American Gas Association

Submitted via HVAC@energystar.gov

December 19, 2024

Ann Bailey, Director
ENERGY STAR Labeling Branch
U.S. Environmental Protection Agency
1200 Pennsylvania Ave NW
Washington, DC 20460

Re: ENERGY STAR Program – December 5, 2024 Final Draft of the Version 5.0 Furnace Specification

Director Bailey:

The American Gas Association ("AGA") provides these comments in response to the Environmental Protection Agency's ("EPA") December 5, 2024 Final Draft of the Version 5.0 ENERGY STAR furnace specifications with a target effective date of July 31, 2026 ("December 2024 Furnace Proposal").[1] AGA appreciates EPA's efforts as it works through and evaluates potential changes to the ENERGY STAR program. As discussed in more detail below, AGA supports maintaining a regional distinction for natural gas furnaces as proposed by EPA in the December 2024 Furnace Proposal; however, AGA has concerns about other elements of EPA's proposal.

I. Identity and Interest

AGA, founded in 1918, represents more than 200 local energy companies that deliver clean natural gas throughout the United States. There are more than 78 million residential, commercial, and industrial natural gas customers in the U.S., of which 95 percent — more than 74 million customers — receive their gas from AGA members. AGA is an advocate for natural gas utility companies and their customers and provides a broad range of programs and services for member natural gas pipelines, marketers, gatherers, international natural gas companies, and industry associates.[2] Today, natural gas meets nearly one-third of the United States' energy needs. Currently, 52% of U.S. households use natural gas for space heating in their homes.[3]

---

[1] *See* ENERGY STAR Version 5.0 Furnaces Final Draft Specification, available at https://www.energystar.gov/furnace-version-5-pd (last visited December 18, 2024).
[2] For more information, please visit www.aga.org.
[3] *See* U.S. Energy Information Administration, available at https://www.eia.gov/todayinenergy/detail.php?id=55940 (last visited December 18, 2024).

Matthew Agen, Chief Regulatory Counsel, Energy, Office of General Counsel
400 N. Capitol St. NW 4th Floor, Washington, DC, 20001 **P** 202-824-7090 **F** 202-824-9144 **E** magen@aga.org **www.aga.org**

II. AGA and Natural Gas Utilities Support Energy Efficiency and Conservation Efforts

AGA and its members support energy efficiency and conservation efforts, including the efficient use of natural gas in homes and businesses. AGA strongly supports the ENERGY STAR program's mission to provide "simple, credible, and unbiased information" on a product's energy efficiency.[4] As stated in AGA's June 22, 2023 and May 16, 2024 comments, AGA members are doing their part to create a more efficient energy economy. In 2022, U.S. utilities achieved substantial energy savings through natural gas efficiency programs, totaling 336 million therms, equivalent to 1.7 million metric tons of avoided CO2 emissions.[5] The majority of the therms saved, roughly 41%, were due to residential programs available to customers. In 2022, utilities in North America spent $1.51 billion on these programs, a 37% increase from 2021.[6] Utilities budgeted nearly $1.8 billion for 2023, indicating a continued commitment to efficiency programs.[7] ENERGY STAR-certified gas furnaces have been a central offering within these utility programs. Natural gas utility efficiency programs promote the use of ENERGY STAR home heating equipment and often rely on ENERGY STAR certification when determining eligibility for utility-provided incentives including appliance rebates.[8] Appliance rebates are housed within the 'Customer Incentive' portion of natural gas utility energy efficiency programs, and roughly 60% of natural gas utility budgets for 2022 were spent on such incentives. Dedicating over half of the annual budget to rebates, loans, and other financial incentives for customers showcases natural gas utilities' continued commitment to helping customers lower their energy needs and subsequently save on their energy bills. Appended as Attachment A is AGA's Natural Gas Efficiency Programs Report, 2021 & 2022 Program Year which was published in October 2024. The report includes information on natural gas efficiency and low-income weatherization programs for the 2021 and 2022 program years. Additionally, the appendices to the AGA report outline in detail the amount spent on energy efficiency in the various states and regions, in addition to therms saved.

III. Comments

A. Background

On May 18, 2023, EPA circulated a notice stating that it was proposing to phase out the ENERGY STAR labeling and promotion of residential natural gas furnaces. AGA sent a letter to Administrator Michael S. Regan on June 15, 2023, raising concerns about the proposed removal of natural gas furnaces from the ENERGY STAR program. AGA also joined National Propane Gas Association ("NPGA"), National Energy & Fuels Institute ("NEFI"), Energy Marketers of America ("EMA"), American Public Gas Association ("APGA"), Oilheat Manufacturers Association ("OMA"), and Plumbing-Heating-Cooling Contractors—National

---

[4] *See* ENERGY STAR Overview, available at https://www.energystar.gov/about (last visited December 18, 2024).
[5] *See* AGA, 2021 and 2022 Natural Gas Efficiency Programs Report, https://www.aga.org/research-policy/resource-library/natural-gas-utility-efficiency-programs/ (last visited December 18, 2024).
[6] *Id.*
[7] *Id.*
[8] *Id.*

Association ("PHCC") in joint comments on EPA's proposal submitted on June 22, 2023. AGA also filed individual comments on June 22, 2023, in which AGA strongly opposed the proposal to remove natural gas furnaces from the ENERGY STAR program.[9]

On April 16, 2024, EPA circulated a second notice related to natural gas furnaces proposing to increase the efficiency level to 97% Annual Fuel Utilization Efficiency ("AFUE"). According to EPA, it received compelling support for continuing the labeling for furnaces and decided to propose an update, rather than sunset, to the ENERGY STAR furnace specification. Specifically, EPA proposed an alternative to the full product specification sunset that includes increasing the residential gas furnace requirement to 97% AFUE beginning in 2026 for the entire U.S.[10] The current requirement for natural gas furnaces[11] is 95% AFUE in the U.S. North[12] and 90% AFUE in the U.S. South.[13]

On December 5, 2024, EPA issued the December 2024 Furnace Proposal which included, among other things, the following elements. First, EPA proposes to maintain a regional distinction for natural gas furnaces. Second, the performance requirements for gas furnaces are 97% AFUE for the U.S. North and 95% AFUE for the U.S. South. Third, the effective date proposed by EPA is July 31, 2026, for the December 2024 Furnace Proposal.

AGA appreciates the fact that EPA is no longer proposing to eliminate efficient natural gas furnaces from the ENERGY STAR program and that the regional distinction is proposed to be maintained in the December 2024 Furnace Proposal. However, as discussed herein, AGA has concerns with the December 2024 Furnace Proposal.

B. AGA Supports EPA's Proposal to Maintain a Regional Distinction for ENERGY STAR Furnaces

AGA appreciates and supports EPA's proposal to maintain the regional distinction for ENERGY STAR natural gas furnaces. In its prior comments, AGA advocated for the

---

[9] AGA incorporates by reference into these comments the prior comments and letters submitted to EPA regarding the proposed changes to the ENERGY STAR program as related to natural gas furnaces. These comments include: a) The joint comments of AGA, NPGA, NEFI, EMA, APGA, OMA, and PHCC dated June 22, 2023; b) the June 22, 2023 comments of AGA including three attachments: i) June 15, 2023 AGA Letter to Administrator Michael S. Regan, ii) Empowering Consumer Choices: Analyzing the Impact of the ENERGY STAR Program on the Adoption of High Efficiency Gas Appliances, and iii) Implications of Policy-Driven Residential Electrification; and (c) AGA's May 16, 2024 comments.

[10] *See* EPA's April 16, 2024 Furnace Proposal at p. 2.

[11] *See* EPA Furnaces Key Product Criteria available at https://www.energystar.gov/products/furnaces/key_product_criteria (last visited December 18, 2024).

[12] The U.S. North is defined as Alaska, Colorado, Connecticut, Idaho, Illinois, Indiana, Iowa, Kansas, Maine, Massachusetts, Michigan, Minnesota, Missouri, Montana, Nebraska, New Hampshire, New Jersey, New York, North Dakota, Ohio, Oregon, Pennsylvania, Rhode Island, South Dakota, Utah, Vermont, Washington, West Virginia, Wisconsin, and Wyoming.

[13] The U.S. South is defined as Alabama, American Samoa, Arizona, Arkansas, California, Delaware, District of Columbia, Florida, Georgia, Guam, Hawaii, Kentucky, Louisiana, Maryland, Mississippi, Nevada, New Mexico, North Carolina, Oklahoma, Puerto Rico, South Carolina, Tennessee, Texas, and Virginia.

continuation of the regional distinction.[14] As explained in AGA's May 16, 2024 comments, the regional split, *i.e.*, the U.S. North and U.S. South distinctions, for natural gas furnaces in the ENERGY STAR program reflects the reality that in the southern half of the U.S., generally, homes require less heat when compared to the northern half of the U.S. Therefore, having different gas furnace efficiency requirements and labels used for different regions of the country is appropriate.

Regional requirements aim to address geographic differences in heating needs. Specifically, the split recognizes the differing heating needs in the northern and southern tiers of the U.S. In its simplest terms, northern states have more heating degree days, *i.e.*, days when a furnace is needed, as compared to the southern states which are warmer and do not have as many heating degree days. The number of heating degree days influences the amount of energy used to heat a home and the cost/benefit analysis of installing a high-efficiency unit. A one-size-fits-all national level would not make sense for products with energy use that varies widely depending on climate. EPA's prior regional differences in the current natural gas furnace criteria recognized the needs of different regions, and the December 2024 Furnace Proposal reflects the proper continuation of this policy.

C. EPA Should Revise the AFUE Levels in the December 2024 Furnace Proposal

In the December 2024 Furnace Proposal, EPA proposes performance requirements of 97% AFUE for the U.S. North and 95% AFUE for the U.S. South for natural gas furnaces. AGA requests that EPA revise the level in the U.S. South to 92% AFUE.

In its May 16, 2024 comments, AGA included certain alternatives for EPA to consider. One of the proposals was that EPA maintain the regional distinction for natural gas furnaces, along with certain AFUE levels. Specifically, AGA recommended that EPA set the levels at AFUE 97% in the U.S. North and 92% in the U.S. South starting sometime in 2026. AGA continues to support this proposal. Under AGA's proposed alternative, there would be a 2-percentage point increase in AFUE applied to each regional specification, pursuant to the current levels in the program. AGA explained that this is a less drastic change and would be a 2-percentage point increase in AFUE in both regions, setting the U.S. South at 92% and the U.S. North at 97%, and thus preserving significant product availability for most consumers. Furthermore, this would allow for significant energy savings in the U.S. North, where the average usage is more than twice that of the U.S. South, while continuing to incentivize more efficient, cost-effective options in the U.S. South. Currently, 76% of shipments in the U.S. South are 80% AFUE models. With the current standard of 90% and above showing much less effect in the U.S. South than in the U.S. North, it appears less likely that a change from 90% AFUE to 95% would encourage more adoption and could hurt energy efficiency. Raising the AFUE level for furnaces in the U.S. South too high would most likely discourage condensing furnaces from being used because of the higher initial cost that accompanies the increase to a 95% AFUE level. The increase to a 92% AFUE level instead would reduce energy consumption with minimal cost

[14] *See* AGA's May 16, 2024 Comments.

increases. By implementing a change to 92% AFUE in the U.S. South and 97% AFUE in the U.S. North, the new ENERGY STAR version 5.0 would reduce shipments from the current range of 30% to 40% to approximately 15%. This estimate is based on shipment data from before the Inflation Reduction Act of 2022 ("IRA"), which provides a tax credit of up to $600 for the installation of any 97% AFUE furnace.

Data on shipments of 97% AFUE furnaces is limited. The most recent data source comes from the Internal Revenue Service ("IRS"), which reports data at the national level for recipients of IRA tax benefits and currently reports that 283,000 tax filers used form 5695 Residential Energy Credits for a 97% AFUE level furnace. This is out of approximately 3 million units shipped nationwide where 36% included the ENERGY STAR label in 2022 (2023 data is not yet available on the EPA website as of the date these comments were filed). This was a significant increase compared to an estimated 78,000 97% AFUE units shipped in 2020 for use in existing homes. However, this change is likely the result of the $600 IRA tax credit and is not otherwise cost-effective on its own merit. Additionally, the data accounts for units shipped nationwide and does not provide a clear indication on universal or regional shipments.

Based on shipment data provided to the Department of Energy for use in the recent minimum furnace efficiency standard, the majority of 95% and 97% AFUE furnaces up until 2020 were installed in the U.S. North. The installation of a condensing furnace in the U.S. South largely went to 92% AFUE units and 76% remained at the current minimum of 80% AFUE. EPA should provide data on the impact of the IRA tax credit by state or region to properly evaluate the potential for Energy Star version 5.0 to induce more energy efficiency in homes and businesses installing gas furnaces. While national data is available on the IRS website, it includes limited state data for the total tax credit received regardless of the type of energy efficiency investment. Without evidence that there has been a universal shift towards 97% AFUE units, it is more likely that a 95% AFUE standard in the U.S. South will create the same problems as when EPA suggested a 97% AFUE standard for the U.S. South.[15]

D. EPA has a Duty to Respond to Comments

AGA has raised issues regarding EPA's December 2024 Furnace Proposal in these comments and on various matters in its prior comments in this proceeding. EPA has a duty to and should respond to those concerns with a cogent and reasoned response supported by data and evidence.

IV. <u>Conclusion</u>

The American Gas Association respectfully requests that the Environmental Protection Agency consider these comments in this proceeding and revise the December 2024 Furnace Proposal consistent with the foregoing. If you have any questions regarding this submission, please do not hesitate to contact the undersigned.

---

[15] *See* AGA's May 16, 2024 Comments.

Respectfully,

Matthew J. Agen
Chief Regulatory Counsel, Energy
American Gas Association
400 N. Capitol Street, NW
Washington, DC 20001
magen@aga.org

Enclosures: Attachment A - AGA Natural Gas Efficiency Programs Report, 2021 & 2022 Program Year

cc: Daken.Abigail@epa.gov

Attachment A

AGA's Natural Gas Efficiency Programs Report, 2021 & 2022 Program Year and Appendices A-F

December 19, 2024

Natural Gas Efficiency Programs Report

2021 & 2022 Program Year

Morgan Hoy & Lauren Scott
October 2024

Prepared By:

Energy Analysis Group

American Gas Association
400 N. Capitol St., NW Washington, DC 20001
www.aga.org

Contact:

Morgan Hoy, mhoy@aga.org
Lauren Scott, lscott@aga.org

Contents

Executive Summary

In 2024, the American Gas Association (AGA) and the Consortium for Energy Efficiency (CEE) conducted a survey of their U.S. and Canadian members to assess the status and metrics of ratepayer-funded natural gas efficiency and low-income weatherization programs for the 2021 and 2022 program years. The survey included utility and third-party program administrators, and while it maintained consistency with previous years' questions, it expanded to incorporate data on 2021 expenditures and 2022 budgets to enhance response rates. The report defines "natural gas efficiency program" as encompassing a range of activities aimed at optimizing energy usage, including low-income weatherization and direct and indirect impact measures. With 87 organizations participating, the survey gathered insights on program expenditures, energy savings and future budgets, though variability in responses means direct comparisons with prior years are limited. Detailed methodology is provided in the report's Methodology and Survey Sample section, as well as footnotes throughout.

The 2021 and 2022 data on natural gas utility efficiency programs in North America reveal significant growth and diversification. In 2022 there were 83 such programs, with the U.S. accounting for 79 programs and Canada maintaining four. The expansion reflects both increased participation and a broader range of program offerings, although these numbers might not fully capture all available programs.

- 93% of natural gas energy efficiency programs have been operational for more than 10 years, 27% of programs have been operational for more than two decades.
- 60% of the budget for 2023 was for financial incentives for customers to adopt and implement energy efficiency measures.
- In 2022, natural gas efficiency programs saved 336 million therms of energy, roughly 1.7 million metric tons of avoided CO_2 emissions and 424,000 cars removed from the road for one year.
- In 2022, utilities in North America spent $1.51 billion on energy efficiency programs, a 37% increase from 2021.

Program Longevity and Participation

Most programs are well-established, with 93% operational for more than a decade and 27% for at least 20 years. Newer programs are relatively few, with only five initiated in the past decade. Participation data shows considerable growth from 2021 to 2022, particularly in the residential sector, which saw an addition of more than 1.1 million customers. Enrollment figures vary widely across program types, with median participant numbers ranging from 45 to 3.1 million for residential programs, and from 1 to 41,000 for commercial and industrial programs.

Program Components and Spending

Efficiency programs encompass various activities including direct impact measures (e.g., equipment upgrades, retrofits) and indirect impact activities (e.g., education outreach). Weatherization remains a common component, especially in low-income and single-family residential programs. Despite the prevalence of efficiency measures, training and certification for contractors lag. Financial incentives dominate 2023 expenditures, comprising 60% of the budget, while administrative and marketing costs account for 33%.

Program Energy Savings

In 2022, U.S. utilities achieved substantial energy savings through natural gas efficiency programs, totaling 336 million therms, equivalent to 1.7 million metric tons of avoided CO_2 emissions. This reduction in emissions is comparable to removing approximately 424,000 cars from the road for a year. The Western U.S. led in gross savings with 12 million therms, while Canada contributed 23% of total savings despite lower relative spending. The Northeast region had the highest efficiency expenditure, yielding significant savings and emissions reductions. Commercial programs were responsible for 24% of North American savings, with residential and industrial programs contributing 41% and 18%, respectively. Data variability and differing reporting methodologies mean these figures are estimates, but they highlight the significant impact of regional efficiency efforts. For detailed breakdowns by state and region, refer to Appendices E and F.

Funding and Expenditures

In 2022, utilities in North America spent $1.51 billion on these programs, a 37% increase from 2021. Spending was highest in the Northeast U.S., followed by the West and Midwest regions. Utilities budgeted nearly $1.8 billion for 2023, indicating a continued commitment to efficiency programs.

Regulatory and Financial Mechanisms

A significant proportion of utilities (37%) have explicit greenhouse gas or carbon reduction goals. Cost recovery mechanisms primarily include special tariffs or efficiency riders. There are varying methods for recovering costs across different rate classes, with residential programs being the most commonly supported.

Fuel Switching Incentives

Approximately 29% of respondents offer incentives for fuel switching, promoting the transition to natural gas from other energy sources. These incentives vary by rate class and are often subject to conditions such as efficiency requirements and cost-effectiveness.

Overall, the data highlights a robust and expanding landscape of natural gas efficiency programs with increased participant engagement and funding, though challenges remain in consistency and program implementation.

Introduction

Public awareness of the energy economy has steadily grown beyond the purview of business and policy. Economic, environmental and energy security 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 system reliability and resilience. For natural gas utilities, investing in energy efficiency programs presents an opportunity to achieve these objectives and benefit the communities they serve. Many natural gas utilities across North America have long- performing natural gas efficiency programs. Although natural gas utilities undertake efforts to collaborate with regulators to create new or expanded natural gas efficiency programs, these efforts do not always materialize as the conversation surrounding funding natural gas energy efficiency programs evolves. The analysis and results presented within this report showcase the impact natural gas energy efficiency programs offer to customers, while the accompanying appendices offer detailed metrics regarding energy efficiency expenditures, budgets and greenhouse gas emissions saved. The results outlined within this report show utilities continue to seek to invest in energy efficiency programs that will help customers use less energy, and save on their energy bills, a shared goal of utilities and regulators alike.

The American Gas Association Natural Gas Efficiency Programs Report – 2021 & 2022 Program Years presents a review of ratepayer-funded natural gas efficiency and conservation programs in North America. The report looks retrospectively at the status of the North American natural gas efficiency market in both 2021 and 2022, including data on aggregated expenditures, savings impacts, carbon dioxide emissions reductions and the expected budgets for 2022 and 2023. The duplicative nature of the 2022 data is due to the data collection process. When asked about the 2021 program year, respondents were asked about their 2022 budgets. Additionally, when asked about the 2022 program year, respondents were asked about the 2022 expenditures and 2023 budgets. Survey questions also explore regulatory approaches to advancing the natural gas efficiency market.

This report portrays the extent of this rapidly growing energy market in the United States and Canada and identifies practices and trends in program planning, funding, administration, and evaluation. The findings illustrate how natural gas utilities have worked with their customers to reduce their greenhouse gas emissions footprint, increase cost savings and improve delivered energy services.

The data and findings presented in this report are based on a survey of natural gas utility members of the American Gas Association (AGA) and the Consortium for Energy Efficiency (CEE).[1] The data collection effort has expanded significantly since AGA and CEE began coordinating efficiency data gathering in 2009. By joining efforts, AGA and CEE have reduced the reporting burden for respondents, eliminated duplicative efforts and significantly enlarged the sample pool by extending

1 An essential contributor to this data-gathering project is the Consortium for Energy Efficiency (CEE). CEE is an award-winning consortium of efficiency program administrators from the United States and Canada. Members work to unify program approaches across jurisdictions to increase the success of efficiency in markets. By joining forces at CEE, individual electric and gas efficiency programs are able to partner not only with each other, but also with other industries, trade associations, and government agencies. Working together, administrators leverage the effect of their ratepayer funding, exchange information on successful practices and by doing so achieve greater energy efficiency for the public good.

the survey to more utilities in the U.S. and Canada and third- party administrators of ratepayer-funded efficiency programs.

The report is based on survey responses that are not audited nor normalized and may elicit different responses based on the unique accounting and regulatory circumstances of each company. However, multiple efforts are taken to confirm the accuracy of responses throughout the data collection and analysis timeframes to confirm ambiguous or incomplete responses. Furthermore, this is a snapshot of a given point in time based on the information available at the time the survey was completed and may not reflect annual results.

AGA would like to thank the members of AGA and CEE in the U.S. and Canada for participating in this critical data-collection effort. It appreciates tremendously the time and effort given by all survey respondents throughout the information gathering process, including extensive clarification and data validation follow up.

Methodology and Survey Sample

In 2024, AGA and CEE surveyed their respective U.S. and Canadian members on the status, characteristics and metrics of their 2021 and 2022 ratepayer-funded natural gas efficiency and low-income weatherization programs.[2] Respondents include utility and non-utility, or third-party, efficiency program administrators. Although the 2022 program year survey was consistent in questions with prior surveys distributed in years' past, it was expanded to include questions about the 2021 program year. The 2021 program year survey questions were integrated into the 2022 program year survey but condensed to focus on 2021 expenditures and 2022 program year budgets. The decision was made to include the 2021 program year questions within the 2022 program year survey to rise response rate for the 2021 program year data.

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 low-income single and multi-family home weatherization, indirect impact activities (such as conservation education, energy audits, and contractor certification) and direct impact activities in new and existing buildings and homes (e.g., equipment replacement and Energy Star Homes).

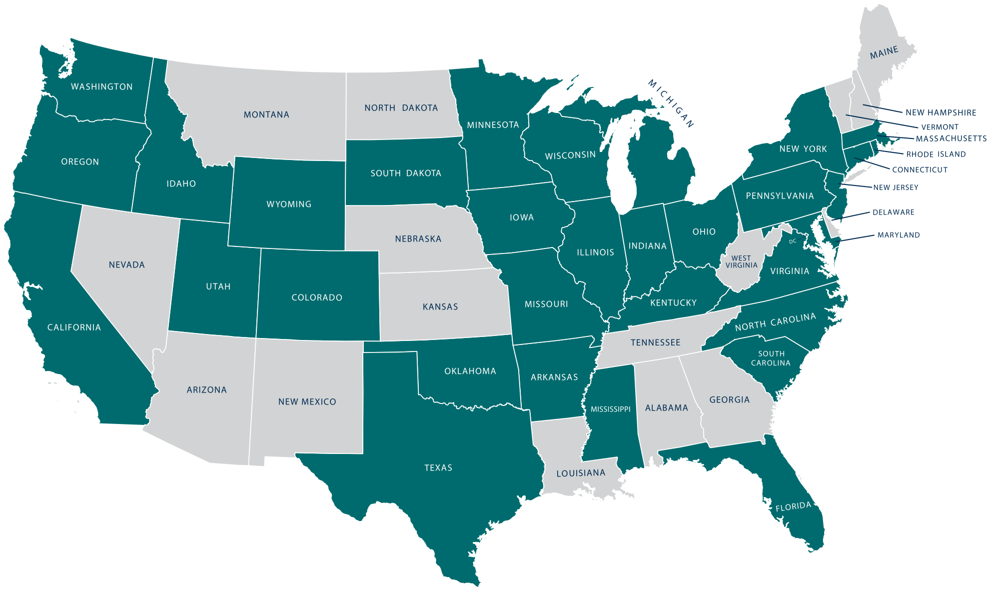
The sample frame consists of 87 member and nonmember organizations identified as large program administrators of AGA and CEE. The survey asked respondents to describe their natural gas efficiency programs, including program expenditures and energy savings, during the 2021 and 2022 calendar years or coinciding program year for which data were available. Also, the surveys collected data on 2022 and 2023 program budgets.

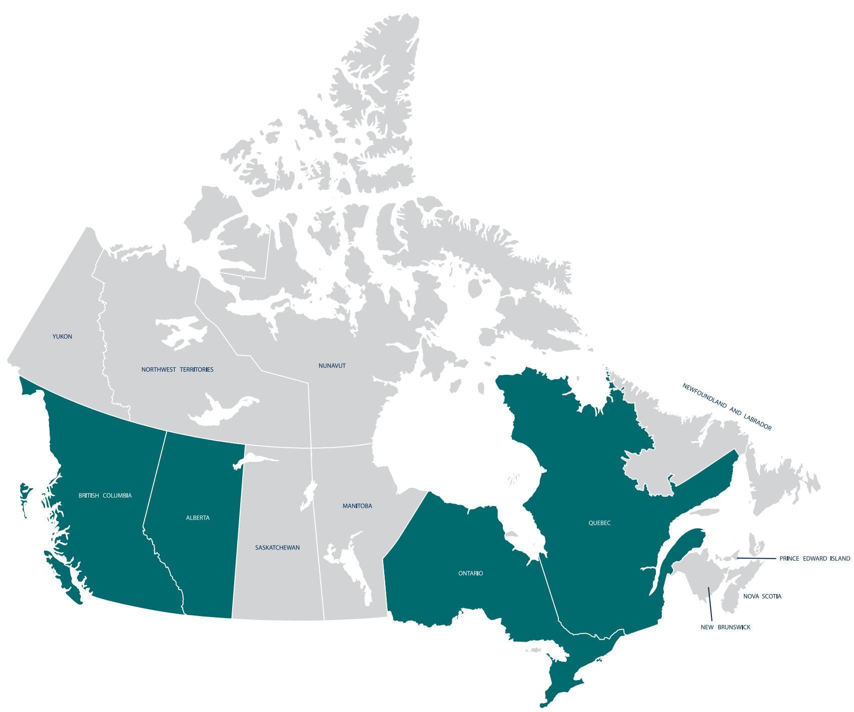
Not all responding parties answered every survey question. Therefore, the response sample varies by item. Because the sample pool is not normalized and varies year to year, this report does not directly compare collected data with prior years data, except for illustrative purposes. Tables and charts generally represent a simple tally of the responses to the survey questionnaire. Report footnotes and section introductions provide additional information regarding methodology.

2 Because a number of low-income weatherization programs that are run by state agencies do not participate in this survey, report data tend to understate low-income program expenditures and budgets.

Natural Gas Efficiency Program Characteristics

According to the 2020 program year data, there are at least 74 natural gas utility rate-payer funded efficiency programs in North America – 70 programs in the U.S. and four programs in Canada.[3] The number of reported natural gas utility rate-payer funded efficiency programs increased to 83 in 2022 - 79 programs in the U.S. and four in Canada. The year over year change in programs reported illustrates the change in participation and response rate, and therefore may not encompass all natural gas efficiency programs available.





3 In this report, North America refers to the United States and Canada.

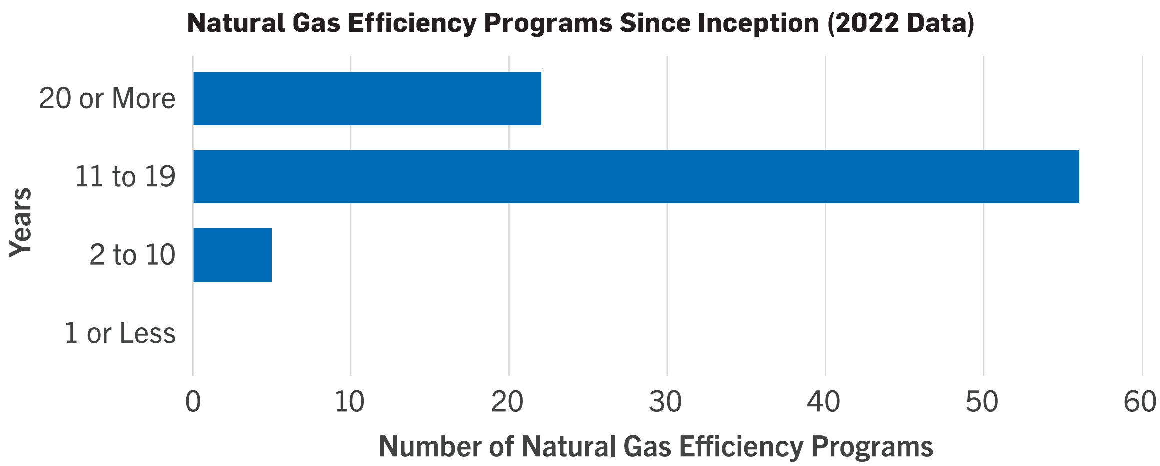
Program Structure and Administration

From this point forward, this report describes the responses of a subset of ratepayer-funded natural gas efficiency programs for which the survey data was obtained. The number of respondents for a particular question is included in the text and tables provided.

While many natural gas efficiency programs have been in place for years, the breadth and depth of programs continue to grow. Programs range from the newly launched to mature programs that span 20 years or more.

For the 2022 program year, 93% of programs have been in place ten years or longer, and 27% have operated for at least 20 years. Only five natural gas efficiency programs were reported to have launched within the last ten years.

Natural Gas Efficiency Programs Since Inception 2022 Data	
83 Programs	
Years in Service	**Number of Programs**
1 or Less	0
2 to 10	5
11 to 19	56
20 or More	22



Customer Segments and Participants

Participant counts were obtained for both the 2021 and 2022 program years. Some programs track or report participation rates or the number of enrollments. In cases where respondents do not actively monitor participants, some respondents provided estimates. Other programs track the number of paid rebates or grants instead of participating customers. Still, others differ on whether to count online audits, behavioral conservation program reports, home savings evaluations or students participating in school-based education programs. The numbers in the table below reflect these discrepancies, and thus participant figures should be considered as very rough estimates.

Respondents were asked to identify all customer segments in their efficiency programs. For the 2022 program year, 56% (39 of 69 respondents) have multi-family programs, 96% have residential efficiency programs, 90% have combined commercial and industrial and 91% have low income.

During 2021, enrollments in natural gas efficiency programs reached more than 8.2 million residential customers, more than 300 thousand low-income customers, about 24 thousand multi-family customers and more than 137 thousand commercial and industrial customers.

For 2022, natural gas efficiency programs saw increased enrollments with more than 9.4 million residential customers, more than 400 thousand low-income customers, more than 26 thousand multi-family customers and more than 124 thousand commercial and residential customers. In a few cases, programs had low to no participation in 2021 and 2022 due to late program implementation and the ensuing ramp-up period. The table below shows participant counts for 2021 and 2022 program years.[4]

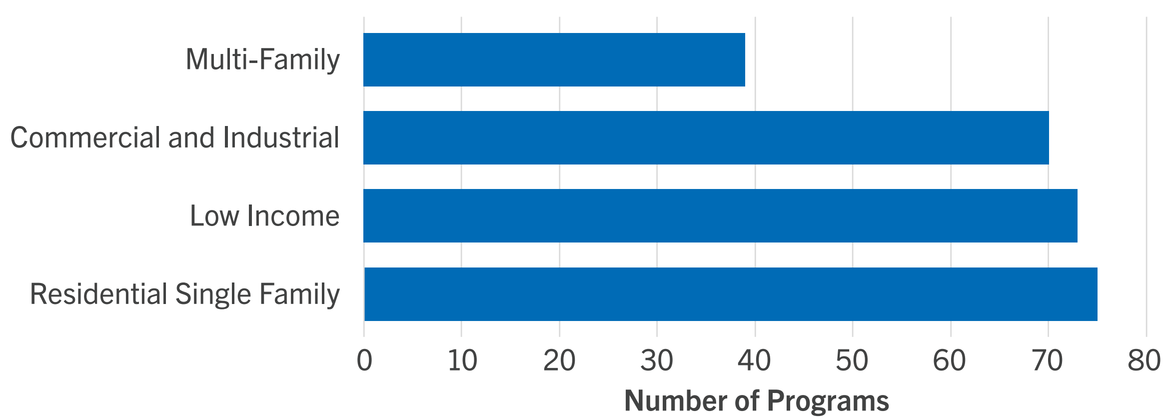
Program Participants by Customer Segment

	Residential	Low Income	Multi-Family	Commercial and Industrial
2022 Programs	75	73	39	70
2022 Participants	9,409,751	431,004	26,793	124,974
2021 Programs	N/A	N/A	N/A	N/A
2021 Participants	8,230,712	356,905	24,009	137,076

According to reported counts, the number of participants in each customer segment increased from 2021 to 2022; the largest increase in customer enrollment seen in the residential segment with the addition of more than 1.1 million customers from 2021 to 2022.

Participants per program vary widely during the 2022 program year. The median number of participants for residential programs was 15,621, ranging from as few as 45 to as many as 3.1 million customers. In low-income programs, the median was 542 participants, with a range of one to just over 107,000. Additionally, multi-family program customers ranged from one to 10,000 accounts, with a median of 94 participants. Commercial and industrial programs ranged from one to more than 41,000 accounts, with a median of 206 participants.

2022 Efficiency Programs by Customer Segment



4 ‘N/A’ in table as respondents were not asked about number of programs for the 2021 program year, therefore not reported.

Energy Efficiency Program Activities and Components

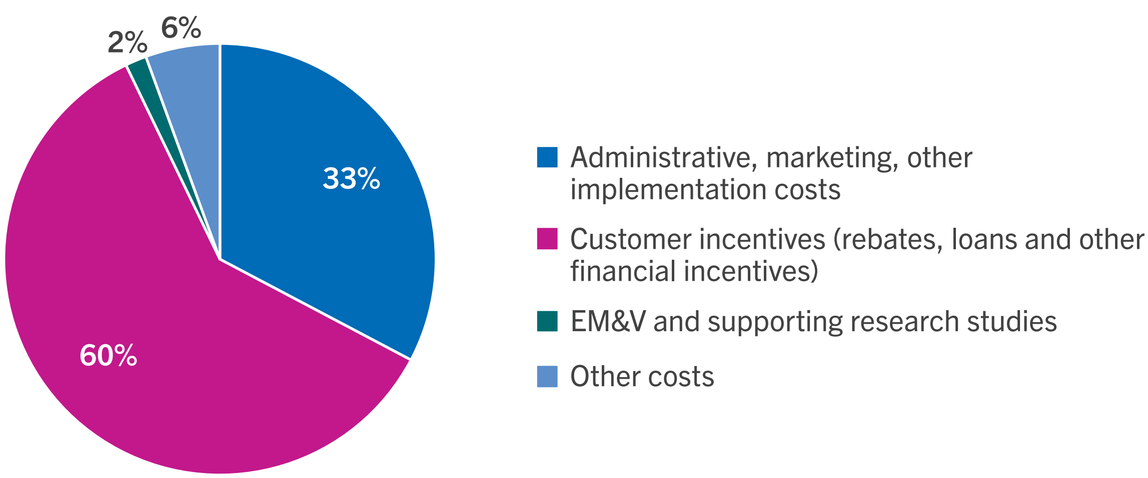
Survey participants were asked to provide a breakout of their 2022 expenditures into four activities, including:

1. Administrative, marketing, other implementation costs
2. Customer incentives (rebates, loans and other financial incentives)
3. Evaluation, measurement and verification (EM&V) and supporting research studies[5]
4. Other costs

Where data were not available by specific activity (such as EM&V), a slight percentage of respondents reported overall spending amounts in the "Other" category. Other costs include but are not limited to equipment, utility oversight, database utilization, education and awareness, performance incentive for sales, technical and training costs, industry dues and ally incentives.

Participants indicated that a majority, 60%, of energy efficiency expenditures were allocated to customer incentives such as rebates, loans and other financial incentives. Incentives being the largest expenditure in 2022 showcases how utilities are striving to ensure customers benefit directly from the programs invested in and implemented throughout their territories. These incentives offer the opportunity for both direct customer savings, as well as avoided greenhouse gas emissions as customers use less energy and more efficient appliances. Moreover, the survey results indicate utilities spent about 33% of their budgets on administration, marketing and other implementation costs in 2022.[6]

2022 Natural Gas Efficiency Program Expenditures by Activity in North America



Survey respondents were also asked to identify the efficiency components they offered in each of the four customer segments for the 2022 program year. Of the reported programs, one or more efficiency activity, as seen in the table below, are offered to each of the four customer segments. At least one of the efficiency activities is offered in 75 programs to the residential single-family segment, 70 programs to the commercial and industrial (C&I) segment, in 73 programs to the residential low-income segment and in 39 programs to the residential multi-family segment.

5 Evaluation, Measurement and Verification (EM&V) is the collection of methods and processes used to assess the performance of energy efficiency activities so that planned results can be achieved with greater certainty and future activities can be more effective. According to the U.S. Department of Energy. https://www.energy.gov/sites/prod/files/2014/05/f16/what_is_emv.pdf

6 Additional data available in the 2022 Appendix D - Natural Gas Efficiency Program Expenditures by Activity and Region.

A look at specific efficiency activities shows that of indirect impact programs, education outreach is most adopted across segments, particularly in the residential single-family and low-income residential segments, 69 and 65 programs, respectively. Examples of such “indirect impact” education activities include school education programs, brochures and bill inserts.

Also, widely prevalent is direct impact activities in existing homes or buildings. These direct impact activities include equipment replacement and upgrades (e.g., appliances, doors, windows and thermostats), building retrofits, commercial foodservice, process equipment, energy management systems and custom process improvements.

Weatherization is the third most common component of natural gas efficiency programs — offered in 72 of the 73 offered low-income programs and 70% of residential single-family programs. These weatherization activities incorporate building shell insulation and air sealing of ducts and wall cracks.

2022 Utility-Implemented Gas Efficiency Program Activities by Customer Segment

Energy Efficiency Activities	Residential Single-Family 75 Programs	Residential Multi-Family 39 Programs	Residential Low Income 73 Programs	Commercial & Industrial 70 Programs
Weatherization	53	39	72	N/A
Indirect Impact Programs				
Certification	26	22	24	25
Education	69	49	65	60
Online Tools	48	34	43	42
Technical Assessment	44	35	50	49
Training	35	24	32	42
Direct Impact Programs — Existing Buildings	69	53	70	62
Direct Impact Programs — New Construction/Expansions	45	33	25	44
Other	13	6	7	4

While not as prevalent as existing building retrofit programs, the direct impact new home/building program was implemented in 60% of residential single-family and 62% of C&I programs. Such direct impact activities encompass energy-efficient homes, efficiency design assistance and industrial efficiency.

Many programs also include other types of indirect impact activities, including online tools for energy usage/savings calculators and technical assessments such as on-site energy audits. These indirect impact activities account for 60% and 70% of C&I programs, respectively. Additionally, technical assessments accounted for 68% of residential low-income programs.

Efficiency training and certification (of contractors, installers and building operators) tend to lag compared to other programs. Technical training is provided in 73% of single-family, 60% of commercial/industrial and 44% of low-income programs. Moreover, professional certification is offered in 35% of residential single-family, 33% of low income, 36% of commercial and industrial programs and 56% of multi-family programs.

A relatively small number of respondents, as seen in the table, selected “other” energy efficiency activities, which include school efficiency education (some of which include direct install efficiency kits), natural gas safety inspections and behavioral change programs.

Greenhouse Gas or Carbon Emissions Targets and Credits

For the 2022 program year, respondents were asked whether their state targets greenhouse gas (GHG) or carbon reduction as an explicitly and measurable goal, and 37% (or 29 of 78 respondents) said “yes.” When asked if there are regulator-approved mechanisms for earning credit on GHG-emissions reduction projects such as renewable energy certificates, carbon offset projects, supporting wind farms, or biogas generating plants, 12 responded yes. Moreover, six earning credit in the form of program cost recovery and six respondents earning credit in the form of return on investment.

Similar regulator-approved earnings mechanisms are pending according to five other utilities. When asked whether they had sought regulatory approval for cost recovery or earnings on project investments where GHG emissions reduction is the primary goal, eight of 71 respondents indicated that they had secured regulatory approval, and thirteen companies are exploring such options.

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. The program year 2022 expenditures correspond to funding by 87 utilities for programs administered either by the utility or by a third party, such as a non-profit public benefit organization or a state agency that runs a statewide program.

The natural gas efficiency program dollars discussed in this report are primarily sourced from ratepayers. Some efficiency program funds originate from other sources, such as non- ratepayer funds, including utility shareholders, for efficiency programming. Non-ratepayer efficiency funds have been excluded to the extent it was able to be separated from the aggregated figures provided from this report or included in the other section of expenditures and budgets. Survey responses indicate the scale of these non-ratepayer funds are very small compared to the ratepayer program dollars dictated in this report. Given that the reporting methodology varies among respondents, expenditure and budget data should be regarded as estimates.[7]

Respondents were asked to categorize their 2022 expenditures and 2023 budgets by customer class and segment. Where data were not available by a specific segment, respondents reported overall spending amounts in the "Other" category. "Other" costs include but are not limited to cross- cutting funds for portfolio-wide activities, education and awareness costs, trade ally incentives, emerging technology management, school outreach and technical assistance. If respondents were unable to categorize spending for specific activities by the customer segment, they placed these dollar amounts under "Other," as previously mentioned.

Likewise, some 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) due to tracking restrictions thus, a small number of low-income program dollars were combined with residential program funds.

Expenditure and budget figures in this section utilize carryover methodology described in the methodology section to account for respondents who were unable to answer the survey in the designated time.

Natural Gas Efficiency Program Expenditures and Funding

In North America (U.S. and Canada), participating utilities spent $1.51 billion in 2022 on natural gas efficiency programs. Surveyed utilities spent $1.34 billion and $167 million in the U.S. and Canada, respectively.[8] Participating utilities also budgeted nearly $1.8 billion for the 2023 programs in North America with $1.5 billion and $221 million from U.S. and Canada, respectively, as seen in the table below.[9] Appendix A and B present a breakdown of 2022 expenditures and 2023 budgets by state and region as well.

7 Budget data were collected during winter of 2023 and spring of 2024; therefore, any budgetary changes made after this period, such as those due to newly approved programs or funding cuts, are not reflected in this report. Some dollars reported for 2021 represent carry-over of unspent funds from 2020.

8 Additional data available in the 2022 Appendix B - Natural Gas Efficiency Program Expenditures and Budgets by Region.

9 Subcategories might not add up exactly to reported totals due to rounding.

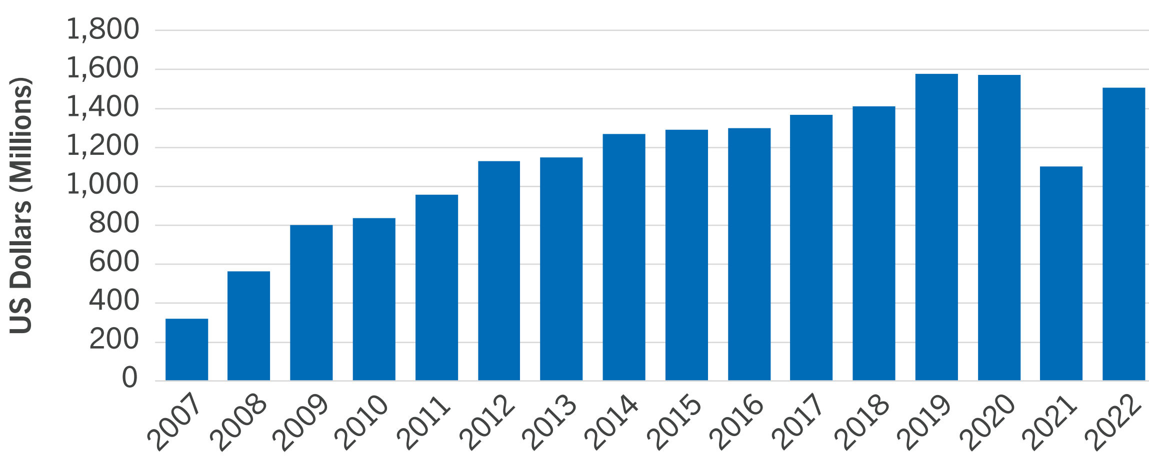
Natural Gas Efficiency Program Expenditures and Budgets by Customer Class						
	2022 Expenditures ($ Million)			2023 Budgets ($ Million)		
Customer Segment	The U.S.	Canada	North America	The U.S.	Canada	North America
Residential	$559.00	$57.31	$616.31	$621.49	$71.77	$693.26
Low-Income	$422.31	$22.96	$445.27	$448.73	$23.85	$472.58
Multi-Family	$32.40	$-	$32.40	$41.54	$-	$41.54
Commercial	$217.67	$66.76	$284.43	$313.01	$88.85	$401.86
Industrial	$14.22	$14.15	$28.38	$36.13	$17.88	$54.01
Other	$94.71	$6.75	$101.47	$86.28	$19.57	$105.85
Total	$1,340.32	$167.93	$1,508.25	$1,547.18	$221.92	$1,769.10

Program expenditures in North America increased roughly 37% from 2021 to 2022, rising from $1.1 billion to $1.5 billion as outlined in the table below. In North America the low-income segment experienced a 63% increase in spending from 2021 to 2022. In the United States, program expenditures rose a total of 42% with a 40% rise in spending in the single-family residential segment, 54% in the industrial segment and almost 71% in the low-income residential segment.

	2021 Expenditures ($ Million)			2022 Expenditures ($ Million)		
Customer Segment	The U.S.	Canada	North America	The U.S.	Canada	North America
Residential	$397.86	$49.79	$447.65	$559.00	$57.31	$616.31
Low-Income	$247.63	$25.93	$273.56	$422.31	$22.96	$445.27
Multi-Family	$27.41	$-	$27.41	$32.40	$-	$32.40
Commercial	$184.09	$64.83	$248.92	$217.67	$66.76	$284.43
Industrial	$9.27	$11.78	$21.05	$14.22	$14.15	$28.38
Other	$81.34	$1.98	$83.32	$94.71	$6.75	$101.47
Total	$942.68	$159.22	$1,101.90	$1,340.32	$167.93	$1,508.25

The figure below presents natural gas efficiency program funds from 2007 through 2022 for the United States. This comparison is intended for illustrative purposes since spending growth cannot be entirely attributed to new and expanded programs but also differences in survey samples from one year to the next.[10]

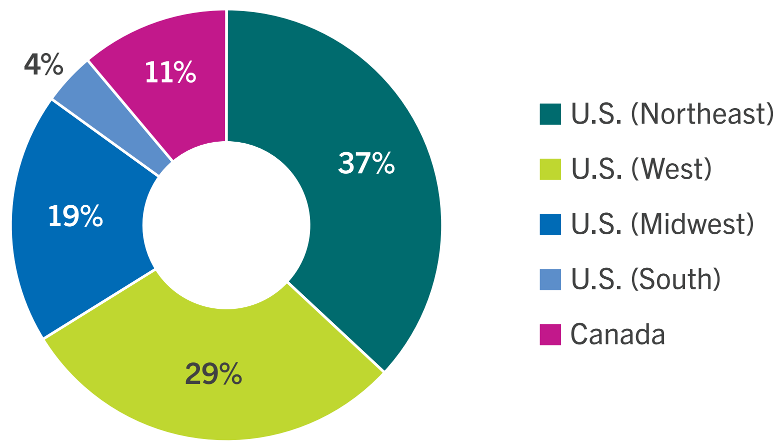
Yearly Natural Gas Efficiency Program Investments United States (Million Dollars)



10 Additional data available in the 2022 Appendix B - Natural Gas Efficiency Program Expenditures and Budgets by Region.

The regional breakout shows that the Northeast-U.S. region comprised the majority, 37%, of all the of 2022 participant expenditures totaling $557 million. Additionally, the West-U.S. region accounted for roughly 29% of expenditures at $440 million, the Midwest- U.S. region comprised of another 19% of all 2022 gas efficiency expenditures totaling more than $283 million, as seen in the next figure.

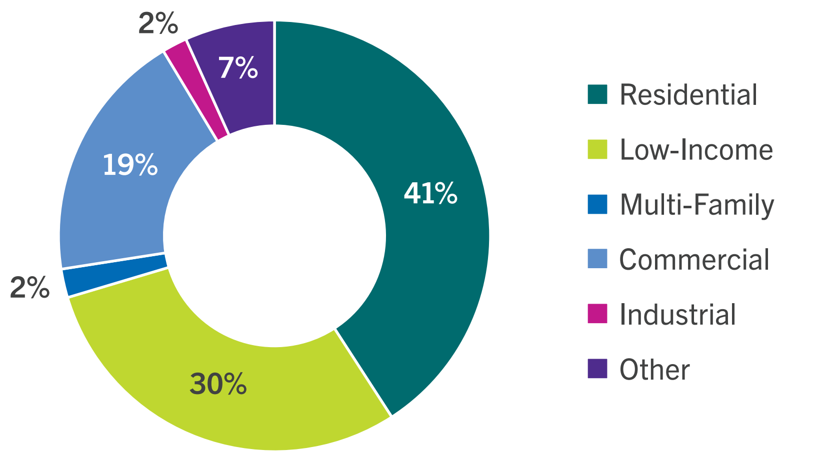
2022 Natural Gas Efficiency Program Expenditures in North America by Region



A look at 2022 natural gas efficiency program expenditures across sectors shows that North American utilities apportioned 41% of funding for residential programs, 30% for low-income residential programs, 19% for commercial, about 2% for separate industrial programs and 7% for other program activities as seen in the figure below.

The "other" category includes expenditures that were not provided by the customer segment. Likewise, in this category are programs that cross-cut residential and non-residential customer segments. These include baseline studies and market research including technology and market trials and pilot programs, planning and project development, consultation and cost-effectiveness analyses, EM&V, market transformation programs, marketing including statewide marketing and special projects such as non- profit kits, non-program specific administration costs (e.g., salaries, transportation, rebate processing), information systems upgrades (including tracking systems), conservation and efficiency education (e.g., school-based, online calculators, community education pilot), efficiency and technology training and regulatory and state oversight expenses (e.g., third- party alternative filings).

2022 Natural Gas Efficiency Program Expenditures in North America by Sector



Natural Gas Efficiency Program Savings

Respondents were asked to report energy savings realized by gas efficiency measures across customer classes during the 2022 program year. Savings includes calendar-year savings from natural gas efficiency measures already in place on the first day of the year (i.e., installed before 2022) as well as incremental savings realized from new measures implemented during the year. Some respondents were limited by how they track and report energy savings and thus did not provide annualized savings as defined above (with pre-existing measures and participation considered) but instead reported only incremental, or first-year therms savings. Where data were not available by segment, some respondents reported overall savings in the "Other" category.

As shown in the table below, participating utilities in the U.S. saved more than 336 million therms or 33.6 trillion Btu through natural gas efficiency programs, the equivalence of 1.7 million metric tons of avoided CO_2 emissions in 2022. For a breakdown of the 2022 estimated savings impacts by state and region, see Appendix E and F.

2022 Natural Gas Efficiency Program Estimated Program Estimated Savings by Impact Customer Segments (Million Therms)

Sector	United States	Canada	North America
Residential	139.41	6.64	146.05
Low-Income	11.78	1.08	12.86
Multi-Family	4.58	1.34	5.92
Commercial	66.10	20.3	86.40
Industrial	12.13	52.64	64.77
Other	43.24	0.00	43.24
Total	277.24	82.00	359.24

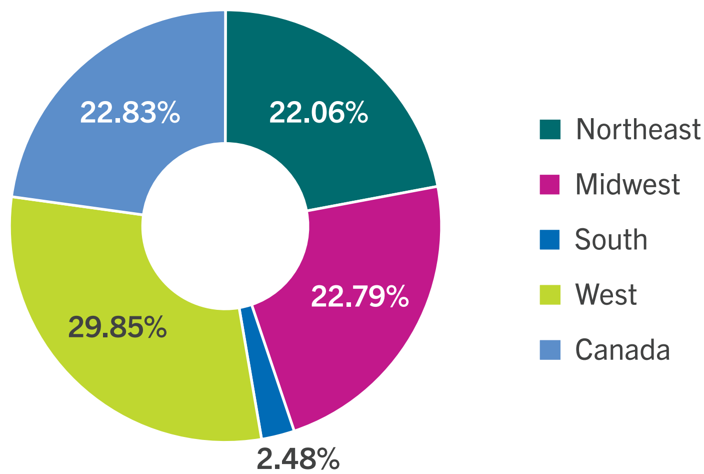
Respondents were also asked for gross impacts as well as net impacts — that is, to exclude free riders, spillover, savings due to government-mandated codes and standards, reduced usage owed to weather or business cycle fluctuations and reduced usage because of natural operations of the marketplace (e.g., higher prices). Many respondents report estimated savings — a set calculation of savings per measure, developed pre-installation, with built-in assumptions regarding free ridership and other specifications.

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 tiny percentage of the data. Given that the reporting methodology varied among respondents, natural gas savings data should be regarded as estimates.

As utility program participation varies by region within North America, savings vary as well as seen in the figure below. The Western region of the U.S. accounted for roughly 29% of North American efficiency spending, as seen in the Program Expenditures and Funding section above. However, the Western region had the majority of gross savings totaling 12 million therms (35% of all savings) seen in the next figure. The total savings across all regions of the U.S. accounted for decreasing emissions by 1.7 million metric tons of CO_2, equivalent to keeping about 424 thousand cars off the road for one year.

Canada accounted for 11% of regional energy spending, as seen in the Program Expenditures and Funding section. Nonetheless, it was able to contribute about 23% of the total gross efficiency savings, equating to 82 million therms in 2022, decreasing emissions by 408 million metric tons of CO_2 in 2022. The difference in expenditures and savings depends on the type of programs and activities that are being implemented as different measures yield various savings depending on technology, region, weather, etc.

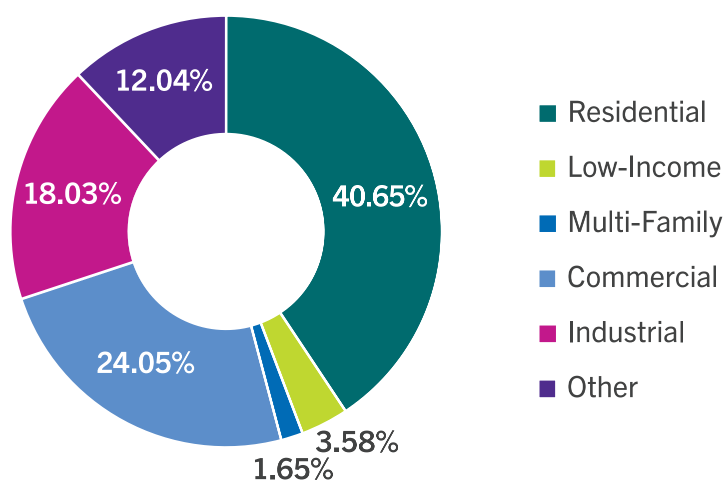
2022 Natural Gas Efficiency Program Gross Energy Savings by Regions



The Northeast spent the most on efficiency programs in 2022 and saved 79 thousand therms, curbing 418 thousand metric tons of CO_2, equivalent to keeping about 100 thousand cars off the road for a year or covering the energy usage for more than 55 thousand homes for a year.

Commercial programs contributed to 24% of energy savings in North America during 2022. Residential programs accounted for 41%, industrial 18% and low-income activities 4%. Twelve percent 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, as previously mentioned.

2022 Natural Gas Efficiency Program Gross Energy Savings in North America



Natural Gas Efficiency Program Planning and Evaluation

EM&V Expenditures and Budgets

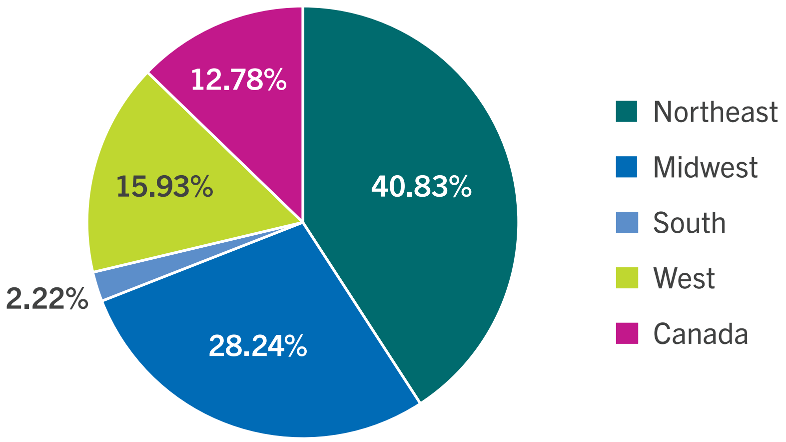
Survey respondents were asked to describe their approach to natural gas efficiency program planning, measurement and evaluation for the 2022 program year.

More than half of the respondents (66%) indicated that they have some form of Evaluation, measurement and verification (EM&V) program. However, not all participants were able to report EM&V expenditures for one of the following reasons:

- EM&V funds form part of the administrative budget
- In-house evaluations are covered under other program expenses
- Incremental costs are not itemized
- No evaluation report is due this program year
- Contract negotiations with third-party EM&V vendors are ongoing

EM&V expenditures exceeded $24 million in North America in 2022, of which $20.1 million came from the U.S, and $3 million came from Canada.[11]

2022 Natural Gas Efficiency Program EM&V and Supporting Research Studies Expenditures in the United States



Tracking Greenhouse Gas Emissions and Source Energy as a Measure

Thirty-five percent of respondents (26 of 75) indicated that a reduction of greenhouse gas (GHG) or carbon emissions is a performance target for their 2022 natural gas efficiency programs. Additionally, when asked about their program goals and targets, 32 utilities indicated that reducing greenhouse gas emissions / direct impact on avoided emissions as part of a state requirement by the program provider versus 25 utilities indicating that it was due to a regulator goal. Eighteen utilities indicated that the goal was a policy target in enabling legislation.

11 Additional data available in the 2022 Appendix D - Natural Gas Efficiency Program Expenditures by Activity and Region.

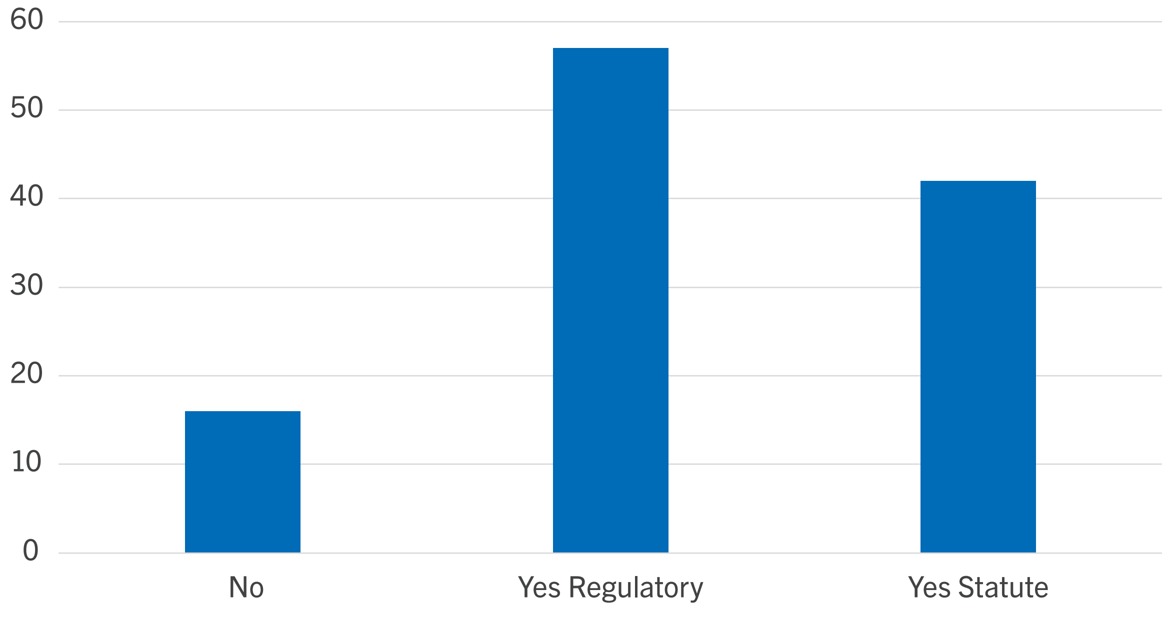
Natural Gas Efficiency Regulatory Requirements and Cost Recovery Treatment

This section describes some of the regulatory and legislative requirements that govern natural gas efficiency programs in the United States. Types of requirements include state potential studies, efficiency program spending requirements, recovery of direct program costs, lost margin recovery, financial incentives for well-performing programs, carbon offset programs and fuel switching to natural gas. Data was provided for 83 U.S. programs for the 2022 program year, although not all respondents answered all questions.

Natural Gas Efficiency Program Requirements and Policy Goals

Many states mandate utility investment in natural gas efficiency programs through a regulatory order or legislation and utilities may be counted twice if they indicated both. Of the total 81 utilities who responded to this question for the 2022 program year, 68 indicated that the state in which it operates requires the funding of an efficiency program. Fifty-seven respondents indicated a requirement via regulatory order, 42 utilities through a legislative bill and 34 respondents indicated both regulation and legislation.[12]

State Requirement for Utilities to Fund Efficiency Programs (2022 Data)



Various goals drive efficiency program funding requirements within the U.S. and Canada. Utilities that answered "Yes" above filled out specific policy and regulatory goal which have been aggregated in the table below. Utilities were also asked to indicate which goals were program-specific goals. These goals may overlap for utilities but should be considered independent goals for each category in the table.

12 Many states mandate utility investment in natural gas efficiency programs through a regulatory order or legislation and utilities may be counted twice if they indicated both.

The top five goals of the 2022 program year include energy conservation and savings, behavioral change and direct outreach programs, reduced usage for low-income customers, value-added customer service and options programs and reducing customer bills. Additional policy goals and program breakdown data are provided in the table below.[13]

Policy Goals Governing Efficiency Program Implementation
Number of Programs by Goal/Target

2022 Data

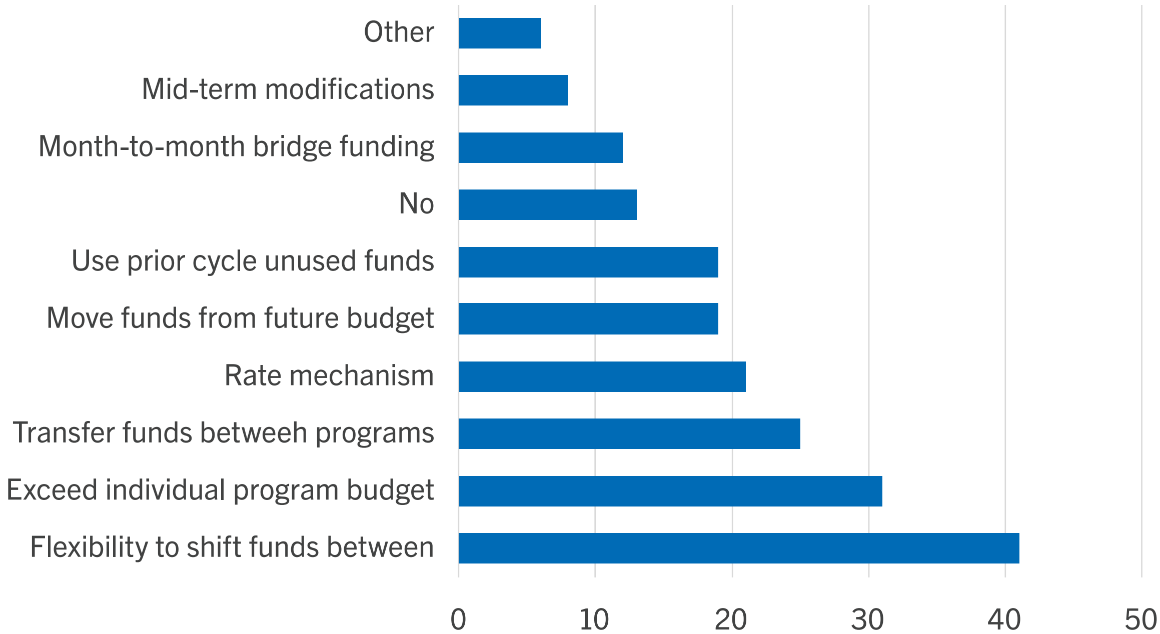
Target/Path	Program Provider Goal	Policy Target in Legislation	Regulator Goal
Minimize Customer Bill Payment Arrears and Utility's Uncollectable Balances	30	9	30
Behavioral Change (Via Education, Training Feedback or Direct Outreach to Customers and Others)	51	15	33
Encourage the Use of Combined Heat and Power	12	6	12
Customer Dollar Savings/ Reduce Customer Bills	48	24	38
Value-Added Customer Service and Options	49	9	21
Economic Development and Job Creation (or Green Jobs)	23	12	22
Meet State Energy Efficient Resource Standards (EERS) or Renewable Portfolio Standards Targets	14	18	22
Meet Electric Demand Side Management Program Targets	13	12	16
Promote Energy Conservation/ Direct Impact on Energy Saving	64	39	49
Reduce Natural Gas Supply and Infrastructure Costs	27	15	28
Reduce Green House Gas Emissions/Direct Impact on Avoided Emissions	32	18	25
Reduce Low-Income Customer's Energy Use and Cost Burden	49	25	44
Improve Safety and Comfort Benefits to Low Income Customers	45	12	30
Reduce Peak/Off-Peak Electric Generation Needs and Electric Infrastructure Costs	15	10	15
Market Transformation (Via Manufacturers, Distributors, Retailers and Consumers of Energy of Energy-Related Projects/Services)	39	16	28
Other	N/A	4	3

Utilities often employ mechanisms to prevent intra-year program funding disruptions. Seventy-one respondents had at least one mechanism in place. Most utilities, 41 participants, had the flexibility to shift funds between programs, while 31 participants were allowed to exceed individual program budgets, provided the portfolio as a whole is cost-effective. Two utilities had all eight mechanisms in place to prevent intra-year program funding disruptions, while 22 utilities had four or more mechanisms in place. The other category included mechanisms such as a 5-25% variance and rebate flexibility with portfolio cost-effectiveness.

Even though some utilities had mechanisms built in to prevent program funding disruptions, interruptions may still occur depending on the severity or type of disruptions, which were metrics that were not collected in this survey. However, implementing mechanisms built in to prevent program funding disruptions can decrease the negative impact that disruptions may have on your program.

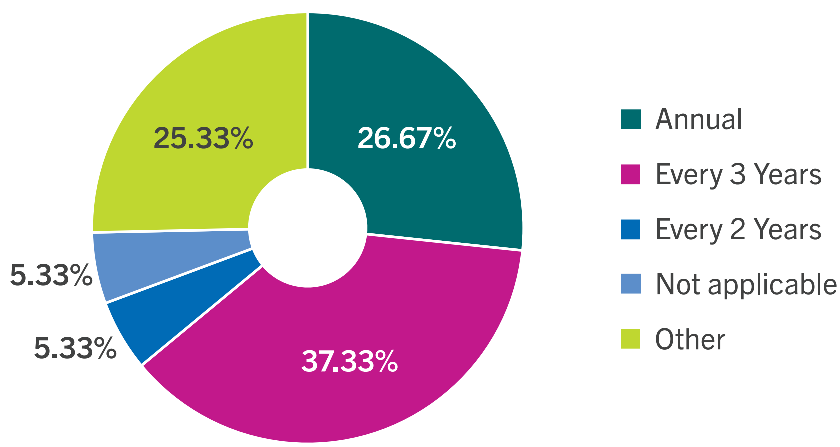
13 Utility efficiency goals are governed by program, policy and/or regulatory paths and may be counted multiple times if they indicated various targets.

Built in Mechanisms to Prevent Intra-Year Program Funding Disruptions in the U.S.



When asked "on what basis is your funding approved by your regulator or appropriate legal authority," for the 2022 program year, 25% (16 out of 63) utilities in the U.S. have their funding approved annually, 41% (26 out of 63) utilities from have their funding approved every three years, 8% (5 out of 63) utilities are approved every two years. Additionally, 29% (15 out of 63) indicated "other" which includes an approval cycle of 4-5 year or sector-specific approval, as seen below.

Regulator or Legal Authority Cycle of Efficiency Funding Approval (2022 Data)



Rate Structures and Regulatory Treatment Aligned with Utility and Energy Efficiency Goals

An investor-owned utility has an intricate accounting and rate-setting methodology to recover its costs. Many resources explain utility accounting and rate design in depth. For this report, a simplified, brief description is provided as background for relaying the policies that have been progressively adapted to protect utilities from losses associated with energy conservation practices and to incentivize them to invest in energy efficiency programs.

When setting rates, an investor-owned utility negotiates with its regulator (public utility/ service commission) what it is permitted to charge its customers to be able to continue to meet its obligation to serve its customer base. These rates are calculated to match the revenue requirement of the utility, allowing it:

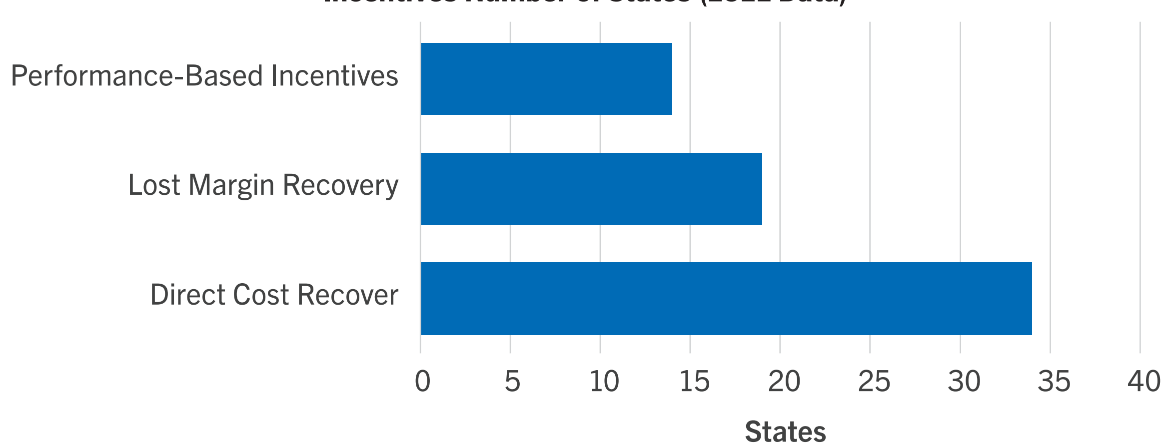
1. to recover its incurred costs — both variable and fixed
2. to pay the interest cost on its capital debts
3. to earn a return for shareholders on investments

The profit margin is approved by the regulator, who sets the rate of return (or percentage) the utility may earn on its equity (a return on equity or ROE). In traditional rate designs, a portion of fixed costs is recovered via a volumetric charge or a price per therm. With this rate structure — because energy consumption varies while infrastructure costs remain fixed in the short term — the utility is at risk of under-recovering its fixed costs should customers reduce their gas consumption. In the long-term, it is thought that reductions in usage should eventually result in reduced natural gas supply capacity requirements and thus decreased capital costs, thereby eventually reducing costs for customers. Also, decreased energy usage that results from successful efficiency program implementation can negatively impact the utility's revenues, furthering the potential disincentive for utilities to promote efficient energy use.

With growing interest in energy conservation and demand-side management, policymakers have increasingly approved mechanisms that allow utilities to recover the direct costs and the margin losses associated with implementing energy efficiency programs. Policymakers have also approved financial rewards to shareholders for investments in energy efficiency programs — quantifying the value of these demand-side programs and treating them similarly to supply-side resource investments (e.g., distribution infrastructure, transportation capacity, underground storage, etc.).

Respondents identified 35 states that allow utilities to recover the direct costs of natural gas efficiency programs, 21 states that permit recovery of lost margins due to efficiency program implementation and 14 states that financially reward utilities for well-performing natural gas efficiency programs as seen below.

Regulatory Treatment for Gas Efficiency Program Direct Costs, Lost Revenues and Based Incentives Number of States (2022 Data)



Recovery of Energy Efficiency Costs

Energy efficiency program costs are divided into two categories in this survey: direct costs and margin costs. Direct costs may be recovered in three ways:

1. Base rates
2. Trackers (e.g., tariff riders, bill surcharges)
3. Deferral accounts

Margin losses (and gains) are adjusted and recovered in one of two ways:

1. Deferred and recovered via base rates (e.g., revenue decoupling, straight fixed variable rates and rate stabilization) *and/or*
2. Margin trackers (e.g., lost revenue adjustment mechanisms or LRAMs).

These mechanisms are discussed in more detail in the following sections.

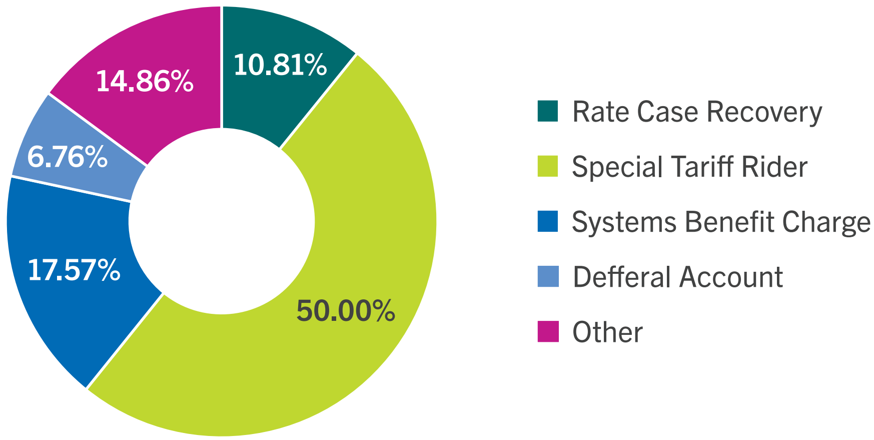
Direct Program Cost Recovery

Direct cost recovery generally allows utilities to pass through efficiency costs to customers in one of three ways:

1. Program costs are treated as expenses that are embedded in base rates (or the charge per therm) in a general rate case.
2. Efficiency program costs are recovered via a separate tariff rider or a surcharge on customer bills (also known as system benefits charge), and the surcharge amount may be adjusted periodically to correct for over or under-recovery of efficiency costs.
3. Program expenditures accrue and are tracked in a balancing account for amortization and later recovery from customers over a period of time.

According to survey respondents, special tariffs or efficiency riders are currently the most common method for recovering program costs, which is consistent with previous years of this survey since 2011. Fifty percent of respondents (37 out of 74) use a special efficiency or conservation tariff rider, 18% (13 out of 74) apply a mandated system benefits (or public goods) surcharge to customer bills and 11% (8 out of 74) embed natural gas efficiency program costs in base rates. Additionally, five utilities track expenditures in a balancing account for amortization and later recovery over a period of time, as seen in the figure below. Fifteen percent (11 out of 74) of companies used "other" methods to recover program costs; which can be a combination of up to 3 recovery mechanisms, a conservation adjustment mechanisms, annual true-up and collection rate adjustments or local distribution adjustment charges.

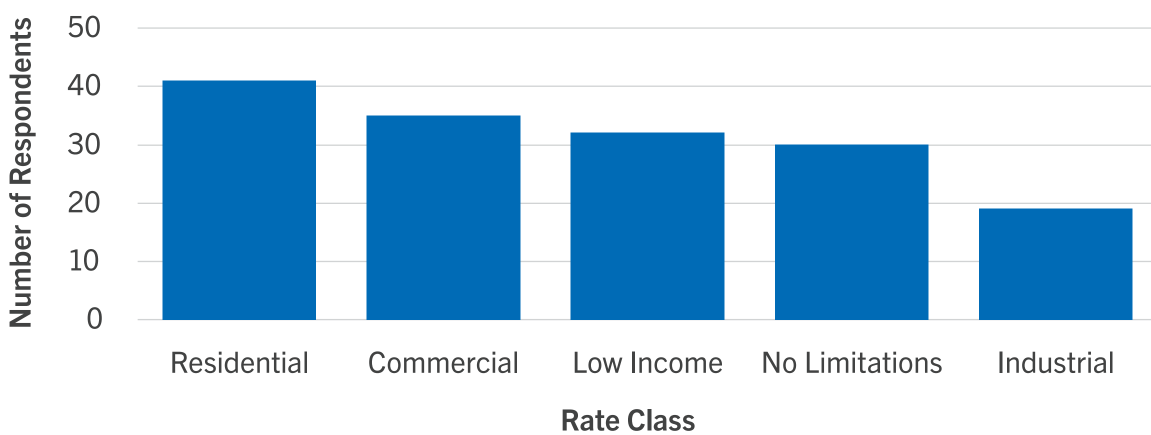
Regulator-Approved Gas Efficiency Program Recovery Cost Mechanisms — 88 Respondents (2022 Data)



For some utilities, recovery of energy efficiency programs costs apply only to specific rate classes within their programs. Out of the 88 respondents, 30 respondents didn't have any limitations; however, this was not the case for the other 58 utilities. According to 41 respondents, residential programs had the highest applicability for the recovery of energy efficiency program costs. Commercial and low-income programs with 35 responses and 32 responses, respectively, were second and third most utilized. Industrial programs had 19 utility respondents that could recover energy efficiency program costs through the mechanisms mentioned above.

Of the 73 respondents that can recover their costs, 19 respondents were able to apply cost recovery methods for all four rate classes, eight respondents were able to apply the mechanisms to 3 rate categories and 11 respondents were able to apply recovery methods to two rate classes.

Recovery of Energy Efficiency Program Costs by Rate Class — 88 Respondents (2022 Data)



Lost Margin Recovery

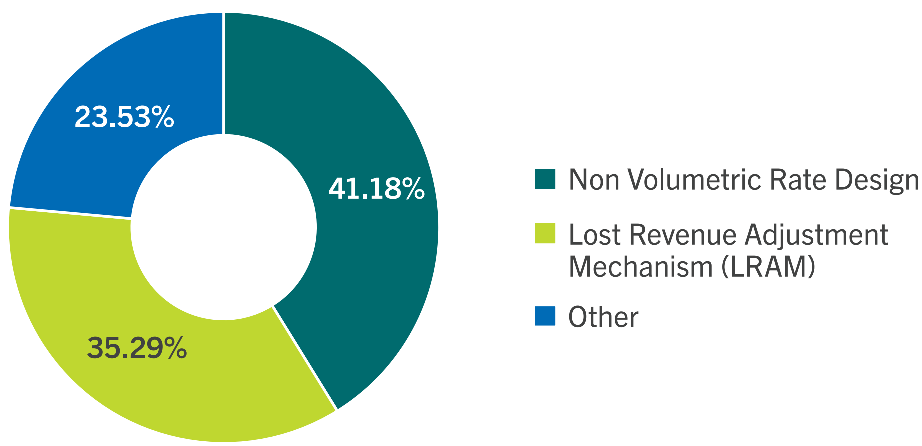
Recovery of margin losses and revenue shortfalls due to efficiency program implementation are increasingly allowed in more states, thereby removing the disincentive to invest in natural gas efficiency programs due to falling revenues. For the 2022 program year, thirty-four companies reported having an authorized mechanism for recovering lost margins correlating to efficiency implementation. Forty-four respondents reported, on the other hand, that they are not allowed to recover the revenue losses resulting from implementing efficiency programs. Methods for recovering efficiency-related lost margins vary.

Non-volumetric rate structures form one method of recovering lost margins. With such rate designs, utilities may collect revenues from customers independent of therm usage. Here margin recovery is not applied on a per therm basis but approximates a per-customer basis. These mechanisms include revenue decoupling, straight fixed variable (or SFV) rates and rate stabilized mechanisms.

Lost revenue adjustment mechanism or LRAM is the other method of recovering lost margins. It requires the utility to identify unrecovered margins associated with efficiency programming, track them over a time period and recover them after the fact. In this case, revenues continue to be recovered on a therm usage basis; however, rates are adjusted to correct for under- or over-recovery of margins. This type of margin true-up is also generically referred to as a conservation adjustment mechanism.

As shown in the figure below, of the thirty-four responding utilities that are allowed to recover lost margins in the U.S. and Canada, 14 utilities have a non-volumetric rate design, 12 utilities use a lost revenue adjustment mechanism (LRAM) and eight use another method to recover lost margins.

Approved Mechanism for Recovering Lost Margins (2022 Data)



Revenue decoupling mechanisms have different names, such as conservation enabling tariff, conservation incentive program, conservation margin tracker, conservation rider and so on. Decoupling breaks the link between utility revenues or profits and gas throughput (or delivered volumes). It may be applied to total revenues or on a revenue-per-customer basis. When the recovered revenue varies from the allowed recovery amount, it is trued up via periodic rate adjustments to adjust the under or over-recovery. Revenue variances specific to efficiency may be tracked in a separate balancing or adjustment account and applied to the next rate adjustment. Decoupling takes on different forms:

1. Full revenue decoupling
2. Partial revenue decoupling where only a portion of losses are recovered
3. Revenue decoupling with certain restrictions (see below)

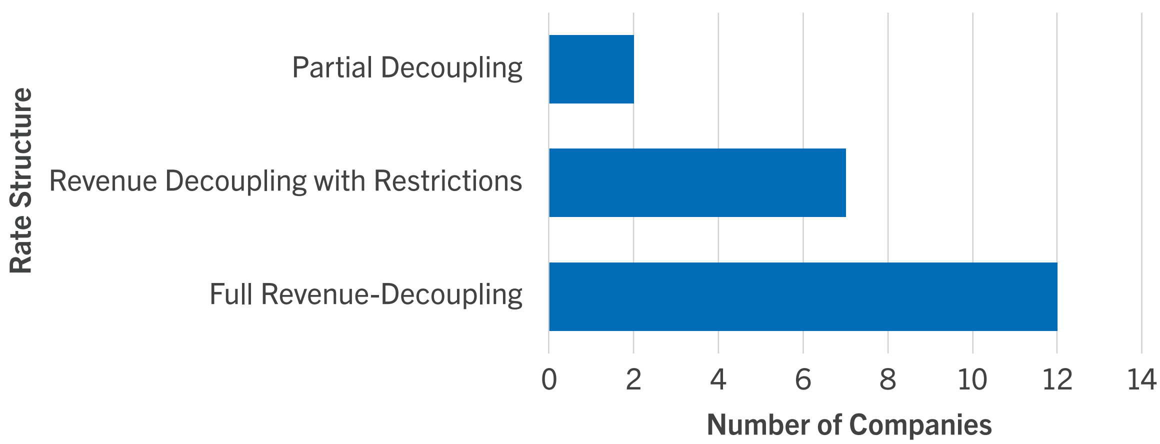
In some cases, the margin shortfall or surplus, specific to efficiency investments, is allowed to accrue in a deferral account, treated as a regulatory asset and the recovery is amortized over a period of time, generally applied to the class of customers benefiting from efficiency savings. Sometimes utilities may charge an annual interest rate on the unamortized balances, thus recovering the carrying cost on the deferred margins.

Partial revenue decoupling limits margin recovery to a specific percentage of revenues or must be equal to the achieved natural gas cost saving. Revenue decoupling with restrictions may involve caps on the authorized return on equity (ROE) or other limits on regulated earnings.

A revenue stabilization mechanism (also known as rate stabilization) is another form of non-volumetric rates, where utility revenues are de-linked from the amount of gas throughput. Rate stabilization combines lost margin recovery and recovery of operating costs within one mechanism. Here rates are adjusted periodically to adjust for variances in returns from the regulator-authorized ROE and utility cost variances since the last rate adjustment.

With straight fixed variable rates, there are no revenue impacts resulting from efficiency programming, because most or all fixed costs are recovered via a non-volumetric charge. The per-customer charge remains stable regardless of consumption variances (approximating a flat monthly fee).

Non-Volumetric Rate Structures in 2022: 23 Natural Gas Utilities (17 States)



Of the 23 utilities in the 17 states that have non-volumetric rate design, 12 (in 13 states) have full revenue decoupling, seven (in five states) have revenue decoupling with restrictions and two (in two states) reported partial revenue decoupling. Straight fixed variable rates, rate stabilization mechanisms and non-specified revenue decoupling were not used by the participants in this survey cycle.

Non-Volumetric Rate Structures in the U.S. 2022: 23 Gas Utilities in 17 States

Mechanism	Number of Companies	Number of States
Full Revenue-Decoupling	12	13
Revenue Decoupling with Restrictions	7	5
Non-Specified Revenue Decoupling	0	0
Straight Fixed Variable	0	0
Partial Decoupling	2	2
Rate Stabilization Mechanism	0	0

Utility Performance-Based Incentives

Recovery of efficiency program costs and associated lost margins removes the utility's disincentive to promote energy efficiency, thereby making program implementation revenue neutral. To incentivize investor-owned utilities to commit fully to efficiency program improvements and expenditures, regulators have gradually approved more mechanisms that financially reward utilities for making energy efficiency investments. Efficiency performance-based incentives for utilities involve three mechanisms: shared savings, performance target rewards and rate of return incentives.

Shared savings mechanisms reward utilities either for investing in energy efficiency at pre-determined minimum spending levels or for making cost-effective efficiency investments. Financial incentives are calculated as a percentage of efficiency spending or as a percentage of the achieved net system benefits (the difference between efficiency costs and energy savings or other economic benefits). Awards are often capped at a specified dollar amount regardless of the rate applied to spend levels or net benefits. Commonly, investors and ratepayers share the savings. In some cases, penalties are applied when programs fail to meet the minimum threshold.

Performance targets are often conditions for capturing earnings on efficiency investments. The pre-determined goals may be set at certain investment levels, total energy savings, the extent of cost-effective savings or the number of units installed. Financial awards may be tiered according to performance thresholds: for example, for attaining at least a proportion of goals, meeting the target or exceeding them. Also, penalties may apply if the utility falls short of the minimum requirements. Additionally, incentives may be capped, even if performance surpasses the maximum threshold and may involve a dead band, where incentives are suspended within this performance range.

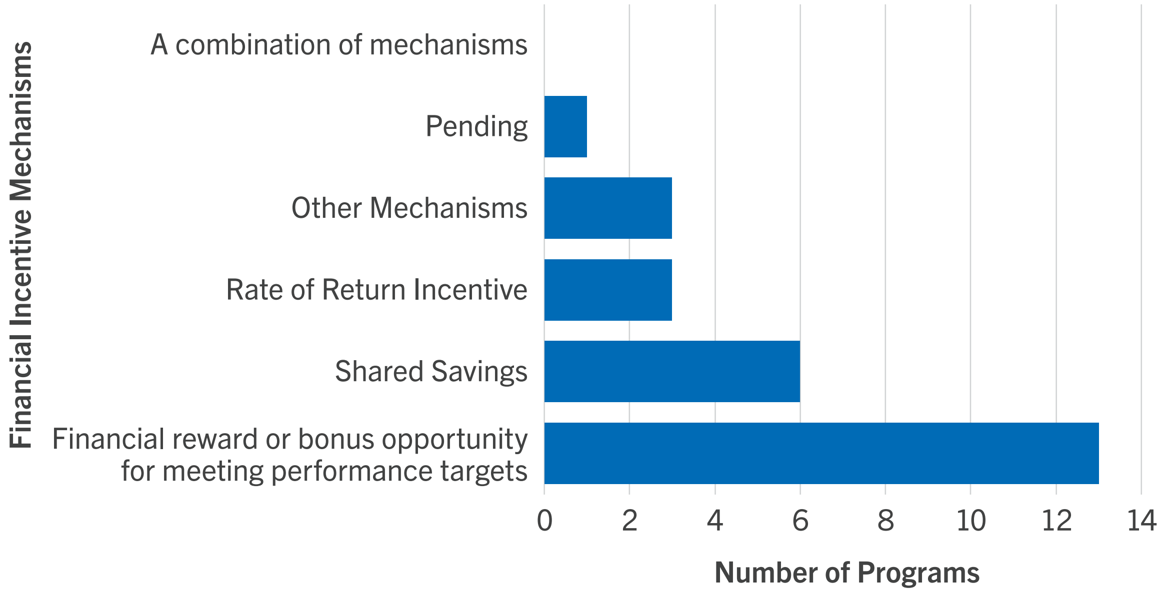
Rate of return incentives allows earnings on natural gas efficiency expenditures either equal to the utility's authorized ROE or at an enhanced level — an added or bonus ROE applied to efficiency investments. Incentive structures may involve a combination of these three mechanisms, making performance targets a prerequisite to shared savings or returns on efficiency investments.

In this survey cycle, twenty-six natural gas efficiency programs implemented in 20 states identified as having utility performance-based incentives. When asked to identify all mechanisms that formed their incentives, they indicated having one of the following mechanisms: six companies (in six states) had a shared saving mechanism, three (in three states) had a rate of return (ROR) mechanism and 13 companies (in 9 states) had a bonus opportunity for meeting performance targets. There were no utilities who had more than one incentive mechanism for this program cycle, although three reported other mechanisms. The table below shows the various arrangements as reported by companies.

Utility Financial Incentive Structure Specific to Natural Gas Efficiency Program Implementation and Performance (2022 Data)

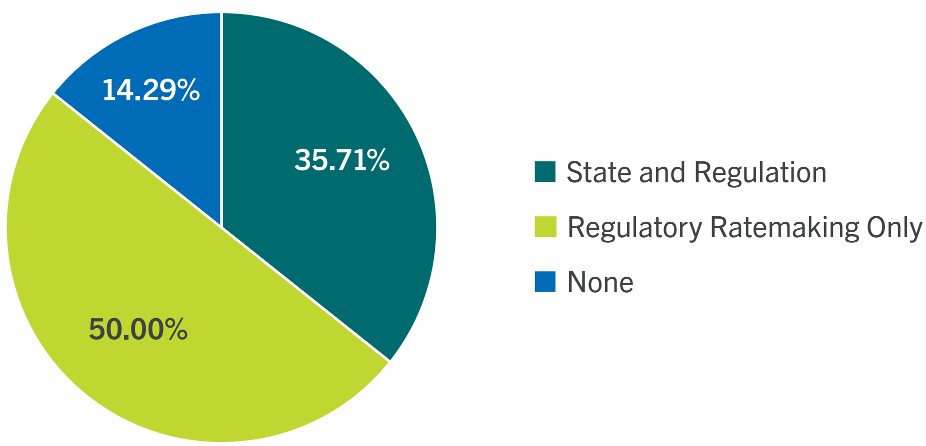
Financial Incentive Mechanisms	Number of programs	Number of states (20)
Shared Savings	6	6
Rate of Return Incentive	3	3
Financial reward or bonus opportunity for meeting performance targets	13	9
Pending	1	1
A combination of mechanisms	0	0
Other Mechanisms	3	1

Utility Financial Incentive Structures Specific to Natural Gas Efficiency Program Implementation and Performance



When asked what authority their regulator-approved utility performance incentive mechanism originated from, 14 utilities of 28 respondents indicated it was by regulatory ratemaking. In comparison, another 10 utilities indicated it was by statute and regulation. Four of the 28 utility respondents indicated that none of the above two authorities were involved, as outlined in the figure below.

Regulatory Authority Supporting Utility Performance Incentive Mechanism in the U.S. in 2022

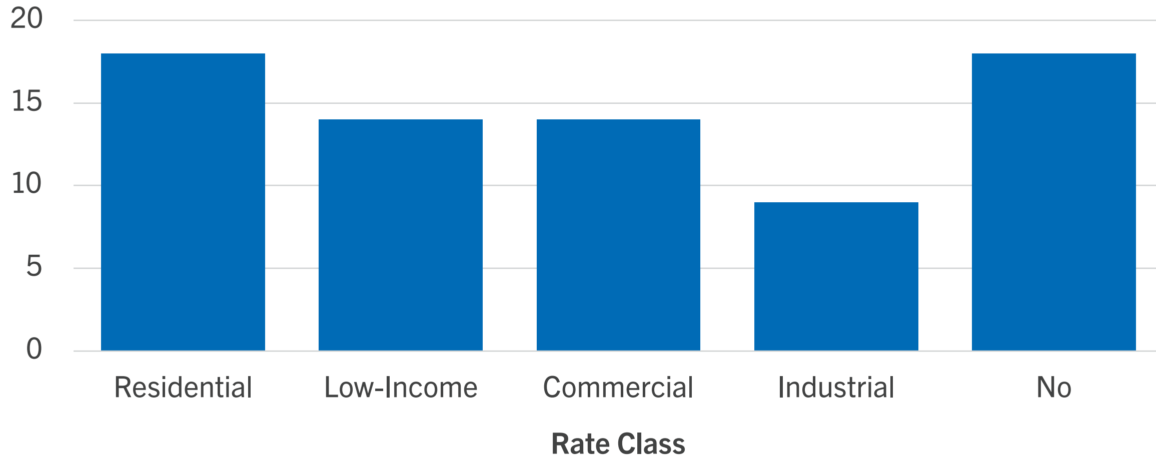


Fuel Switching

For the 2022 program year, 29% of respondents (24 of 84) reported that their regulator-approved natural gas efficiency program encourages fuel switching through financial incentives (e.g., rebates, loans and other benefits) for 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.

The programs that offered fuel conversion incentives to their customers varied by rate classes, with 18 utilities offering residential program incentives and 14 utilities offering commercial incentives. Seven utility participants offered fuel conversion incentives for the low-income rate class and four utility participants offered industrial customers the incentive as well. Seventeen utility programs offered two or more rate cases the opportunity for fuel switching incentives, of which seven utilities were offering all four rate classes incentives in their program followed by six utilities offering three rate classes the incentive.

Utilities Offering Fuel Conversion Incentives to Customers by Rate Class in 2022



Five utilities were offering higher rebates for converting to natural gas, and 15 participants offered the same rebate level as for upgrading a gas appliance. Six other utilities offered other financial incentives, including covering installment costs, low-interest loans and tiered rebates.

In this case, fuel switching can apply for electric, fuel oil, propane, or other energy sources to natural gas. The types of equipment that were included in the fuel-switching incentives programs included a range to technologies from boilers, furnaces, water heaters, stoves/cooking ranges, dryers, HVAC and space heating to combined heat & power. In addition to the numerous technologies that were included in the fuel-switching program, there were also conditions or limitations that programs needed to work within. The most common constraint, according to utility participants, was that installed equipment must meet minimum efficiency levels followed by fuel switching being limited to specific applications or measures. Other limitations included cost-effectiveness requirements, customer cost-sharing and city/state fuel substitution requirements.

The other 14% of participants (12 out of 84) reported that they could encourage fuel switching through financial incentives, but not through their efficiency programs. When fuel switching was allowed but not through efficiency program incentives, utilities offered the financial incentive through other state-sponsored energy programs, voter-approved bonds or other regulatory authorities.

According to 11 of 45 utilities (10 states), promoting fuel switching/converting to natural gas is expressly prohibited in their states. Four of those respondents are prohibited by statute and one by regulator and statute.

Conclusion

Overall, in 2022 the members survey results indicate that natural gas utilities continue to help their customers to reduce energy usage, lower their annual energy bills and reduce greenhouse gas emissions by investing in successful and innovative efficiency programs, which include cash rebates and financial incentives, low-income specific programs, strategic partnerships, joint programs with other electric and gas utilities, efficiency loans, education campaigns, targeted marketing, energy audits and more.

- In 2020, there were at least 74 natural gas utility rate-payer funded efficiency programs in North America – 70 programs in the U.S. and four programs in Canada.
- In 2022 there were 83 such programs, with the U.S. accounting for 79 programs and Canada maintaining four.
- Investments in these efficiency programs in North America increased roughly 37% from 2021 to 2022, rising from $1.1 billion to $1.5 billion.
- With these significant investments, natural gas utilities in the U.S. aided their customers in offsetting more than 1.7 million metric tons of CO_2 in 2022, equivalent to removing 424 million cars from the road for a year.
- U.S. customers saved more than 336 million therms in 2022, equating to roughly 33.6 trillion BTUs of energy saved.

APPENDIX A - NATURAL GAS EFFICIENCY PROGRAM EXPENDITURES AND BUDGETS BY STATE

STATE	2022 Expenditures AND 2023 Budgets															
	A. RESIDENTIAL		B. LOW INCOME		C. MULTI FAMILY		D. COMMERCIAL		E. INDUSTRIAL		G. OTHER		PROGRAMS TOTAL (A + B + C + D + E + F)		Greenhouse Gas (GHG) Savings	
	2022 Expenditures	2023 Budget	2022 Expenditures	2023 Budget	2022 Expenditures	2023 Budget	2022 Expenditures	2023 Budget	2022 Expenditures	2023 Budget	2022 Expenditures	2023 Budget	2022 Expenditures	2023 Budget	2022 Energy Savings (Therms)	2022 GHG Saved (Metric Tons)
ALABAMA																
ALASKA																
ARIZONA	$ 4,359,797	$ 3,000,000	$ 499,524	$ 650,000			$ 36,531	$ 1,530,000			$ 151,017	$ 315,000	$ 5,046,869	$ 5,495,000	$ 2,477,586	$ 13,131
ARKANSAS	$ 6,852,606	$ 7,814,299	$ 386,803	$ 397,615			$ 4,323,801	$ 4,823,345			$ 98,224	$ 2,901,145	$ 11,661,434	$ 15,936,404	$ 4,388,633	$ 23,260
CALIFORNIA	$ 66,032,441	$ 58,547,838	$ 192,323,371	$ 215,646,891			$ 22,038,377	$ 52,506,644	$ 9,597,732	$ 32,614,340	$ 40,951,379	$ 394,239,490	$ 330,943,300	$ 753,555,203	$ 81,397,733	$ 431,408
COLORADO	$ 13,405,347	$ 16,895,764	$ 5,653,160	$ 6,597,549	$ 1,312,424	$ 1,457,508	$ 3,723,397	$ 3,440,119			$ 1,284,453	$ 30,088,774	$ 25,378,781	$ 58,479,714	$ 13,880,310	$ 73,566
CONNECTICUT	$ 18,887,540	$ 19,233,008	$ 12,322,061	$ 15,971,903	$ 2,119,531	$ 2,336,446	$ 7,491,268	$ 11,287,461	$ 1,487,711	$ 1,639,964	$ 5,858,481	$ 56,434,139	$ 48,166,592	$ 106,902,921	$ 5,734,877	$ 30,395
DELAWARE																
DISTRICT OF COLUMBIA																
FLORIDA	$ 26,022,210	$ 6,190,050					$ 4,725,151	$ 2,320,050			$ 1,019,334	$ 5,486,000	$ 31,766,695	$ 13,996,100	$ 597,561	$ 3,167
GEORGIA																
HAWAII																
IDAHO	$ 4,693,595	$ 4,137,093	$ 206,414	$ 237,741			$ 307,980	$ 376,149			$ 120,262	$ 1,981,500	$ 5,328,251	$ 6,732,483	$ 946,271	$ 5,015
ILLINOIS	$ 14,043,013	$ 3,698,377	$ 30,272,504	$ 20,430,502	$ 3,500,889	$ 3,830,536	$ 24,547,989	$ 14,626,560			$ 12,715,405	$ 50,619,496	$ 85,079,800	$ 93,205,471	$ 31,999,170	$ 169,596
INDIANA	$ 8,239,860	$ 7,852,204	$ 1,934,419	$ 2,303,680	$ 212,083	$ 436,659	$ 5,171,038	$ 4,183,046			$ 896,575	$ 16,410,647	$ 16,453,975	$ 31,186,236	$ 9,202,442	$ 48,773
IOWA	$ 3,023,604	$ 3,265,275	$ 1,629,667	$ 1,644,814	$ 191,536	$ 1,063,864	$ 173,527	$ 1,279,078			$ 47,245	$ 7,305,024	$ 5,065,579	$ 14,558,055	$ 1,376,585	$ 7,296
KANSAS																
KENTUCKY			$ 162,430	$ 311,996								$ 180,000	$ 162,430	$ 491,996	$ 1,812	$ 10
LOUSIANA																
MAINE																
MARYLAND	$ 19,818,291	$ 9,739,719	$ 6,477,598	$ 4,539,305			$ 2,289,519	$ 2,201,251			$ 447,400	$ 17,571,942	$ 29,032,808	$ 34,052,217	$ 2,788,169	$ 14,777
MASSACHUSETTS	$ 128,910,421	$ 136,431,804	$ 46,535,870	$ 49,290,681	$ 549,055	$ 5,349,754	$ 30,019,791	$ 55,685,194				$ 244,208,645	$ 206,015,137	$ 490,966,078	$ 19,409,440	$ 102,870
MICHIGAN	$ 49,180,909	$ 45,263,075	$ 36,737,529	$ 36,341,314	$ 2,338,228	$ 2,397,733	$ 42,335,278	$ 38,640,522		$ 14,691,664	$ 16,496,864	$ 90,777,420	$ 147,088,808	$ 228,111,728	$ 36,995,053	$ 196,074
MINNESOTA	$ 34,048,367	$ 34,419,737	$ 7,637,693	$ 10,767,323	$ 787,984	$ 1,060,421	$ 16,458,678	$ 19,649,570			$ 3,744,122	$ 54,577,600	$ 62,676,844	$ 120,474,651	$ 25,230,380	$ 133,721
MISSISSIPPI	$ 915,624	$ 999,958	$ 312,446	$ 312,500	$ 55,640	$ 55,582	$ 287,479	$ 289,235	$ 335,162	$ 348,014	$ 208,040	$ 2,211,349	$ 2,114,391	$ 4,216,638	$ 1,054,238	$ 5,587
MISSOURI	$ 7,940,329	$ 14,982,500	$ 4,900,944	$ 4,048,287		$ 125,000	$ 726,100	$ 1,690,000			$ 855,583	$ 21,119,987	$ 14,422,956	$ 41,965,774	$ 3,455,572	$ 18,315
MONTANA	$ 97,741	$ 100,500					$ 300	$ 13,000				$ 113,500	$ 98,041	$ 227,000	$ 60,240	$ 319
NEBRASKA																
NEVADA	$ 333,319	$ 551,680					$ 40,723	$ 367,741			$ 470,647	$ 700,000	$ 844,689	$ 1,619,421	$ 366,284	$ 1,941
NEW HAMPSHIRE	$ 2,992,581	$ 3,301,225	$ 1,700,968	$ 1,778,574			$ 2,434,583	$ 3,813,071				$ 8,892,870	$ 7,128,132	$ 17,785,740	$ 1,103,980	$ 5,851
NEW JERSEY	$ 68,854,330	$ 82,793,361	$ 5,218,852	$ 5,754,733	$ 12,749,182	$ 14,377,495	$ 33,936,477	$ 60,141,582			$ 7,008,361	$ 167,055,299	$ 127,767,202	$ 330,122,470	$ 8,152,190	$ 43,207
NEW MEXICO	$ 1,231,418		$ 1,794,312		$ 1,421,297		$ 3,345,027				$ 316,104		$ 8,108,158		$ 1,916,696	$ 10,158
NEW YORK	$ 29,570,093	$ 112,448,731	$ 26,253,912	$ 32,623,855	$ 12,565,074	$ 11,586,740	$ 29,103,709	$ 58,270,376			$ 741,549	$ 173,849,221	$ 98,234,337	$ 388,778,923	$ 35,492,211	$ 188,109
NORTH CAROLINA	$ 726,821	$ 2,037,245	$ 225,000	$ 225,000			$ 36,578	$ 90,725			$ 269,909	$ 2,699,496	$ 1,258,308	$ 5,052,466	$ 352,193	$ 1,867
NORTH DAKOTA																
OHIO	$ 22,259,019	$ 106,432,211	$ 18,785,664	$ 23,539,234			$ 2,284,356	$ 12,796,886			$ 1,029,097	$ 30,303,702	$ 44,358,136	$ 173,072,033	$ 10,636,729	$ 56,375
OKLAHOMA	$ 14,086,316	$ 16,457,013	$ 1,012,271	$ 1,227,250			$ 1,357,871	$ 1,629,003	$ 2,004,981	$ 575,711		$ 17,434,000	$ 18,461,439	$ 37,322,977	$ 5,893,690	$ 31,237
OREGON	$ 1,595,876	$ 1,793,274	$ 5,714,831	$ 3,389,777			$ 1,491,256	$ 1,937,374	$ 259,460	$ 509,908		$ 7,630,333	$ 9,061,423	$ 15,260,666	$ 489,114	$ 2,592
PENNSYLVANIA	$ 10,626,857	$ 14,749,412	$ 24,639,180	$ 24,038,159	$ 120,048	$ 230,048	$ 2,269,576	$ 3,994,082			$ 1,178,808	$ 44,883,489	$ 38,834,469	$ 87,895,190	$ 4,743,402	$ 25,140
RHODE ISLAND	$ 12,580,841	$ 14,604,600	$ 7,583,260	$ 8,644,400	$ 547,570	$ 1,485,400	$ 9,841,241	$ 9,942,400			$ 839,929	$ 36,931,500	$ 31,392,841	$ 71,608,300	$ 4,369,340	$ 23,158
SOUTH CAROLINA																
SOUTH DAKOTA	$ 111,738	$ 132,300					$ 6,450	$ 15,750				$ 148,050	$ 118,188	$ 296,100	$ 64,760	$ 343
TENNESSEE																
TEXAS	$ 3,305,681	$ 3,580,622	$ 1,473,712	$ 1,481,032			$ 440,556	$ 411,210				$ 5,472,864	$ 5,219,949	$ 10,945,728	$ 1,006,900	$ 5,337
UTAH	$ 17,344,788	$ 19,111,758	$ 689,693	$ 731,118	$ 2,983,185	$ 3,209,566	$ 2,190,862	$ 3,203,031			$ 1,686,250	$ 28,125,473	$ 24,894,778	$ 54,380,946	$ 9,494,490	$ 50,321
VERMONT																
VIRGINIA	$ 3,253,847	$ 3,733,633	$ 747,491	$ 2,079,917			$ 202,031	$ 346,226			$ 242,174	$ 6,738,920	$ 4,445,543	$ 12,898,696	$ 1,820,353	$ 9,648
WASHINGTON	$ 17,335,312	$ 21,271,952	$ 3,670,000	$ 4,975,738	$ 515,903	$ 1,502,649	$ 11,484,915	$ 13,095,681	$ 538,317	$ 441,985	$ 4,637,886	$ 46,561,064	$ 38,182,333	$ 87,849,069	$ 5,889,599	$ 31,215
WEST VIRGINIA																
WISCONSIN			$ 925,000	$ 1,025,000							$ 3,772,916	$ 4,693,389	$ 4,697,916	$ 5,718,389		
WYOMING	$ 382,121	$ 914,077	$ 10,089	$ 31,038,735	$ 800	$ 7,709	$ 114,003	$ 209,878		$ 1	$ 7,166	$ 154,674	$ 514,179	$ 32,325,074	$ 3,698,891	$ 19,604
TOTAL	**$ 613,062,653**	**$ 776,484,295**	**$ 448,436,668**	**$ 512,044,623**	**$ 41,970,429**	**$ 50,513,110**	**$ 265,236,418**	**$ 384,806,240**	**$ 14,223,363**	**$ 50,821,587**	**$ 107,095,180**	**$ 1,578,816,002**	**$ 1,490,024,711**	**$ 3,353,485,857**	**336,486,895**	**1,783,381**

** Utilities that were unable to participate in the 2023 survey but had participated in 2022, had prior year data incorporated for consistency.
*** G. Other includes combined C&I programs that were not able to get broken out.
**** CO2 emissions and equivalencies are calculated from the EPA Greenhuse Gas Equvilancy Calculator https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator

APPENDIX B - NATURAL GAS EFFICIENCY PROGRAM EXPENDITURES AND BUDGETS BY REGION

2022 EXPENDITURES AND 2023 BUDGETS

REGION	A. RESIDENTIAL		B. LOW INCOME		C. MULTI FAMILY		D. COMMERCIAL		E. INDUSTRIAL		G. OTHER		PROGRAMS TOTAL	
	2022 Expenditures	2023 Budget	2022 Expenditures	2023 Budget	2022 Expenditures	2023 Budget	2022 Expenditures	2023 Budget	2022 Expenditures	2023 Budget	2022 Expenditures	2023 Budget	2022 Expenditures	2023 Budget
NORTHEAST	$ 272,422,663	$ 383,562,141	$ 124,254,103	$ 138,102,305	$ 28,650,460	$ 35,365,883	$ 115,096,645	$ 203,134,166	$ 1,487,711	$ 1,639,964	$ 15,627,128	$ 732,255,163	$ 557,538,710	$ 1,494,059,622
MIDWEST	$ 138,846,839	$ 216,045,679	$ 102,823,420	$ 100,100,154	$ 7,030,720	$ 8,914,213	$ 91,703,416	$ 92,881,412	$ -	$ 14,691,664	$ 39,557,807	$ 275,955,315	$ 379,962,202	$ 708,588,437
SOUTH	$ 74,981,396	$ 50,552,539	$ 10,797,751	$ 10,574,615	$ 55,640	$ 55,582	$ 13,662,986	$ 12,111,045	$ 2,340,143	$ 923,725	$ 2,285,081	$ 60,695,716	$ 104,122,997	$ 134,913,222
WEST	$ 126,811,755	$ 126,323,936	$ 210,561,394	$ 263,267,549	$ 6,233,609	$ 6,177,432	$ 44,773,371	$ 76,679,617	$ 10,395,509	$ 33,566,234	$ 49,625,164	$ 509,909,808	$ 448,400,802	$ 1,015,924,576
UNITED STATES TOTAL	$ 613,062,653	$ 776,484,295	$ 448,436,668	$ 512,044,623	$ 41,970,429	$ 50,513,110	$ 265,236,418	$ 384,806,240	$ 14,223,363	$ 50,821,587	$ 107,095,180	$ 1,578,816,002	$ 1,490,024,711	$ 3,353,485,857

* Utilities that were unable to participate in the 2023 survey but had participated in 2022, had prior year data incorporated for consistency.

** G. Other includes combined C&I programs that were not able to get broken out.

*** Canadian data was not reported here due to methodology adjustments resulting in budget data not being collected.

APPENDIX C - NATURAL GAS EFFICIENCY PROGRAM EXPENDITURES BY ACTIVITY AND STATE 2022 State Efficiency Expenditures by Activity					
STATE	A. ADMINISTRATIVE, MARKETING, OTHER IMPLEMENTATION COSTS	B. CUSTOMER INCENTIVES (Rebates, Loans & Other Financial Incentives)	C. EM&V AND SUPPORTING RESEARCH STUDIES	D. OTHER COSTS	PROGRAMS TOTAL (A+B+C+D)
ALABAMA					
ALASKA					
ARIZONA					
ARKANSAS	$ 665,080	$ 1,114,759	$ 99,357	$ 83,295	$ 1,962,491
CALIFORNIA	$ 181,824,524	$ 147,010,027	$ 2,108,749		$ 330,943,300
COLORADO	$ 5,205,020	$ 17,927,798	$ 855,171	$ 564,002	$ 24,551,991
CONNECTICUT	$ 7,261,727	$ 35,369,702	$ 1,122,427	$ 4,412,736	$ 48,166,592
DELAWARE					
DISTRICT OF COLUMBIA					
FLORIDA	$ 3,588,421	$ 23,676,079		$ 55,184	$ 27,319,684
GEORGIA					
HAWAII					
IDAHO	$ 1,098,705	$ 4,203,229	$ 26,317		$ 5,328,251
ILLINOIS	$ 33,110,882	$ 42,880,060	$ 3,157,251	$ 5,931,607	$ 85,079,800
INDIANA	$ 8,479,163	$ 7,379,468	$ 595,344	$ -	$ 16,453,975
IOWA	$ 997,054	$ 4,039,169	$ 18,756	$ 10,600	$ 5,065,579
KANSAS					
KENTUCKY		$ 13,352			$ 13,352
LOUISIANA					
MAINE					
MARYLAND	$ 9,979,985	$ 18,370,971	$ 681,852		$ 29,032,808
MASSACHUSETTS	$ 16,630,586	$ 145,207,856	$ 3,364,096	$ 38,609,712	$ 203,812,250
MICHIGAN	$ 40,660,303	$ 19,677,016	$ 2,392,537	$ 1,938,301	$ 64,668,157
MINNESOTA	$ 24,528,922	$ 23,067,311	$ 503,782	$ 1,567,083	$ 49,667,098
MISSISSIPPI	$ 678,654	$ 1,210,368	$ 21,935	$ 203,434	$ 2,114,391
MISSOURI	$ 1,974,443	$ 11,746,729		$ 34,857	$ 13,756,029
MONTANA	$ 15,544	$ 82,497			$ 98,041
NEBRASKA					
NEVADA					
NEW HAMPSHIRE	$ 675,062	$ 6,274,718	$ 178,352		$ 7,128,132
NEW JERSEY	$ 31,531,845	$ 94,702,706	$ 1,532,098	$ 553	$ 127,767,202
NEW MEXICO	$ 3,097,049	$ 4,581,317	$ 113,688	$ 316,104	$ 8,108,158
NEW YORK	$ 16,442,264	$ 52,070,570	$ 2,256,835		$ 70,769,669
NORTH CAROLINA	$ 587,433	$ 670,875			$ 1,258,308
NORTH DAKOTA					
OHIO	$ 11,584,935	$ 3,697,234	$ 124,739	$ 28,951,228	$ 44,358,136
OKLAHOMA	$ 952,578	$ 15,271,349	$ 242,886		$ 16,466,813
OREGON	$ 6,944,593	$ 2,075,125	$ 41,705		$ 9,061,423
PENNSYLVANIA	$ 18,615,074	$ 19,003,526	$ 223,801	$ 992,068	$ 38,834,469
RHODE ISLAND	$ 8,411,724	$ 22,520,859	$ 460,258		$ 31,392,841
SOUTH CAROLINA					
SOUTH DAKOTA	$ 17,804	$ 100,384			$ 118,188
TENNESSEE					
TEXAS	$ 858,349	$ 4,361,600			$ 5,219,949
UTAH	$ 4,619,131	$ 20,275,647			$ 24,894,778
VERMONT					
VIRGINIA	$ 2,702,928	$ 1,339,481	$ 163,134	$ 240,000	$ 4,445,543
WASHINGTON	$ 10,213,669	$ 26,905,721	$ 684,833	$ 378,110	$ 38,182,333
WEST VIRGINIA					
WISCONSIN	$ 4,697,916				$ 4,697,916
WYOMING	$ 9,470	$ 49,462			$ 58,932
OTHER					
TOTAL	$458,660,837	$776,876,965	$20,969,903	$84,288,874	$1,340,796,579

* Utilities that were unable to participate in the 2023 survey but had participated in 2022, had prior year data incorporated for consistency.

APPENDIX D - NATURAL GAS EFFICIENCY PROGRAM EXPENDITURES BY ACTIVITY AND REGION					
2022 Regional Efficiency Expenditures by Activity					
REGION	A. ADMINISTRATIVE, MARKETING, OTHER IMPLEMENTATION COSTS	B. CUSTOMER INCENTIVES (Rebates, Loans & Other Financial Incentives)	C. EM&V AND SUPPORTING RESEARCH STUDIES	D. OTHER COSTS	PROGRAMS TOTAL (A+B+C+D)
NORTHEAST	$ 375,149,937	$ 99,568,282	$ 9,137,867	$ 44,015,069	$ 527,871,155
MIDWEST	$ 112,587,371	$ 126,051,422	$ 6,792,409	$ 38,433,676	$ 283,864,878
SOUTH	$ 66,028,834	$ 20,013,428	$ 1,209,164	$ 581,913	$ 87,833,339
WEST	$ 223,110,823	$ 213,027,705	$ 3,830,463	$ 1,258,216	$ 441,227,207
UNITED STATES	$ 776,876,965	$ 458,660,837	$ 20,969,903	$ 84,288,874	$ 1,340,796,579
CANADA	N/A	N/A	N/A	N/A	N/A
NORTH AMERICA	$776,876,965	$458,660,837	$20,969,903	$84,288,874	$1,340,796,579

* Utilities that were unable to participate in the 2023 survey but had participated in 2022, had prior year data incorporated for consistency.

** G. Other includes combined C&I programs that were not able to get broken out.

*** Canadian data was not reported due to methodology adjustments.

APPENDIX E - NATURAL GAS EFFICIENCY PROGRAM GROSS ENERGY SAVINGS BY REGION

2022 Energy Savings and Emissions by Region (Therms and Btu)

REGION	RESIDENTIAL	LOW INCOME	MULTI FAMILY	COMMERCIAL	INDUSTRIAL	OTHER	TOTAL ENERGY SAVINGS (THERM)	CO2 EMISSIONS AVOIDED (METRIC TONS)	MILES DRIVEN BY AVERAGE PASSENGER VEHICLE	PASSENGER VEHICLES DRIVEN FOR ONE YEAR	HOMES' ENERGY USE FOR ONE YEAR
NORTHEAST	50,519,775	4,400,791	3,079,217	19,669,455	441,586	894,618	79,005,441	418,729	1,070,917,741	99,697	53,959.90
MIDWEST	50,714,704	7,506,968	1,987,947	55,421,183	1,514,021	1,815,867	118,960,691	630,492	1,612,510,639	150,117	81,249
SOUTH	11,033,373	630,853	16,909	4,130,009	2,092,405	-	17,903,549	94,888.8	242,682,382.6	22,592.6	12,227.9
WEST	48,705,111	5,875,890	1,319,081	11,899,711	8,876,310	43,941,111	120,617,214	639,271	1,634,964,793	152,207	82,380
CANADA	N/A	N/A	N/A	N/A	N/A	N/A	77,062,321	408,430	1,044,578,776	97,245	52,633
UNITED STATES	160,972,963	18,414,502	6,403,153	91,120,358	12,924,322	46,651,595	336,486,895	1,783,381	4,561,075,556	424,614	229,817
NORTH AMERICA	N/A	N/A	N/A	N/A	N/A	N/A	413,549,216	2,191,811	5,605,654,332	946,474	282,450

* Utilities that were unable to participate in the 2023 survey but had participated in 2022, had prior year data incorporated for consistency.

** G. Other includes combined C&I programs that were not able to get broken out.

*** CO2 emissions and equivalencies are calculated from the EPA Greenhuse Gas Equvilancy Calculator https://www.epa.gov/energy/greenhouse-gas-equivalencie

APPENDIX F - NATURAL GAS EFFICIENCY PROGRAM ENERGY AND EMISSIONS SAVINGS BY STATE 2022 Greenhouse Gas (GHG) Savings				
STATE	2022 Energy Savings (Therms)	2022 GHG Saved (Metric Tons)	Emissions Saved From X Miles Driven by an Average Vehicle	Emissions Saved From Keeping X Vehicles off the Road for One Year
ALABAMA				
ALASKA				
ARIZONA	2,477,586	13,131	3,126	33,583,647
ARKANSAS	4,388,633	23,260	5,538	59,487,863
CALIFORNIA	81,397,733	431,408	102,716	1,103,345,230
COLORADO	13,880,310	73,566	17,516	188,147,425
CONNECTICUT	5,734,877	30,395	7,237	77,736,187
DELAWARE				
DISTRICT OF COLUMBIA				
FLORIDA	597,561	3,167	754	8,099,932
GEORGIA				
HAWAII				
IDAHO	946,271	5,015	1,194	12,826,691
ILLINOIS	31,999,170	169,596	40,380	433,748,340
INDIANA	9,202,442	48,773	11,613	124,738,984
IOWA	1,376,585	7,296	1,737	18,659,592
KANSAS				
KENTUCKY	1,812	10	2	24,568
LOUISIANA				
MAINE				
MARYLAND	2,788,169	14,777	3,518	37,793,595
MASSACHUSETTS	19,409,440	102,870	24,493	263,094,714
MICHIGAN	36,995,053	196,074	46,684	501,467,473
MINNESOTA	25,230,380	133,721	31,838	341,997,478
MISSISSIPPI	1,054,238	5,587	1,330	14,290,183
MISSOURI	3,455,572	18,315	4,361	46,840,230
MONTANA	60,240	319	76	816,552
NEBRASKA				
NEVADA	366,284	1,941	462	4,964,975
NEW HAMPSHIRE	1,103,980	5,851	1,393	14,964,435
NEW JERSEY	8,152,190	43,207	10,287	110,502,831
NEW MEXICO	1,916,696	10,158	2,419	25,980,790
NEW YORK	35,492,211	188,109	44,788	481,096,466
NORTH CAROLINA	352,193	1,867	444	4,773,972
NORTH DAKOTA				
OHIO	10,636,729	56,375	13,423	144,180,722
OKLAHOMA	5,893,690	31,237	7,437	79,888,893
OREGON	489,114	2,592	617	6,629,934
PENNSYLVANIA	4,743,402	25,140	5,986	64,296,759
RHODE ISLAND	4,369,340	23,158	5,514	59,226,348
SOUTH CAROLINA				
SOUTH DAKOTA	64,760	343	82	877,821
TENNESSEE				
TEXAS	1,006,900	5,337	1,271	13,648,517
UTAH	9,494,490	50,321	11,981	128,697,691
VERMONT				
VIRGINIA	1,820,353	9,648	2,297	24,674,862
WASHINGTON	5,889,599	31,215	7,432	79,833,439
WEST VIRGINIA				
WISCONSIN				
WYOMING	3,698,891	19,604	4,668	50,138,420
TOTAL	**336,486,895**	**1,783,381**	**424,614**	**4,561,075,556**

* Utilities that were unable to participate in the 2023 survey but had participated in 2022, had prior year data incorporated for consistency.