●	●		●
WV										
WY	●				●	●			●	●
Canada	●	●	●	●	●	●	●			
States	38	22	28	25	34	23	12	12	11	36

● Existent as of 2009 ● Pending regulatory approval as of 2009

APPENDIX B – NATURAL GAS EFFICIENCY PROGRAM 2009 EXPENDITURES AND 2010 BUDGETS BY STATE

Gas Efficiency Program 2009 Expenditures and 2010 Budgets										
STATE	A. RESIDENTIAL		B. LOW INCOME		C. COMMERCIAL & INDSUTRIAL		D. OTHER		PROGRAMS TOTAL Including all EMV Dollars[1]	
	2009 Expenditures	2010 Budget	2009 Expenditures	2010 Budget	2009 Expenditures	2010 Budget	2009 Expenditures	2010 Budget	2009 EXPENDITURES	2010 BUDGETS
ALABAMA	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
ALASKA	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
ARIZONA	$ 480,407	$ 879,300	$ 493,508	$ 450,000	$ 50,654	$ 1,244,500	$ -	$ -	$ 1,024,569	$ 2,573,800
ARKANSAS	$ 544,080	$ 2,447,825	$ 43,688	$ -	$ 367,099	$ 1,582,010	$ 57,283	$ 75,243	$ 1,012,151	$ 4,165,078
CALIFORNIA	$ 37,920,415	$ 52,123,649	$ 104,344,912	$ 151,428,983	$ 63,890,207	$ 94,300,351	$ 22,087,680	$ 40,949,758	$ 228,268,214	$ 338,827,741
COLORADO	$ 5,633,565	$ 8,870,173	$ 3,106,244	$ 4,194,358	$ 1,053,284	$ 1,877,930	$ 2,789,851	$ 3,426,713	$ 12,582,944	$ 18,369,174
CONNECTICUT	$ 3,181,072	$ 3,693,000	$ 2,464,754	$ 2,325,436	$ 3,530,915	$ 4,769,561	$ 381,261	$ 382,000	$ 9,558,002	$ 10,824,997
DELAWARE	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
DISTRICT OF COLOMBIA	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
FLORIDA	$ 5,110,000	$ 5,520,000	$ -	$ -	$ 771,000	$ 1,020,000	$ -	$ -	$ 5,881,000	$ 6,540,000
GEORGIA	$ -	$ -	$ 1,000,000	$ 1,000,000	$ -	$ -	$ -	$ -	$ 1,000,000	$ 1,000,000
IDAHO	$ 1,220,411	$ 787,392	$ 145,954	$ 263,766	$ 809,868	$ 725,520	$ 292,467	$ 300,949	$ 2,468,700	$ 2,077,627
ILLINOIS	$ 4,989,093	$ 10,979,000	$ 948,371	$ 1,693,000	$ 389,442	$ 4,359,000	$ -	$ 250,000	$ 6,326,906	$ 17,281,000
INDIANA	$ 5,712,981	$ 8,536,633	$ 418,136	$ 1,346,429	$ 834,800	$ 1,520,979	$ 2,082,805	$ 2,890,950	$ 9,248,722	$ 14,494,991
IOWA	$ 22,512,244	$ 24,500,907	$ 4,898,404	$ 4,856,010	$ 7,991,932	$ 8,315,519	$ 2,287,226	$ 2,854,868	$ 37,689,806	$ 40,527,304
KANSAS	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
KENTUCKY	$ 9,671	$ 1,184,291	$ 305,211	$ 727,883	$ -	$ -	$ 2,673	$ 20,326	$ 317,555	$ 1,932,500
LOUSIANA	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
MAINE	$ 493,636	$ 167,565	$ 9,625	$ 28,757	$ 311,116	$ 219,600	$ -	$ -	$ 814,377	$ 415,922
MARYLAND	$ 1,400,000	$ 2,700,000	$ 592,271	$ 690,000	$ -	$ -	$ -	$ -	$ 1,992,271	$ 3,390,000
MASSACHUSETTS	$ 27,947,820	$ 41,021,476	$ 7,016,700	$ 15,780,536	$ 9,157,684	$ 19,050,745	$ -	$ -	$ 44,122,204	$ 75,852,758
MICHIGAN	$ 5,627,422	$ 9,089,629	$ 6,135,900	$ 8,683,451	$ 2,142,435	$ 3,620,481	$ 3,523,029	$ 3,647,291	$ 17,428,786	$ 25,040,852
MINNESOTA	$ 6,222,250	$ 18,223,995	$ 3,309,334	$ 3,253,032	$ 7,177,842	$ 15,074,499	$ 5,687,283	$ 3,537,224	$ 22,396,709	$ 40,088,750
MISSISSIPPI	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
MISSOURI	$ 1,185,816	$ 2,404,747	$ 1,816,554	$ 1,771,500	$ 128,619	$ 659,025	$ 86,587	$ 362,638	$ 3,217,576	$ 5,276,613
MONTANA	$ 108,600	$ 110,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 108,600	$ 110,000
NEBRASKA	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
NEVADA	$ 392,507	$ 1,920,500	$ 234,142	$ 445,000	$ -	$ 892,525	$ -	$ 150,000	$ 626,649	$ 3,408,025
NEW HAMPSHIRE	$ 1,117,167	$ 3,651,733	$ 574,409	$ 733,907	$ 1,503,545	$ 5,896,894	$ -	$ -	$ 3,195,121	$ 10,282,534
NEW JERSEY	$ 42,715,543	$ 94,892,891	$ 33,337,031	$ 29,318,547	$ 16,166,430	$ 41,100,637	$ -	$ -	$ 92,515,632	$ 166,660,710
NEW MEXICO	$ 393,270	$ 1,011,233	$ 1,176,749	$ 1,302,142	$ 140,371	$ 228,349	$ -	$ -	$ 1,759,670	$ 2,629,245
NEW YORK	$ 12,590,946	$ 54,100,337	$ 28,633,203	$ 3,507,373	$ 17,406,854	$ 29,888,213	$ -	$ -	$ 58,631,003	$ 87,495,923
NORTH CAROLINA	$ 900,000	$ 900,000	$ 225,000	$ 225,000	$ 150,000	$ 150,000	$ -	$ -	$ 1,275,000	$ 1,275,000
NORTH DAKOTA	$ 112,484	$ 138,260	$ -	$ -	$ -	$ -	$ -	$ -	$ 112,484	$ 138,260
OHIO	$ 3,405,208	$ 4,243,638	$ 3,154,016	$ 5,100,000	$ 207,292	$ 357,000	$ 1,704,167	$ 1,299,362	$ 8,470,683	$ 11,000,000
OKLAHOMA	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
OREGON	$ 12,681,222	$ 15,257,308	$ 1,536,074	$ 2,277,176	$ 6,275,093	$ 8,917,774	$ 131,143	$ 130,000	$ 21,248,532	$ 27,207,259
PENNSYLVANIA	$ 1,706,200	$ 2,514,000	$ 8,577,842	$ 10,273,974	$ 27,320	$ 36,000	$ 18,965	$ 100,000	$ 10,330,327	$ 12,923,974
RHODE ISLAND	$ 2,626,500	$ 1,404,200	$ 1,310,300	$ 368,200	$ 2,207,600	$ 2,701,700	$ -	$ 108,200	$ 6,144,400	$ 4,582,300
SOUTH CAROLINA	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
SOUTH DAKOTA	$ 691,616	$ 1,203,170	$ 2,481	$ -	$ 70,509	$ 225,396	$ -	$ -	$ 764,606	$ 1,428,566
TENNESSEE	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
TEXAS	$ 1,369,553	$ 1,301,400	$ 23,403	$ 110,000	$ 171,075	$ 213,500	$ -	$ -	$ 1,578,031	$ 1,639,900
UTAH	$ 44,965,120	$ 32,911,444	$ 500,000	$ 500,000	$ 799,790	$ 1,357,351	$ 1,184,239	$ 1,356,500	$ 47,449,149	$ 36,125,295
VERMONT	$ 1,286,883	$ 1,188,096	$ 80,000	$ 84,000	$ 595,179	$ 861,901	$ -	$ -	$ 1,962,062	$ 2,133,997
VIRGINIA	$ 1,527,627	$ 3,741,917	$ 150,000	$ 387,500	$ -	$ 373,900	$ 481,075	$ 1,652,105	$ 2,158,702	$ 6,155,422
WASHINGTON	$ 4,901,788	$ 2,652,004	$ 858,897	$ 587,701	$ 2,979,379	$ 1,971,537	$ 560,909	$ 3,866,402	$ 9,300,973	$ 9,077,644
WEST VIRGINIA	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
WISCONSIN	$ 10,510,485	$ 9,435,702	$ 36,247,825	$ 33,435,021	$ 15,357,746	$ 12,007,964	$ 8,153,733	$ 8,556,009	$ 71,514,824	$ 64,844,580
WYOMING	$ 4,650	$ 262,772	$ -	$ -	$ -	$ 49,381	$ -	$ 76,168	$ 4,650	$ 388,321
NOT ALLOCABLE BY STATE[2]	$ 22,141,651	$ 37,484,082	$ 21,945,685	$ 26,480,786	$ 7,558,885	$ 12,517,961	$ 6,328,803	$ 9,112,238	$ 58,130,024	$ 85,782,067
CANADA	$ 20,096,628	$ 19,038,903	$ 6,806,786	$ 14,885,635	$ 22,827,837	$ 24,564,318	$ 16,801,888	$ 25,716,708	$ 66,921,355	$ 85,018,163
UNITED STATES	$ 296,339,903	$ 463,454,269	$ 275,616,623	$ 313,629,468	$ 170,223,965	$ 278,087,704	$ 57,841,179	$ 85,104,944	$ 802,631,614	$ 1,143,968,129
NORTH AMERICA[3]	$ 316,436,532	$ 482,493,172	$ 282,423,409	$ 328,515,103	$ 193,051,803	$ 302,652,022	$ 74,643,067	$ 110,821,652	$ 869,552,969	$ 1,228,986,291

[1] Program categories may not add up to the numbers in the Total columns, because these include EM&V dollars that were not reported in the specified categories.

[2] United States total for those survey companies that did not agree to release their data other than as part of a national aggregate.

[3] Total for all participant companies in the United States and Canada that provided 2009 expenditure and/or 2010 budget data.

APPENDIX C – NATURAL GAS EFFICIENCY PROGRAM 2009 EXPENDITURES AND 2010 BUDGETS BY REGION

Gas Efficiency Program 2009 Expenditures and 2010 Budgets										
REGION[2]	A. RESIDENTIAL		B. LOW INCOME		C. COMMERCIAL & INDSUTRIAL		D. OTHER		PROGRAMS TOTAL Including all EMV Dollars[1]	
	2009 Expenditures	2010 Budget	2009 Expenditures	2010 Budget	2009 Expenditures	2010 Budget	2009 Expenditures	2010 Budget	2009 EXPENDITURES	2010 BUDGETS
NORTHEAST	93,665,767	202,633,298	82,003,865	62,420,730	50,906,643	104,525,251	400,226	590,200	227,273,128	371,173,114.8
MIDWEST	60,969,599	88,755,681	56,931,021	60,138,443	34,300,617	46,139,863	23,524,830	23,398,342	177,171,102	220,120,916.0
SOUTH	10,860,931	17,795,433	2,339,573	3,140,383	1,459,174	3,339,410	541,031	1,747,674	15,214,709	26,097,900.0
WEST	108,701,955	116,785,775	112,396,480	161,449,126	75,998,646	111,565,219	27,046,289	50,256,490	324,842,650	440,794,130.8
NOT ALLOCABLE BY REGION	22,141,651	37,484,082	21,945,685	26,480,786	7,558,885	12,517,961	6,328,803	9,112,238	58,130,024	85,782,067
CANADA	20,096,628	19,038,903	6,806,786	14,885,635	22,827,837	24,564,318	16,801,888	25,716,708	66,921,355	85,018,163
UNITED STATES[3]	296,339,903	463,454,269	275,616,623	313,629,468	170,223,965	278,087,704	57,841,179	85,104,944	802,631,614	1,143,968,129
NORTH AMERICA[4]	316,436,532	482,493,172	282,423,409	328,515,103	193,051,803	302,652,022	74,643,067	110,821,652	869,552,969	1,228,986,291

[1]Program categories may not add up to the numbers in the Total columns, because these include EM&V dollars that were not reported in the specified categories.

[2]Rows one through four are regional aggregates for companies that have released their data for publication at the state and regional levels and, in many cases, at the company-level.

[3]United States total for those survey companies that did not agree to release their data other than as part of a national aggregate.

[4]Total for all participant companies in the United States and Canada that provided 2009 expenditure and/or 2010 budget data.

APPENDIX D – NATURAL GAS EFFICIENCY PROGRAM SAVINGS IMPACTS BY REGION

2009 ESTIMATED ANNUAL GAS EFFICIENCY PROGRAM SAVINGS IMPACTS						
REGION	RESIDENTIAL	LOW INCOME	COMMERCIAL & INDUSTRIAL	OTHER	TOTAL THERM	TRILLION BTU
NORTHEAST	36,647,555	6,561,771	45,276,695	4,035,120	92,521,142	9.25
MIDWEST	62,919,111	14,906,153	37,021,762	496,579	115,343,605	11.53
SOUTH	685,041	2,074,211	31,495	-	2,790,746	0.28
WEST	79,131,009	14,561,118	205,835,648	18,778,278	318,306,053	31.83
CANADA	84,237,984	4,645,501	283,661,333	(3,130,817)	369,414,000	36.94
UNITED STATES	94,529,727	9,564,336	152,638,589	32,871,520	289,604,172	28.96
NORTH AMERICA	115,007,285	10,249,895	210,810,827	31,185,094	367,253,101	36.73

APPENDIX E – SURVEY PARTICIPANT COMPANIES

COMPANY	STATE	COMPANY	STATE
Ameren Illinois Utilities (Ameren Corporation)	IL	National Fuel Gas Distribution Corporation (National Fuel Gas Company)	NY
Arkansas Oklahoma Gas Corporation	AR	National Grid Massachusetts	MA
Arkansas Western Gas Co (SourceGas LLC)	AR	National Grid New Hampshire	NH
Atlanta Gas Light (AGL Resources Inc.)	GA	National Grid New York - Upstate & Downstate (Long Island & New York City)	NY
Atmos Energy - Colorado	CO	National Grid Rhode Island	RI
Atmos Energy - Kentucky/Midstates Division	KY	New Jersey Board of Public Utilities (for New Jersey Clean Energy Program)	NJ
Atmos Energy - KY/Midstates Division - Iowa	IA	New Jersey Natural Gas Company (New Jersey Resources)	NJ
Atmos Energy - KY/Midstates Division - Missouri	MO	New Mexico Gas Company (Continenal Energy Systems LLC)	NM
Atmos Energy - Mid-Texas Division	TX	New York State Energy Research and Development Authority (or NYSERDA)	NY
Avista Utilities - Idaho (Avista Corp.)	ID	Nicor Gas (Nicor Inc.)	IL
Avista Utilities - Oregon (Avista Corp.)	OR	North Shore Gas and Peoples Gas (Integrys Energy Group, Inc.)	IL
Avista Utilities - Washington (Avista Corp.)	WA	Northern Indiana Public Service Company (NiSource Inc.)	IN
Baltimore Gas and Electric Corporation (Constellation Energy)	MD	Northern Utilities Inc, Inc. D/B/A Unitil Maine	ME
Bay State Gas Company (NiSource Inc.)	MA	Northern Utilities Inc, Inc. D/B/A Unitil New Hampshire	NH
Berkshire Gas Company, The (Iberdrola USA, formerly Energy East)	MA	NSTAR Electric & Gas Corporation	MA
Black Hills Energy - Iowa (formerly Aquila, Black Hills Corporation)	IA	NV Energy, Inc. (formerly Sierra Pacific Resources)	NV
Black Hills Energy Corporation - Colorado (formerly Aquila, Black Hills Corporation)	CO	NW Natural - OR	OR
Cascade Natural Gas Corp - Oregon (MDU Resources Group)	OR	NW Natural - WA	WA
Cascade Natural Gas Corp - Washington (MDU Resources Group)	WA	Orange & Rockland Utilities, Inc. (Consolidated Edison Inc.)	NY
CenterPoint Energy - Arkansas	AR	Pacific Gas and Electric Company (PG&E Corporation)	CA
CenterPoint Energy - Minnesota	MN	PECO (Exelon Corporation)	PA
Citizens Energy Group	IN	Peoples Natural Gas (formerly Dominion Peoples)	PA
City Gas Company	WI	Philadelphia Gas Works	PA
City of Palo Alto	CA	Piedmont Natural Gas Company, Inc.	NC
Colorado Natural Gas, Inc. (Summit Energy)	CO	Public Interest Energy Research Program (PIER)	CA
Columbia Gas of Kentucky (NiSource Inc.)	KY	Public Service Electric and Gas Company (PSEG)	NJ
Columbia Gas of Maryland (NiSource Inc.)	MD	Puget Sound Energy (Puget Energy)	WA
Columbia Gas of Ohio (NiSource Inc.)	OH	Questar Gas Company - Utah	UT
Columbia Gas of Pennsylvania (NiSource Inc.)	PA	Questar Gas Company - Wyoming	WY
Columbia Gas of Virginia (NiSource Inc.)	VA	San Diego Gas & Electric Company (SEMPRA Energy)	CA
Connecticut Natural Gas Corp & Southern Connecticut Natural Gas (Iberdrola USA, formerly Energy East)	CT	SaskEnergy	Canada
Consolidated Edison of New York (Consolidated Edison, Inc.)	NY	Source Gas Distribution (SourceGas LLC)	CO
Consumers Energy (CMS Energy Corporation)	MI	South Jersey Gas (South Jersey Industries Inc.)	NJ
Delta Natural Gas Company, Inc.	KY	Southern California Gas Company (SEMPRA Energy)	CA
Dominion East Ohio (Dominion Resources, Inc.)	OH	Southwest Gas Corporation - Arizona	AZ
Duke Energy Corporation - Kentucky	KY	Southwest Gas Corporation - California	CA
Duke Energy Corporation - Ohio	OH	Southwest Gas Corporation - Nevada	NV
Elizabethtown Gas (AGL Resources Inc.)	NJ	St. Croix Valley Natural Gas Company, Inc.	WI
Empire District Gas Company (The Empire District Electric Company)	MO	St. Lawrence Gas Company, Inc. (Enbridge Gas Distribution Inc.)	NY
Enbridge Gas Distribution Inc. (Enbridge Inc.)	Canada	Superior Water, Light & Power Company (ALLETE)	WI
Energy Trust of Oregon	OR	TECO Peoples Gas (TECO Energy, Inc.)	FL
Equitable Gas Company LLC - Pennsylvania (EQT Corp.)	PA	Terasen Gas Inc. (Terasen Gas)	Canada
Fitchburg Gas and Electric Light Combany d/b/a Unitil Massachusetts	MA	Texas Gas Service (ONEOK, Inc.)	TX
Great Plains Natural Gas Co (MDU Resources Group)	MN	UGI Utilities, Inc. (UGI Corporation)	PA
Intermountain Gas Company - Idaho (MDU Resources Group)	ID	Union Gas Limited (Spectra Energy)	Canada
Interstate Power and Light Company - Iowa (An Alliant Energy Company)	IA	Vectren Energy Delivery of Indiana (Vectren Corporation)	IN
Interstate Power and Light Company - Minnesota (An Alliant Energy Company)	MN	Vectren Energy Delivery of Ohio (Vectren Corporation)	OH
LaClede Gas Company (The LaClede Group Inc.)	MO	Vermont Gas Systems, Inc. (Northern New England Energy Corporation)	VT
Madison Gas and Electric Company (MGE Energy)	WI	Virginia Natural Gas (AGL Resources Inc.)	VA
Manitoba Hydro	Canada	Washington Gas Light Company - Maryland (WGL Holdings, Inc.)	MD
MichCon (DTE Energy Corporation)	MI	Washington Gas Light Company - Virginia (WGL Holdings, Inc.)	VA
Michigan Gas Utilities (Integrys Energy Group)	MI	We Energies (Wisconsin Energy Group)	WI
MidAmerican Energy Company - Illinois	IL	Wisconsin Division of Energy Services	WI
MidAmerican Energy Company - Iowa	IA	Wisconsin Energy Conservation Corporation (for Focus on Energy Program)	WI
MidAmerican Energy Company - South Dakota	SD	Wisconsin Power and Light, An Alliant Energy Company	WI
Midwest Natural Gas Corp.	WI	Wisconsin Public Service (Integrys Energy Group)	WI
Minnesota Energy Resources Corporation (Integrys Energy Group)	MN	Xcel Energy Inc. - Colorado	CO
Missouri Gas Energy (Southern Union Company)	MO	Xcel Energy Inc. - Minnesota	MN
Montana-Dakota Utilities Co - Montana (MDU Resources Group)	MT	Xcel Energy Inc. - North Dakota	ND
Montana-Dakota Utilities Co - North Dakota (MDU Resources Group)	ND	Xcel Energy Inc. - Wisconsin	WI
Montana-Dakota Utilities Co - South Dakota (MDU Resources Group)	SD	Yankee Gas Service (Northeast Utilities)	CT
Montana-Dakota Utilities Co - Wyoming (MDU Resources Group)	WY		