

Nicor Gas Energy Efficiency Plan

January 2022 - December 2025



Energy
Efficiency
Program

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Table 1 Glossary of Terms

Term	Acronym	Definition
Administrative Costs		A cost that may be incurred by a Program Administrator, contractor or subcontractor that is not easily attributable to a specific Program or other cost categories, but benefits all functions of the Energy Efficiency Portfolio
American Society of Heating, Refrigerating, and Air-Conditioning Engineers	ASHRAE	A leading professional organization which develops equipment standards and technical resources.
Annual Fuel Utilization Efficiency	AFUE	A rating that reflects how efficiently a gas furnace or boiler converts fuel to energy. A larger number is more efficient.
Avoided Cost		The costs a utility would incur to supply the next increment of energy.
Commonwealth Edison Company	ComEd	A local electricity provider serving most of Nicor Gas' service territory.
Combined Heat and Power	CHP	A power system designed to produce both heat and electricity from single heat/fuel source.
Department of Commerce and Economic Opportunity	The Department	Illinois State agency.
Discount Rate		The rate by which future values are converted to today's dollars.
Emerging Technology	ETP	Those activities related to exploring and testing new technologies that are not yet widely deployed, demonstrating market readiness, and establishing pilot projects to identify customer and market acceptance.
Energy Efficiency	EE	The process of reducing energy consumption while maintaining or improving productivity.
Energy Efficiency Plan	EEP	Nicor Gas' proposed energy efficiency portfolio for 2018 through 2021.
Evaluation, Measurement & Verification	EM&V	The process of confirming that energy efficiency installations, as well as calculated energy savings, are at the levels reported.
Energy and Environmental Economics Calculator	E3	A firm based in California that created the E3 Calculator.
energyENGINE	energyENGINE	Information system Nicor Gas uses to produce reports and manage EE programs and program achievements.
Free Ridership		A factor to account for those customers who participate in an energy efficiency program but would have implemented measures even in the absence of the program.
Gallon per minute	GPM	The flow rate of water through a water fixture such as faucet aerator or showerhead.
Gas Technology Institute	GTI	A non-profit natural gas research and development organization.
Gross therm Savings		Natural gas savings from all program participants, regardless of program influence.
Heating, Ventilation, and Air Conditioning	HVAC	The collection of space heating and cooling equipment.
Illinois Commerce Commission	Commission or ICC	Illinois regulatory agency.

Term	Acronym	Definition
Illinois Energy Efficiency Stakeholder Advisory Group	SAG	A group of parties interested in energy efficiency in Illinois that provides advice on energy efficiency plans and related issues.
Illinois Housing Weatherization Assistance Program	IHWAP	The Department's weatherization assistance program.
Impact Evaluation		An evaluation which reviews program achievements to ensure that deemed savings and engineering assumptions are accurate based on actual program participants.
Implementation contractor	IC	The third-party or parties hired to administer certain energy efficiency delivery activities.
Incremental Costs		The price difference between a standard product and an energy efficiency product.
Installation Contractor	IC	The third-party or parties hired to install energy efficiency measures in homes or businesses.
Load Shape		The time-of-use pattern of customer or equipment energy use. This pattern can be over 24 hours or over a year (8,760 hours).
Income-Qualified	IQ	Income-qualified customer is defined as a residential customer of a participating utility with a household income at or below 80% of area median income (AMI).
Measure Life		An estimate of the number of years that a piece of equipment or service will perform if properly maintained.
Midwest Energy Efficiency Alliance	MEEA	A collaborative network of utilities, non-profits, policymakers, manufacturers, and other energy professionals who advance energy efficiency in the Midwest.
Multi-family	MF	Residential dwelling with five units or more.
Net therm Savings		Natural gas savings adjusted for NTG.
Net-To-Gross	NTG	A factor representing the percent of gross energy savings that are attributable to the utility's energy efficiency program efforts. This factor accounts for both free-ridership and spillover.
Participant		A customer who installs energy efficiency measures in return for an incentive or receives energy efficiency services from the Nicor Gas Energy Efficiency Program.
Portfolio Management		Internal and external administration resources required to manage the overall portfolio.
Process Evaluation		An evaluation which assesses how a program operates and the processes it uses; conducted to help programs run as smoothly and efficiently as possible.
Program Year	PY	The 12 months over which the program is offered. This means the year in which measures are installed and incentives are paid. Historically, PY covered periods from June 1 st through May 31 st . However, as a result of recent legislative changes, the Nicor Gas Energy Efficiency Program now operates on a calendar year.

Term	Acronym	Definition
Program Administrator Cost	PAC	A cost-effectiveness test that assesses the benefits and costs of an efficiency measure, product, or program based on the costs to the program administrator or utility.
Participant Cost	PC	A cost-effectiveness test that assesses the benefits and costs of an efficiency measure, product, or program based on the costs to the program participants.
Request for Proposal	RFP	The competitive bidding process by which third-parties will apply for certain external administrative and delivery roles.
Rider 29		The tariff rider that allowed Nicor Gas to begin to recover costs prior to 2010.
Rider 30		The tariff rider that allowed Nicor Gas to recover costs associated with the energy efficiency programs.
Rate Impact Measure	RIM	A cost-effectiveness test that assesses the Energy Efficiency programs potential impact on the overall utility rates.
Section 8-104		The section of the Public Utilities Act that requires gas utilities to provide energy efficiency programs.
Single Family		Residential dwelling with four units or less.
Spillover		Additional savings attributed to a program above and beyond those from the specific measures and participants tracked in the program database.
Technical Reference Manual	TRM	A statewide document with a consistent set of documentation regarding the assumptions about prescriptive energy savings measures.
Total Resource Cost	TRC	A cost-effectiveness test that assesses the benefits and costs of an efficiency measure, product, or program based on the total cost to both the participant and the utility.
United States Department of Energy	DOE	Federal energy agency.
Utility Gas Supply Costs		The value paid by Nicor Gas to purchase its next incremental therm of natural gas.
Utility Avoided Cost	UAC	Utility costs to deliver marginal unit of energy. The Utility Avoided cost includes commodity cost, transportation and distribution costs, greenhouse gas costs and additional quantifiable societal benefits.
Weatherization	Wx	Installation of insulation to prevent or reduce air leakage from a residential or commercial dwelling.

1 Executive Summary

1.1 Introduction to the Plan

Nicor Gas (or Company) is pleased to present its 2022-2025 Energy Efficiency Plan (EEP or Plan) to the Illinois Commerce Commission (ICC or Commission) in compliance with the requirements of Section 8-104 of the Public Utilities Act (the Act). This is the Company's fourth EEP and the second developed under the requirements of the Future Energy Jobs Act (Public Act 99-0906 or FEJA).

Nicor Gas structured the EEP around an overall strategy targeting customers, communities, and climate.

- The primary goal is to partner with **customers** to save energy, reduce energy costs, and increase comfort. The Plan provides a comprehensive suite of programs for all customers, including homeowners and renters, households of all income levels, as well as small businesses, large businesses, nonprofits, and public sector organizations.
- The portfolio also makes substantial investments to expand opportunity in underserved **communities**, including low-income communities, people of color, veterans, and other groups who have been underserved by past efforts. The EEP includes activities that increase energy efficiency program participation in these communities, expand the energy efficiency workforce in these communities, and expand opportunities for related businesses owned in these communities.
- The EEP also complements the companywide **climate** strategy of Nicor Gas' parent company, The Southern Company (Southern Company). Through its 2020 strategy update, Southern Company plans to reduce greenhouse gas (GHG) emissions by 50% before 2030 and to reach net zero carbon operations by 2050. This goal is inclusive of Southern Company Gas, Nicor Gas' direct parent company. While customer end use emissions are not currently included in the net zero operational goal, Southern Company Gas and Nicor Gas are working to reduce greenhouse gas emissions across the natural gas value chain, including empowering customers to meet their own sustainability goals. The work performed under this plan allows Nicor Gas to partner with businesses, municipalities, and households throughout northern Illinois in achieving their own greenhouse gas objectives as well as any future statewide climate goals.

These three pillars are all supported by a portfolio-wide emphasis on **innovation** that ensures that the portfolio continues to meet customer needs as energy efficiency markets evolve. Innovation initiatives include structured programs for emerging technologies and market transformation, as well as an overall culture of continuous improvement embedded in all portfolio programs and support functions. This emphasis complements Southern Company's industrywide leadership in developing, funding, and demonstrating new technologies for clean, safe, reliable, and affordable energy.

The Nicor Gas EEP builds on a successful portfolio that has matured over the last decade and makes key enhancements identified by working with important stakeholders. The portfolio maintains the core program structure from the current EEP, and leverages the infrastructure developed over years of working with customers, trade allies, implementation contractors, partner utilities, statewide weatherization programs, and the Illinois Energy Efficiency Stakeholder Advisory Group (SAG). Nicor Gas worked extensively with the SAG to review the existing portfolio and solicit ideas for the 2022-2025 EEP. Nicor Gas and the other Illinois utilities spent several months reviewing over 60 specific recommendations for natural gas programs, which have been substantially incorporated into the Nicor Gas EEP. In addition, Nicor Gas engaged in lengthy discussions to reach consensus on this EEP with key stakeholders, including Commission Staff, Illinois Attorney General's Office, Natural Resources Defense Council, Community Organizing and Family Issues, Citizens Utility Board, Environmental Law & Policy Center, Green Power Alliance, and ACES 4 Youth. The consensus is memorialized in a Settlement Stipulation (Stipulation) filed simultaneously with this Plan. To the extent there is any uncertainty or contradiction related to the Nicor Gas Energy Efficiency plan and the commitments made in the Stipulation, the terms of the Stipulation shall apply.

Key enhancements to the EEP include the following:

- **Increased portfolio budgets:** Annual portfolio budgets increase from approximately \$40.1 million to \$45.7 million, reflecting an increase in annual Nicor Gas revenue and complying with Section 8-104(c) requirements to spend no more than 2% of revenue in delivering the portfolio.
- **Expanded income-qualified offerings:** Direct annual budgets for offerings serving income-qualified (IQ) customers increase from \$8.075 million to \$13 million. Direct budgets for comprehensive weatherization offerings equal \$11.9 million (including a health and safety fund of up to \$1.5 million), and a separate offering delivering energy savings kits provides an additional \$1.1 million. In total, the IQ programs will annually spend almost \$5 million more than in the previous cycle, and more than 2.5 times the statutory requirement.
- **Healthy Home offerings:** Nicor Gas will partner with community-based organizations, health care providers, insurance companies, and other groups to provide income-qualified households with comprehensive services that combine energy efficiency, health, safety, and other initiatives to ensure that homes are safe, dry, and warm.
- **Expanded comprehensive residential offerings:** For customers who do not participate in the IQ offerings, participation in programs providing comprehensive weatherization and whole-building measures expands to 1,850 households per year, a 3.7-fold increase from recent years. Across the residential and IQ programs, more than 50% of the portfolio budget supports comprehensive weatherization and whole building offerings.
- **Market Development Initiative (MDI):** Nicor Gas will invest \$1.5 million per year to expand participation in the EEP from workers and businesses from underserved communities. This initiative will provide practical on-the-ground assistance, including staffing grants, workforce training, and business development assistance, and will also provide funding to overcome additional obstacles to success such as transportation and daycare.
- **Coronavirus support for small businesses:** Nicor Gas will expand its offering for restaurants and other businesses highly impacted by the pandemic and located in underserved communities. In addition to the free services currently available through other small business offerings, participants will also receive higher rebates for weatherization, food service equipment, and other measures, and Nicor Gas will create new restaurant services that scale successful strategies for larger businesses to this unique target market.
- **Evolving Market Transformation program:** In 2018, consistent with legislative changes under FEJA, Nicor Gas launched its award-winning Market Transformation program to develop initiatives that produce long-term, structural changes in targeted markets. The 2022-25 EEP continues these activities, which are now leveraged substantially (every dollar spent by Nicor Gas has been matched by \$2.50 from other partners) from participation in two multi-utility collaboratives that Nicor Gas spearheaded: the Midwest Market Transformation Collaborative and the North American Gas Heat Pump Market Transformation Collaborative. Nicor Gas also led the development of a Market Transformation framework in the statewide Technical Reference Manual, and this Plan includes the first technologies to be launched and evaluated under this framework.
- **Advanced gas technologies:** The Plan continues to leverage the award-winning Emerging Technology program by including a number of new gas technologies that will be critical to reducing GHG emissions from natural gas systems, including gas heat pumps, tankless water heaters, Venturi steam traps, a range of commercial food service technologies, combined heat and power systems, and zero net energy homes. The Plan also supports other emerging technologies that improve existing natural gas systems, including advanced windows, radiator systems, garage door hinges, and heat recovery systems. Partners have also heavily leveraged these Emerging Technology investments; to date, for every dollar spent by Nicor Gas on pilot activities partners have contributed another \$1.40.
- **Building code support:** The Plan extends the effectiveness of the Illinois statewide building code by partnering with local communities to improve code compliance and to implement stretch codes that allow communities go beyond statewide requirements or to target existing buildings. This partnership with the other Illinois utilities will have a lasting impact throughout Illinois by increasing participation in existing codes and accelerating the adoption of more advanced codes.

1.2 Plan Investment and Results

Figure 1 shows the investments and benefits generated by the Nicor Gas EEP. From 2022 through 2025, the EEP will invest approximately \$183 million to help customers install more than 750,000 energy efficiency measures and over 80,000 energy efficiency retrofit and technical assistance projects in homes and businesses throughout northern Illinois. The plan helps customers save over 56 million annual net therms during the Plan cycle and 660 million net therms over the lifetimes of the installed measures and projects. These savings will reduce greenhouse gas emissions by over 3.2 million tons and water use by over 900 million gallons over the life of installed measures. These projects are also cost-effective investments for Nicor Gas customers: the portfolio's benefit-cost ratio from the Illinois Total Resource Cost (TRC) perspective is 3.00, producing net benefits of over \$580 million to the Nicor Gas service territory.

Taken together with efforts in previous years, by the end of this next Plan cycle, Nicor Gas will have invested over \$600 million since 2010 to help customers save over 220 million net therms in 2025. Counting from portfolio inception in 2010 through the end of the useful lives of equipment installed in 2025, the portfolio will save more than 2.9 billion net lifecycle therms, more than 15 million lifecycle tons of greenhouse gases, and almost 9 billion lifecycle gallons of water. These lifecycle savings are enough to offset the annual emissions from 3.3 million automobiles or the annual emissions associated with heating 1.7 million Illinois households.

The portfolio also contributes significantly to the northern Illinois economy. The 2022-2025 portfolio will support almost \$370 million of economic impact, over \$254 million in wages, and 1,750 jobs. From the beginning of the portfolio in 2010 through 2025, the portfolio supports over \$1.5 billion in economic impact, \$700 million in wages, and 10,000 jobs.

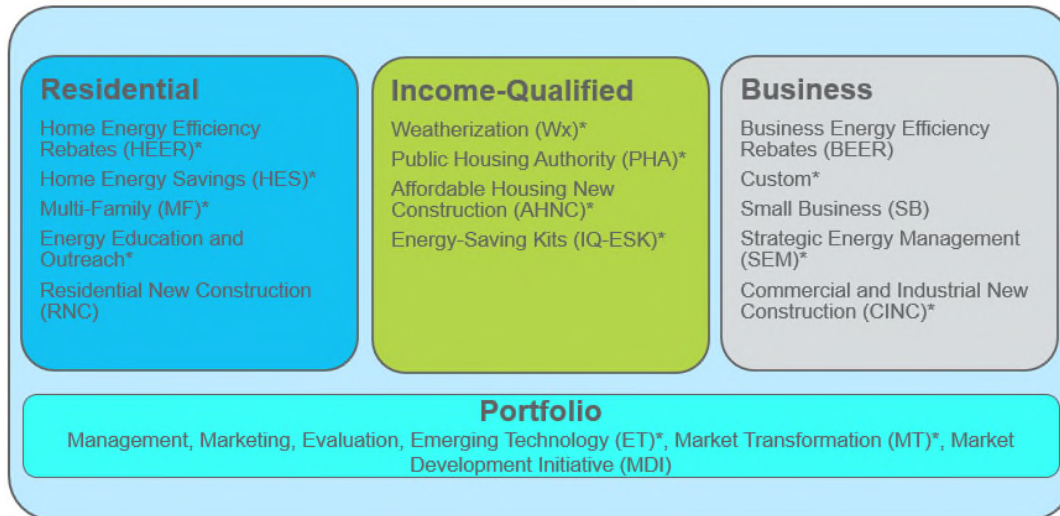
Figure 1 Portfolio Outcomes

2022-2025 EEP	Entire Portfolio, Since 2010
\$183M Investment	>\$600M Investment
>56M Annual Net Therms	>220M Net Therms in 2025
>660M Net Lifecycle Therms	>2.9B Net Lifecycle Therms
>3.2M Tons GHG Reduced	>15M Tons GHG Reduced
>900M Gallons Water Conserved	>8.9B Gallons Water Conserved
\$368M Economic Impact	>\$1.5B Economic Impact
\$254M Wages	>\$700M Wages
1,750 Jobs	>10,000 Jobs

1.3 Portfolio Features

Figure 2 outlines the portfolio program structure. The EEP portfolio offers 14 programs, including five targeting all residential customers, four targeting IQ customers (including landlords renting to IQ customers) and five targeting business customers (including public sector and nonprofit entities). Each program has multiple offerings to provide a more comprehensive portfolio within an efficient management structure. The portfolio also funds two innovation programs (Emerging Technology and Market Transformation), a new Market Development Initiative (MDI) and a number of essential portfolio support functions.

Figure 2 Portfolio Structure



*Joint or coordinated programs with ComEd and/or Ameren and/or Peoples/North Shore Gas

The programs employ a wide range of delivery strategies to provide all customers with meaningful opportunities to participate. The strategies target:

- Residential single-family and multi-family homes
- Households of all income levels
- Large and small businesses, public sector entities, community based and nonprofit organizations
- Customers in existing buildings as well as builders constructing new homes and facilities
- Owners, renters and landlords
- Opportunities when customers buy new or replacement equipment, as well as opportunities for customers to retrofit or improve operations for existing equipment
- Opportunities for customers to develop comprehensive solutions across multiple systems and buildings, as well as simpler opportunities for customers to implement individual measures
- New advanced technologies like gas heat pumps and Venturi steam traps, as well as time-honored measures such as building insulation and low-flow showerheads.
- Programs providing free products and services—including some offerings where contractors install equipment directly in customer facilities—as well as programs that require some customer investment
- Programs specifically reaching income-qualified customers with additional free services and measures
- A wide range of strategies for overcoming market barriers to energy efficiency and improving the communities we serve through financial incentives, education, energy assessments, design assistance, project management assistance, trade ally network development, quality assurance, and additional strategies

Nicor Gas coordinates many of the offerings with other Illinois utilities, including ComEd, Peoples Gas, and North Shore Gas in northern Illinois and Ameren Illinois in communities near Bloomington-Normal. Nicor Gas may leverage investments by coordinating with other national, regional, state, and local organizations including ENERGY STAR, Weatherization Assistance Program, Low Income Heating Energy Assistance Program, Gas Technology Institute, North American Gas Heat Pump Market Transformation Collaborative, Emerging Technologies Coordinating Council, Midwest Energy Efficiency

Alliance, Midwest Market Transformation Collaborative, Illinois Home Performance, Illinois Home Weatherization Assistance Program (IHWAP), Illinois Municipal Electric Authority, Illinois Utilities Business Diversity Council, Salvation Army and a wide range of community-based organizations and Community Action Agencies.

1.3.1 Residential Programs

The residential programs provide opportunities for customers to progress on a journey from initial education, outreach and engagement to investing in household energy efficiency projects. The offerings serve a wide cross section of customer housing types, equipment types, income levels, and other customer needs. The five residential programs are described in further detail in Chapter 2.

- **Energy Education and Outreach** includes three offerings that provide free measures for residential customers to install or address on their own. *Home Energy Reports (HER)* provides customers with periodic reports comparing their energy use to that of similar, anonymized households in their neighborhoods, along with suggestions for saving energy. *Energy-Saving Kits (ESK)* provide free water-saving and weatherization measures for customers to install. *Elementary Energy Education (EEE)* provides an energy efficiency curriculum delivered by teachers in local schools, along with water-saving kits that students install at home.
- **Home Energy Savings (HES)** includes two offerings that help customers retrofit single-family and other small residential buildings. *Home Energy Assessments* provide energy assessments that identify energy efficiency upgrades and include free measures directly installed by program contractors. *Air Sealing and Insulation* provides rebates to customers working with local insulation contractors to weatherize their homes.
- **Home Energy Efficiency Rebates (HEER)** provides rebates to customers working with local mechanical contractors and retailers to install efficient furnaces, boilers, water heaters, and thermostats.
- **Multi-family (MF)** provides a range of offerings that help customers retrofit multi-family buildings. The program provides free comprehensive assessments, direct installation of free measures, free central heating plant optimization, and rebates for equipment upgrades and building weatherization.
- **Residential New Construction (RNC)** provides prescriptive rebates to home builders that install enhanced weatherization, advanced thermostats, and efficient heating and water heating equipment.

1.3.2 Income-Qualified Programs

The income-qualified programs provide a range of free services to the most vulnerable households in northern Illinois. Consistent with provisions of Section 8-104(e-5) of the Act, the program targets households with incomes below 80% of the area median income (AMI). The programs are coordinated with other Illinois utilities, IHWAP, and a number of local community action agencies and community-based organizations. The programs leverage funding from the U.S. Department of Energy Weatherization Assistance Program and other state and local programs. The four income-qualified programs are described in further detail in Chapter 3.

- **IQ Weatherization** provides free weatherization and other comprehensive upgrades to income-qualified households in both single-family and multi-family buildings. This program leverages the IHWAP program, where possible, and also provides opportunities through other contractors when IHWAP cannot fully meet customer needs. This program also includes a new Healthy Homes initiative that partners with community organizations to combine energy efficiency with other health and safety improvements.
- **Public Housing Authority (PHA)** provides weatherization and other comprehensive upgrades to Public Housing Authorities, including energy assessments, direct installation of measures like

thermostats and showerheads, building weatherization, and heating and water heating equipment.

- **Affordable Housing New Construction (AHNC)** provides comprehensive design services and financial incentives to improve energy efficiency in new construction built for income-qualified households.
- **IQ Energy Savings Kits (IQ ESK)** provides free kits containing water savings and weatherization measures for income-qualified households to install.

1.3.3 Commercial Programs

The commercial programs provide a range of offerings tailored to business customers, which also include public sector and nonprofit organizations. Consistent with Section 8-104(e-5) of the Act, Nicor Gas funds public sector offerings at 10% of the total portfolio budget. The business programs are described in further detail in Chapter 4.

- **Business Energy Efficiency Rebates (BEER)** provides prescriptive rebates to business customers that work with local trade allies to install efficient heating, water heating, food service, controls, and other equipment. This program also funds energy assessments that help customers understand the opportunities in their facilities and includes free, directly installed measures.
- **Custom Incentives (Custom)** provides financial incentives and project management support to customers installing measures not covered by the prescriptive rebates outlined in the BEER program, including a retro-commissioning offering that helps customers restore controls and energy systems to original design specification. Custom projects tend to focus on large, complex systems utilized by large, energy intensive customers.
- **Small Business (SB)** provides targeted support to small business customers, including energy assessments to identify efficiency opportunities, direct installation of free measures, and prescriptive and custom rebates for other upgrades.
- **Strategic Energy Management (SEM)** provides strategic consulting assistance to help customers identify and implement projects and management systems throughout their facilities. Nicor Gas delivers SEM services in cohort groups to allow customers to learn and share best practices with peer businesses. Capital projects identified through the programs are delivered through other offerings (e.g., the BEER and Custom programs), while savings from other operational changes are tracked directly within the SEM program.
- **Commercial and Industrial New Construction (CINC)** provides comprehensive design services and financial incentives to improve the energy performance of new buildings used by business customers.

1.3.4 Innovation Programs

Innovation programs help the portfolio continue to meet customer needs as energy efficiency markets evolve. Innovation programs are described in further detail in Chapter 5.

- **Emerging Technology** identifies promising new technologies that can expand savings opportunities for Nicor Gas customers. The program tests new technologies in real world conditions, helps manufacturers verify and document equipment performance, and transitions technologies into the broader portfolio.
- **Market Transformation** uses targeted strategies to overcome market barriers to new technology adoption and leverages funding from additional partners to produce long-term, structural changes in targeted markets. The program also works with local government agencies to improve building code compliance and to offer stretch codes that go beyond statewide requirements or target existing buildings.

1.3.5 Portfolio Functions

Successful portfolio implementation depends on essential support functions that provide strategic oversight, investment in innovation, and the infrastructure for planning, marketing, managing, tracking, evaluating, and reporting on the individual programs. Portfolio functions are described in further detail in Chapter 6.

- **Portfolio Marketing and Outreach** increases awareness and delivers participation in program offerings. The internal team executes portfolio communication strategies, coordinates program strategies among implementation contractors, trade allies, and other partners, and leads creative development for communications, websites, and collateral. The function also includes an internal Marketing and Outreach (MOC) team that serves as a call center and engages with customers directly at events in the community.
- **Information Technology (IT)** provides a service management ecosystem that develops and enhances a strong platform to support software, cloud infrastructure, data warehouse, analytics, and security. The data warehouse system (energyENGINE) houses the significant amount of customer participation data that must be collected, stored, analyzed and reported on to both internal and external parties. The IT systems continue to evolve and energyENGINE provides the technology backbone for all elements of the portfolio to operate, from marketing to data analytics.
- **Planning** develops and optimizes long-term energy efficiency plans that cover the four-year periods approved by the ICC, as well as annual and other short-term plans that adjust for ongoing changes in program costs, performance, and external factors.
- **Portfolio Management** provides the other functions necessary to manage the portfolio, including accounting, regulatory and stakeholder support, reporting, procurement, internal EM&V activities, and coordination with other Southern Company management systems.
- **EM&V** includes the external costs associated with the firms the EEP retains to provide a full independent evaluation of the performance and cost-effectiveness of the portfolio, consistent with the provisions of Section 8-104(f)(8) of the Act, or as otherwise directed through the Illinois Energy Efficiency Policy Manual ("Policy Manual") or the Commission.
- **Market Development Initiative** increases opportunity in underserved communities by expanding the energy efficiency workforce, expanding opportunities for trade allies, and other energy efficiency businesses, creating opportunities for new contractual relationships with diverse partners, testing new program ideas, and researching diverse communities and barriers to further development.

1.4 Building from Past Efforts

The Plan builds on the firm foundation and strategy that the Nicor Gas Energy Efficiency Program has developed over the past decade. In May 2010, Nicor Gas launched a pilot energy efficiency portfolio funded through the Company's Rider 29. The Rider 29 portfolio included six programs: residential prescriptive rebates, home weatherization, multi-family buildings, elementary education, business prescriptive rebates, and large business custom. This initial portfolio helped Nicor Gas build relationships with customers and trade allies and build infrastructure in areas of rebate processing, trade ally management, customer engagement, contractor procurement, and information systems. The pilot portfolio was implemented primarily through outsource contractors, including contractors responsible for turnkey program implementation as well as program evaluation.

The first EEP authorized by Section 8-104 launched in June 2011 and added seven new programs to the Rider 29 portfolio. New offerings included a small business program, two new construction programs, a behavior change offering, and three programs providing targeted services to business customers. In developing this portfolio, Nicor Gas created a long-term strategy with planned evolution over time. It was clear that energy efficiency was a lasting commitment by the Company and for Illinois, and so Nicor Gas evaluated EEP management options ranging from turnkey outsourcing, at one extreme, to full internal

delivery at the other. Nicor Gas executed a hybrid strategy that began with the full outsource model, built internal core competencies over time, and correspondingly lessened reliance on external contractors.

Critical competencies Nicor Gas targeted for eventual insourcing involved managing the strategic planning and execution of the portfolio; managing interactions with customers, stakeholders, and regulators; managing data and process flows; and providing financial controls. While Nicor Gas initially relied fully on outsource contractors for these functions, the Company has since built substantial internal functions for Planning, Program Operations, Innovation, Marketing, Customer Outreach, Trade Ally Outreach, Communications, Call Center, Regulatory and Stakeholder Support, Evaluation, Information Systems, Analytics, Accounting, and Procurement. While Nicor Gas still relies on some outsource contractors to support these functions, retaining these core proficiencies in-house ensures that Nicor Gas maintains strategic direction and control, and also makes the portfolio more nimble and more responsive to customer needs. The strategy also allows Nicor Gas to replace external contractors as business needs evolve without significant risks or impacts to customers. By maintaining strategic control, the Nicor Gas Energy Efficiency Program remains the hub for data, expertise, and institutional knowledge, allowing contractors to be added or removed for specialty expertise.

This strategy has generated efficiencies that lower costs and improve service to customers. As Nicor Gas built internal expertise, we reduced the number of implementation contractors, reduced the scope of implementation contractor responsibilities, and consolidated six different call centers into one. We improved communication with customers and trade allies, allowing us to target offerings, troubleshoot issues, and increase engagement with underserved communities. We developed a comprehensive “big data” platform called energyENGINE that consolidates data across all program and outreach activities, and that we supplement with data from the Nicor Gas billing system, purchased demographics and market intelligence. The platform fosters dynamic portfolio design with applications for real time EM&V, data mining and analytics, market research, target marketing, market potential studies, and other activities that would cost hundreds of thousands of dollars if performed by external contractors.

Nicor Gas has also invested in innovation to ensure that the portfolio continues to serve customers as underlying energy efficiency markets evolve. Consistent with Sections 8-104(g) and 8-104(e-5) of the Act, Nicor Gas manages an Emerging Technology program that identifies promising new technologies and a Market Transformation program that produces long-term, structural changes in targeted markets. The programs have successfully spurred innovation by local and national manufacturers and have resulted in 21 workpapers (with another 6 scheduled to be completed upon the launch of this portfolio in 2022) for new technologies in the Illinois TRM, as well as the Market Transformation Policy Resolution adopted by the SAG. The programs have been featured at conferences run by the American Council for an Energy Efficient Economy, the Emerging Technologies Coordinating Council, the Midwest Energy Efficiency Alliance, and E-Source and have won multiple awards. Nicor Gas innovation investments are also significantly leveraged through complementary investments from other utility partners. Nicor Gas spearheaded creation of the Midwest Market Transformation Collaborative and the North American Gas Heat Pump Market Transformation Collaborative, and Nicor Gas is also active in the Emerging Technologies Coordinating Council as well as the Gas Technology Institute’s Emerging Technology and Utilization Technology Development programs.

Nicor Gas has also developed an extensive network of local businesses delivering energy efficiency products and services to Nicor Gas customers. These trade allies provide equipment for space heating, water heating, and cooking; weatherization and air sealing services; retail products such as showerheads and thermostats; and engineering and architectural services. The network covers product value chains from manufacturers down to distributors and local installers. The network also includes key market enablers such as realtors, real estate developers, local municipalities, and environmental organizations. In all, Nicor Gas’ trade ally database lists over 10,000 organizations located throughout Northern Illinois.

1.5 Awards and Recognitions

The Nicor Gas Energy Efficiency Program has received 19 national and regional awards and has been highlighted in numerous industry conferences and reports. Awards received in the last two plan cycles (since 2015) are listed below:

- 2019 Association of Energy Services Professionals Energy Award for Outstanding Achievement in Market Research and Evaluation
Awarded for Nicor Gas' Market Research and Evaluation Initiatives through the Market Transformation program.
- 2018 Illinois Sustainable Technology Center Sustainability Award
Awarded to the Emerging Technology Program for its efforts to reduce environmental impact and contribute to the growth of a more sustainable economy.

Marketing awards

- 2020 Gold Stevie Award
Awarded for the Unexpected Love Story campaign from the American Business Awards
- 2020 Inspiring Efficiency Marketing Award
Awarded for the Unexpected Love Story campaign
- 2019 Gold Stevie Award for Women in Business
Awarded for the Unexpected Love Story campaign in its marketing for women, created by a woman-led team.
- 2017 Inspiring Efficiency Marketing Award for Multicultural Marketing Strategy
Awarded for multicultural marketing strategy including demographic research, event outreach, hyper-local print publication placements and digital ads.
- 2015 Inspiring Efficiency Marketing Award for Customer Journey Strategy
Awarded for marketing & communications strategy including customer journey-mapping, overhauling communications with energySMART rebranding, and Customer Stories campaign
- 2015 Inspiring Efficiency Education Award
Awarded for "What's in the Box" campaign focused on understanding how a furnace works

Nicor Gas will continue to share learnings gained from our local experience. We will continue to present at peer conferences and collaborate with other utilities and organizations to help lead our industry, benchmark our activity, and advance the overall goals of energy efficiency.

1.6 Economic Impacts

The Nicor Gas Energy Efficiency Program generates significant economic activity in Northern Illinois. The portfolio generates direct impacts by funding rebates and by paying staff and contractors, and also generates additional indirect and induced impacts. These indirect and induced impacts include the effects the programs have on the net incomes of the business and households who benefit from program savings, pay for the programs through rates, and benefit from the delivery of energy efficiency services.

Nicor Gas worked with Guidehouse and Opinion Dynamics to estimate the Energy Efficiency Program's economic impact. As shown in Figure 3 and Figure 4, the 2022-2025 EEP is expected to generate \$254 million in wages, spur \$368 million in total economic activity, and support 1,750 jobs. Taken together with earlier investments dating back to 2010, by 2025, the Energy Efficiency Program is expected to generate over \$700 million in wages, over \$1.5 billion in total economic activity, and support over 10,000 jobs.

Figure 3 Economic Impacts of 2022-2025 Portfolio

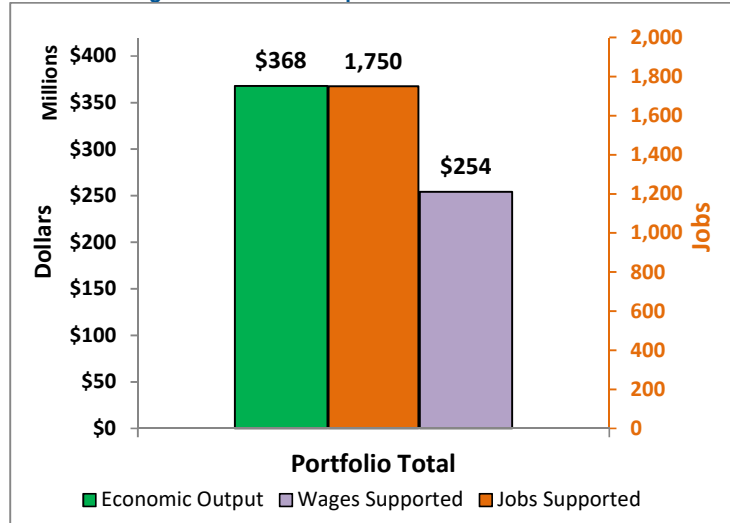
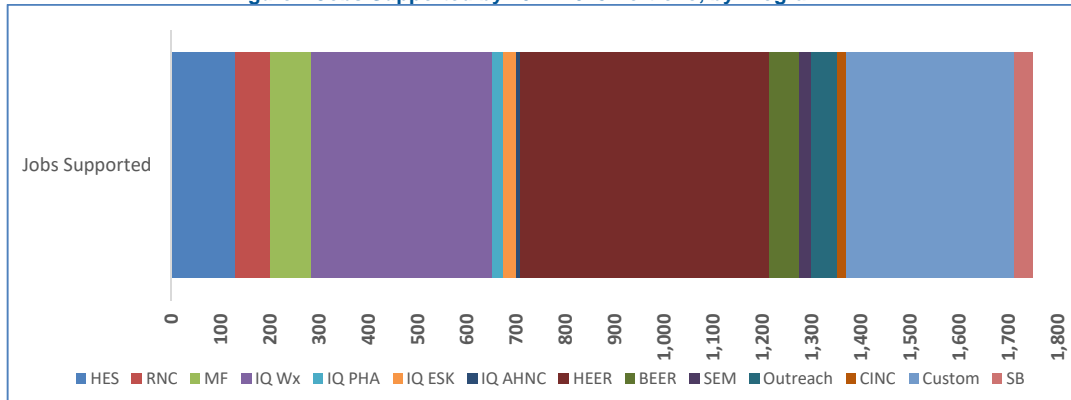


Figure 4 Jobs Supported by 2022-2025 Portfolio, by Program



1.7 Diversity and Inclusion

At Nicor Gas, we believe diverse businesses bring innovation, quality and overall competitive value to our organization. We recognize that our business diversity efforts have positive and lasting impacts on our communities, and we remain committed to doing business the right way – embracing and promoting diversity and inclusion as a part of our corporate values.

As discussed earlier, Nicor Gas will develop a Market Development Initiative (MDI) to invest in workforce and business development for underrepresented populations and economically disadvantaged communities. This new, exciting standalone initiative will combine research, development of a market development action plan, and contractor and workforce support to increase the energy efficiency funds delivered directly to these groups.

As the portfolio continues to mature, the Nicor Gas Energy Efficiency Program will continue to explore and increase opportunities for direct and indirect spending with minority, women, and veteran owned businesses. Supporting and enabling diversity and inclusion is a business priority. Diversity describes the many similarities and differences between people, from life and work experiences, perspectives, and cultures, to race, gender, sexual orientation, socio-economic status, national origin and age. It is commonly known that companies value what they are willing to pay for, and Nicor Gas is truly committed to valuing diversity. As evidenced through this MDI initiative, Nicor Gas has committed to investigate ways to integrate workforce development initiatives, in coordination with other utilities, workforce development entities, and local community-based organizations.

Nicor Gas will engage in discussions within low-income energy efficiency advisory committees that aim to increase the diversity and number of locally-based trainees, vendors, and employees of the energy efficiency workforce within the Nicor Gas territory and integrating workforce development initiatives.

Our results reflect our intentional efforts to advocate, develop and create opportunities for diverse businesses. We understand that this commitment has a reach far beyond the diverse vendors we directly contract with. We also affect the communities where these businesses operate and where their employees live. Since 2015, the Nicor Gas energy efficiency team has increased supplier diversity by including diversity in all sourcing decisions, and by collaborating closely with our implementation contractors to expand opportunities for additional diverse spending. This has resulted in additional mentoring, consultation, business education and training that helps diverse businesses expand their service offerings and broaden their presence into our business.

At Nicor Gas, we believe organizational diversity in our workplace is closely tied to our success, and we are committed to providing a workplace where all employees thrive and feel valued and respected. Not only is the Nicor Gas energy efficiency team diverse demographically and in experience, but our team participates significantly in Employee Resource Groups that celebrate organizational diversity and provide personal and professional development. Our team is also active in statewide efforts such as the Illinois Utilities Business Diversity Council.

1.8 Statutory Spending and Savings Targets

Section 8-104 of the Act outlines requirements for spending and savings targets. Table 2 shows the calculation of these requirements for the 2022-2025 EEP.

Table 2 Statutory Spending and Savings Targets

	Percentage Target	Targets				
		2022	2023	2024	2025	4-Year Total
Spending Requirements of Section 8-104						
Revenue Basis	2%	\$2,220,992,194	\$2,264,033,294	\$2,307,074,395	\$2,350,115,495	\$9,142,215,378
Annual Spending Limit		\$44,419,844	\$45,280,666	\$46,141,488	\$47,002,310	\$182,844,308
Average Spending Limit		\$45,711,077	\$45,711,077	\$45,711,077	\$45,711,077	\$182,844,308
EEP Budget		\$45,705,020	\$45,705,020	\$45,705,020	\$45,705,020	\$182,820,080
Income-Qualified (Minimum)	11.4%	\$5,198,297	\$5,198,297	\$5,198,297	\$5,198,297	\$20,793,187
Public Sector (Minimum)	10%	\$4,570,502	\$4,570,502	\$4,570,502	\$4,570,502	\$18,282,008
Emerging Technology (Maximum)	3%	\$1,371,151	\$1,371,151	\$1,371,151	\$1,371,151	\$5,484,602
Market Transformation	5%	\$2,285,251	\$2,285,251	\$2,285,251	\$2,285,251	\$9,141,004
EM&V (Maximum)	3%	\$1,371,151	\$1,371,151	\$1,371,151	\$1,371,151	\$5,484,602
Savings Targets of Section 8-104						
2009 Sales Basis		4,696,987,103	4,696,987,103	4,696,987,103	4,696,987,103	18,787,948,412
Less Exempt Customer Sales		814,728,752	814,728,752	814,728,752	814,728,752	3,258,915,006
Sales Basis for Savings Targets		3,882,258,351	3,882,258,351	3,882,258,351	3,882,258,351	15,529,033,406
Savings Target	1.5%	58,233,875	58,233,875	58,233,875	58,233,875	232,935,501

Section 8-104(d) limits portfolio spending so that it does not increase retail natural gas service costs by more than 2%. In Docket No. 10-0562 approving the first Nicor Gas plan, the Commission clarified that the 2% spending limit applies to revenues from whole requirements customers and transportation customers as well as implied gas cost revenue for those residential and small commercial customers purchasing natural gas from third parties. The Commission also clarified that the spending limit excludes spending by large transportation customers on alternative gas suppliers, as well as revenue from large customers exempt from the Energy Efficiency Program as specified in Section 8-104(n) of the Act.

The Act also specifies spending for a number of activities covered by the plan, including:

- **Income-Qualified Spending:** Section 8-104(e-5) of the Act requires minimum spending on programs and measures serving income-qualified customers to be proportionate to the share of total annual utility revenues from households at or below 150% of the poverty level, which, for Nicor Gas, represents 11.4% of portfolio spending or \$5.2 million per year.
- **Public Sector Spending:** Section 8-104(e-5) of the Act also requires minimum spending on programs and measures serving public sector customers to be at least 10% of portfolio spending, which, for Nicor Gas, represents just under \$4.6 million per year.
- **Emerging Technology Spending:** Section 8-104(g) of the Act allows spending on research and development for emerging technologies to be no more than 3% of the total portfolio budget, which, for Nicor Gas, represents almost \$1.4 million per year.

- **Market Transformation Spending:** Section 8-104(e-5) of the Act states that Nicor Gas may spend 5% of the entire portfolio budget on grants to public sector customers for market transformation activities, which, for Nicor Gas, represents almost \$2.3 million per year. Under the Act, Nicor Gas can also spend additional funds for initiatives targeting customers outside of the public sector.
- **Evaluation, Monitoring, and Verification (EM&V) Spending:** Section 8-104(f)(8) of the Act allows spending on EM&V to be no more than 3% of the total portfolio budget, which, for Nicor Gas, represents almost \$1.4 million per year.

Table 2 also outlines statutory savings targets. Section 8-104(c) of the Act defines targets of 1.5% of Nicor Gas sales for each year of the EEP, with percentage savings measured relative to Nicor Gas sales during 2009, adjusted for sales to exempt customers in 2009. Section 8-104(c) also allows the Commission to reduce savings targets if the utility demonstrates that it is highly unlikely that the 8-104(d) requirements could be achieved without exceeding the 2% spending limit.

Finally, the Act, as well as additional Commission policies defined in the Policy Manual, provide natural gas utilities with substantial flexibility in managing spending and savings. Rather than meet annual spending and savings targets, the Act allows Nicor Gas to meet cumulative targets across the four years covered by the plan. In Docket No. 13-0498 and Docket No. 15-0297, the Commission determined that cumulative savings targets are calculated as the sum of annual savings targets. In addition, the Policy Manual allows utilities the flexibility to shift funding among individual programs within years as long as large shifts occur in consultation with the SAG and are reported to the Commission.

1.9 EEP Spending and Savings Targets

Tables 3 and 4 outline the spending, savings, and cost-effectiveness targets for the EEP, with detail by program and portfolio function. Table 3 provides targets for the average year of the EEP; Table 4 shows targets as 4-year totals.

As described in Section 1.8, Section 8-104(e-5) requires minimum spending for income-qualified offerings that is proportionate to total utility revenues contributed by households earning less than 150% of the poverty level. For Nicor Gas this represents 11.4% of the portfolio budget, or \$5.2 million per year. In consultation with the SAG members and additional community agencies, Nicor has instead budgeted \$13 million for these offerings, which represents 28% of the portfolio budget, or 2.5 times the minimum requirements outlined in the Act. These budgets include \$11.9 million in programs providing comprehensive, whole building solutions, as well as another \$1.1 million for IQ Energy Savings Kits, which provide more limited savings to customers who cannot be served within the capacity constraints of the comprehensive IQ programs. These budgets include only direct spending on the IQ programs. When proportionate allocations of portfolio function costs are included, total spending on IQ programs increases to \$16.5 million per year.

As described in Section 1.8, Section 8-104(e-5) requires minimum spending for public sector offerings of at least 10% of the portfolio budget, or \$4.57 million per year. Nicor Gas has budgeted the full \$4.57 million for these offerings, which are spread across the five business programs. To better serve both public sector and other business customers, Nicor Gas integrates the public sector offerings within the broader business portfolio. These budgets include proportionate allocations of portfolio function costs.

As described in Section 1.8, Section 8-104 limits maximum spending for innovation initiatives to 3% of portfolio budgets for Emerging Technology and allows at least 5% of portfolio budgets for Market Transformation. Nicor Gas has budgeted the \$3.65 million annually for these offerings, or 8% of the total portfolio budget.

As outlined in Section 1.8, Section 8-104(c) allows the Commission to reduce savings targets if it is highly unlikely that statutory targets could be achieved without exceeding the 2% spending limit. In the third

year of the Nicor Gas Energy Efficiency Program, covering portions of the years 2013 and 2014, Nicor Gas and the Illinois Department of Commerce and Economic Opportunity (which, at the time, was responsible for delivering income-qualified, public sector, and market transformation programs) spent \$79 million delivering the combined portfolio. The combined portfolio generated savings of 33 million net annual therms, which, at the time, was the highest annual savings ever achieved by any North American natural gas energy efficiency portfolio. However, even at this spending level, which was more than 1.7 times the budget available to Nicor Gas in the upcoming plan cycle, these savings only represented 0.8% of 2009 sales. Based on this experience, it is clear that Nicor Gas cannot achieve the statutory spending targets without exceeding the 2% spending target, and that the savings targets outlined in Tables 3 and 4 are appropriate.

The Illinois Energy Efficiency Policy Manual outlines procedures for these goals to adjust in future years if key inputs used to calculate the EEP goals change after plan approval due to annual updates in the Illinois TRM or due to annual updates in net-to-gross ("NTG") ratios. In the Settlement Stipulation, Nicor Gas also agreed with Stipulating Parties to further adjust savings goals if contributions from ComEd towards joint program costs differ from assumptions Nicor Gas used to develop Plan budgets and savings targets. In Appendix B (that will be submitted to the ICC in a supplemental filing before April 15, 2021), Nicor Gas will provide the template spreadsheet that will be used to calculate adjusted goals.

Table 3 EEP Annual Spending and Savings Targets (Budgets and Savings in Thousands)

Thousands (000)	Annual Budget	Annual Savings (Therms)	Lifecycle Savings (Therms)	Lifecycle GHG Savings (Tons)	TRC Benefit/ Cost Ratio
Residential Programs					
HEER	\$4,033	3,186	48,576	230	4.05
HES	\$3,028	406	6,708	36	1.87
Multi-Family	\$2,134	395	5,666	29	2.32
Outreach	\$1,927	1,199	9,483	47	8.11
Residential New Construction	\$856	214	4,041	18	2.41
Income Qualified Programs					
IQ Weatherization	\$10,906	799	12,750	73	1.24
IQ PHA	\$693	38	609	3	0.92
IQ AHNC	\$301	50	1,036	6	3.99
IQ ESK	\$1,100	530	6,801	37	12.63
Business Programs*					
BEER	\$3,445	3,675	30,716	149	8.58
C&I New Construction	\$527	116	2,397	7	3.39
Business Custom	\$4,394	1,558	25,685	112	2.67
SB	\$1,720	1,105	8,214	38	4.92
Strategic Energy Management	\$935	789	3,947	22	4.51
Portfolio Functions					
Emerging Technology	\$1,371				
Market Transformation	\$2,285				
Market Development Initiative	\$1,500				
Program Evaluation	\$1,371				
Portfolio Management	\$2,175				
Portfolio Marketing	\$1,003				
Subtotals					
Residential	\$11,978	5,399	74,473	360	3.65
Income Qualified	\$13,000	1,416	21,196	119	2.14
Business	\$11,021	7,244	70,960	327	4.34
Portfolio	\$9,706	0	0	0	0.00
Totals	\$45,705	14,059	166,629	806	3.00
Subtotals, Including Allocated Portfolio Function Costs					
Residential	\$15,208	5,399	74,473	360	3.23
Income Qualified	\$16,505	1,416	21,196	119	1.72
Business*	\$13,992	7,244	70,960	327	3.75
Total	\$45,705	14,059	166,629	806	3.00
* Business Programs include annual funding of \$4.57M for Public Sector offerings, including allocated portfolio function costs.					

Table 4 EEP 4-Year Total Spending and Savings Targets (Budgets and Savings in Thousands)

Thousands (000)	Total Budget	Total Savings (Therms)	Lifecycle Savings (Therms)	Lifecycle GHG Savings (Tons)	TRC Benefit/ Cost Ratio
Residential Programs					
HEER	\$16,132	12,746	194,304	919	4.05
HES	\$12,112	1,623	26,831	144	1.87
Multi-Family	\$8,538	1,580	22,664	116	2.32
Outreach	\$7,710	4,794	37,930	190	8.11
Residential New Construction	\$3,422	854	16,163	71	2.41
Income Qualified Programs					
IQ Weatherization	\$43,626	3,194	51,001	292	1.24
IQ PHA	\$2,772	150	2,435	14	0.92
IQ AHNC	\$1,202	201	4,143	23	3.99
IQ ESK	\$4,400	2,121	27,204	148	12.63
Business Programs*					
BEER	\$13,781	14,698	122,865	596	8.58
C&I New Construction	\$2,109	465	9,588	28	3.39
Business Custom	\$17,575	6,233	102,740	447	2.67
SB	\$6,880	4,420	32,857	151	4.92
Strategic Energy Management	\$3,740	3,158	15,789	86	4.51
Portfolio Functions					
Emerging Technology	\$5,485				
Market Transformation	\$9,141				
Market Development Initiative	\$6,000				
Program Evaluation	\$5,485				
Portfolio Management	\$8,701				
Portfolio Marketing	\$4,011				
Subtotals					
Residential	\$47,913	21,597	297,892	1,440	3.65
Income Qualified	\$52,000	5,666	84,783	477	2.14
Business	\$44,084	28,975	283,841	1,308	4.34
Portfolio	\$38,823	0	0	0	0.00
Totals	\$182,820	56,238	666,516	3,225	3.00
Subtotals, Including Allocated Portfolio Function Costs					
Residential	\$60,831	21,597	297,892	1,440	3.23
Income Qualified	\$66,020	5,666	84,783	477	1.72
Business*	\$55,970	28,975	283,841	1,308	3.75
Total	\$182,820	56,238	666,516	3,225	3.00
* Business Programs include annual funding of \$18.28M for Public Sector offerings, including allocated portfolio function costs.					

Table 5 provides the costs, savings, and cost per therm for the portfolio, without rounding.

Table 5 Nicor Gas EEP 2022-2025 Budget and Goal Summary

Thousands	2022	2023	2024	2025	Total
Budget (\$)	\$45,705,020	\$45,705,020	\$45,705,020	\$45,705,020	\$182,820,080
Annual Savings Goal (Therms)	14,059,426	14,059,426	14,059,426	14,059,426	56,237,705
Lifecycle Savings Goal (Therms)	166,629,041	166,629,041	166,629,041	166,629,041	666,516,164
Annual Savings Dollar /Therm	\$3.25	\$3.25	\$3.25	\$3.25	\$3.25
Lifecycle Savings Dollar /Therm	\$0.27	\$0.27	\$0.27	\$0.27	\$0.27

1.10 Planning Objectives

Because Nicor Gas cannot meet the statutory savings goals with the resources available within the 2% statutory budget cap, the Company developed a portfolio that provides substantial savings, but that also meets a number of other, competing objectives important for portfolio success. These are outlined in Table 6.

Table 6 Nicor Gas Energy Efficiency Portfolio Objectives

Planning Objective	Consideration
Budget	<ul style="list-style-type: none"> Remain within the 2% statutory budget. Meet statutory budget minimums for income-qualified and public sector offerings. Maintain statutory budget guidelines for emerging technology, market transformation, and EM&V.
Cost Effectiveness	<ul style="list-style-type: none"> Demonstrate that overall portfolio is cost effective using TRC test. Analyze cost effectiveness of individual measures and programs. Analyze cost effectiveness using the Program Administrator Cost test. Analyze sensitivity of cost-effectiveness to non-energy impacts and IQ programs.
Energy Savings	<ul style="list-style-type: none"> Save annual/first-year therms. Save lifecycle therms.
Climate	<ul style="list-style-type: none"> Reduce GHG emissions. Help customers meet GHG goals.
Community	<ul style="list-style-type: none"> Expand investments in and participation from customers, workers, and businesses from underserved communities.
Innovation	<ul style="list-style-type: none"> Invest in the future through Emerging Technology and Market Transformation initiatives. Support a culture of continuous improvement throughout the portfolio.
Fairness	<ul style="list-style-type: none"> Provide diverse cross section of opportunities for customers of all rate classes.
Market Based	<ul style="list-style-type: none"> Maintain stability for Trade Ally partners.
Economic Development	<ul style="list-style-type: none"> Increase jobs and economic activity in Northern Illinois with a dedicated focus on underserved communities.

Budget

The 4-year portfolio budget must remain within the Section 8-104(d) limits of \$183 million, although budgets in individual years can deviate from the annual 2% cap. The portfolio must also meet minimum spending requirements for income-qualified and public sector customers, and also fund necessary investments in emerging technology, market transformation, MDI, EM&V, and other portfolio support functions.

Cost Effectiveness

The Act requires that the overall portfolio, excluding IQ programs, be cost effective using the TRC test. Nicor Gas went beyond this statutory requirement to also analyze the cost-effectiveness of individual programs and measures and to analyze results of the program administrator cost (PAC) test, which measures the portfolio's impact on Nicor Gas revenue requirements. Nicor Gas also analyzed the sensitivity of results to the benefits provided by some non-energy-impacts in the TRC test, as well as the sensitivity of portfolio results to the cost-effectiveness of IQ programs. Section 8-104(b) and 8-104(f)(5) of the Act specify that IQ programs do not need to be cost effective.

Nicor Gas did not apply the TRC test as a strict screening criterion for individual programs or measures. Nicor Gas includes some measures with TRC ratios below 1.0 if they provide substantial sources of therm savings, if they increase opportunities for customer participation, or they otherwise contribute to portfolio success. For example, some measures provide low-cost entry points for customers to participate, others eliminate market confusion by simplifying overall program offerings, and others provide bundling opportunities that drive participation in more cost-effective measures.

Savings

Section 8-104(c) establishes savings goals that are measured in "annual" or "first year" savings; that is, new savings added to the portfolio in each year of portfolio operation. However, because some portfolio measures have very short lifetimes (e.g., savings from boiler tune ups only last for 3 years) while others last much longer (e.g., attic insulation has a useful life of 20 years), and savings soon to be generated from Market Transformation efforts may extend even further, the first-year savings metric does not capture the full benefits associated with plan investments. Nicor Gas considers both lifecycle and annual savings in designing the portfolio, generally favoring offerings with low lifecycle savings cost, but also including offerings with low annual costs that help support other plan goals.

Climate

Nicor Gas' ultimate parent company, Southern Company, has committed to meeting net zero carbon operations by 2050. This goal is inclusive of Southern Company Gas, Nicor Gas' direct parent company. While customer end use emissions are not currently included in the net zero operational goal, Southern Company Gas and Nicor Gas are working to reduce greenhouse gas emissions across the natural gas value chain, including empowering customers to meet their own sustainability goals. The work performed under this plan allows Nicor Gas to partner with businesses, municipalities, and households throughout Northern Illinois in achieving their own greenhouse gas objectives as well as any future statewide reduction plan.

Community

The portfolio makes substantial investments to expand opportunity in underserved communities, including low-income communities, people of color, and other groups who have been underserved by the portfolio. The EEP funds activities to increase participation from these communities, including participation from customers, as well as the workers and businesses that will be the direct focus of the new MDI offering. Nicor Gas will work with stakeholders in those communities to target this investment, and will create metrics to track activity, spending, and participation in each of these key areas.

Innovation

The portfolio invests in the future by supporting the Emerging Technology program to identify promising new technologies and the Market Transformation program to produce long-term, structural changes in targeted markets. The portfolio also emphasizes an overall culture of continuous improvement in all portfolio programs and support functions.

Fairness

Section 8-104(f) requires Nicor Gas to provide programs that “represent a diverse cross section of opportunities for customers of all rate classes to participate”. Going beyond rate classes, Nicor Gas has also designed its portfolio to provide meaningful opportunities for all customers to participate, including large and small customers, owners and renters, households of all income levels, customers in new construction and existing buildings, small, large, and nonprofit businesses, and a wide range of additional market segments.

Market Based

Nicor Gas relies on an extensive network of contractors, retail stores, and professional service firms to provide customers with the products and services that meet the energy savings goals of the portfolio. In developing and executing the Plan, Nicor Gas balances programs driven by external market forces with programs that Nicor Gas can control internally—to some extent—through promotion and pricing. These market-based programs include the rebate and new construction programs with markets driven by equipment failure and building construction. Programs allowing more internal influence include programs promoting kits, direct measure installations, and behavior change. A broad portfolio allows Nicor Gas to manage overall budget and savings levels when external forces change demand for the market driven programs. For example, if extremely cold weather increases demand for furnace replacements, the Program can adjust promotion or rebate levels to defer participation in the kit and direct installation programs.

Economic Development

Nicor Gas is committed to using energy efficiency to support economic growth and employment in Northern Illinois. The EEP drives the economy directly by funding local businesses to deliver the portfolio through installations of furnaces, insulation, and other measures, as well as the services required for portfolio execution including program management, marketing, evaluation and other services. This will be a major focus of the new MDI offering. The EEP also generates indirect and induced impacts from the effects the programs have on the net incomes of the business and households who benefit from program savings, pay for the programs through rates, and profit from delivering energy efficiency services. Nicor Gas tracks the net impacts of these direct and indirect effects on the local and national economy, including impacts on overall economic activity, wages, and jobs.

1.11 Meeting the standards of Section 8-104 of the Act

The EEP meets all applicable requirements of Section 8-104¹ of the Act, as outlined in Table 7.

Table 7 Requirements of Section 8-104

Sub Section	Plan Cross Reference
8-104(e-5)	<p>(e-5): The EEP includes offerings available to public sector customers, assigning 10% of total spending to the public sector, which is defined as “local government, municipal corporations, school districts, and community college districts” as described in Section 1.8. Public Sector customers are served by all of the business programs described in Chapter 4.</p> <p>(e-5): The EEP includes programs designed for low-income customers that are “at or below 80% of area median income”, with funding for these offerings exceeding the amount “proportionate to the share of total annual utility revenues in Illinois from households at or below 150% of the poverty level” as described in Section 1.8. Descriptions of the offerings available to low-income customers are provided in Chapter 3, covering IQ programs, and in Chapter 2, covering residential programs also available to income-qualified customers.</p> <p>(e-5): The EEP includes funds set aside for market transformation initiatives as described in Section 1.8, as well as in the Market Transformation program description provided in Section 5.3.</p>
8-104(f)	<p>The current plan document will be filed with the Commission on or before March 1, 2021.</p> <p>(f) (1): Appendix A shows the list of measures Nicor Gas will offer to meet proposed modified goals defined in Section 1.8.</p> <p>(f) (2): The EEP addresses new buildings and appliance standards in descriptions of the code compliance and stretch code activities included in the Market Transformation description Chapter 5.2.</p> <p>(f) (3): Nicor Gas’ calculation of the average per therm cost for the rate classes under its Rider 30, Energy Efficiency Plan Cost Recovery, is presented in the Company’s direct testimony filed contemporaneously with the plan.</p> <p>(f) (5): The overall portfolio of energy efficiency measures, not including the Income-Qualified program covered by Section 8-104(e-5), is cost effective using the TRC test. Please see Table 28 in Section 7.3 for TRC results of proposed programs and the overall portfolio</p> <p>(f) (7): Nicor Gas’ Rider 30, Energy Efficiency Plan Cost Recovery, was initially approved by the Commission in Docket No. 10-0562. Nicor Gas proposed certain changes to Rider 30 to comply with modifications to Section 8-104 that resulted from FEJA and those changes were approved by the Commission and went into effect on June 1, 2017. Rider 30 meets the requirements of Section 8-104(f)(7).</p> <p>(f) (8): The EEP includes funds set aside for EM&V as described in Section 1.8, as well as in the EM&V function description provided in Section 6.4.</p>
8-104(g)	<p>The EEP includes funds set aside for Emerging Technology initiatives as described in Section 1.8, as well as in the Emerging Technology program description provided in Section 5.2.</p>

¹ <http://www.ilga.gov/legislation/ilcs/fulltext.asp?DocName=022000050K8-104>

1.12 Organization of this Report

The following chapters outline the key features and planning assumptions for the portfolio:

- Chapter 2 describes the residential programs
- Chapter 3 describes the income-qualified programs
- Chapter 4 describes the business programs
- Chapter 5 describes the innovation initiatives, including the Emerging Technology and Market Transformation programs
- Chapter 6 summarizes the support functions necessary to successfully deliver the portfolio, including MDI
- Chapter 7 summarizes key portfolio planning and technical assumptions
- Appendix A provides detailed tables outlining spending, savings, participation, and cost effectiveness for each program and measure
- Appendix B (that will be submitted to the ICC in a supplemental filing before April 15, 2021), provides the adjustable goals template to be used in the future, consistent with provisions in the Energy Efficiency Policy Manual, to calculate goal adjustments that result from annual TRM updates, annual NTG updates, and changes in contributions from ComEd toward joint program costs

2 Residential Programs

2.1 Residential Overview

This chapter describes the Nicor Gas Energy Efficiency Program's proposed portfolio of residential energy efficiency offerings. The residential portfolio includes energy efficiency education and outreach, energy assessments, and incentives for installing high-efficiency equipment, weatherization, and new construction.

The portfolio is available to all residential customers living in both single-family and small multi-family residences (2-4 units). Since small multi-family buildings are similar to detached houses in terms of their equipment and construction, Nicor Gas tracks program activity, spending, and savings for these residences within its broader single-family offerings. Nicor Gas has a separate multi-family offering for larger buildings with at least five living units per building.

Nicor Gas has a separate set of programs specifically targeting Income-Qualified (IQ) customers, which are described in Chapter 3. These IQ programs are always free to participating customers and include additional services that make it easier for customers to follow through with project implementation. While IQ customers are welcome to participate in the non-IQ residential programs, especially offerings requiring no cost to customers, they are also encouraged to participate in the more generous IQ portfolio.

The residential portfolio is designed using a holistic approach, encouraging Nicor Gas' residential customers to make their entire living environments more energy efficient. Additionally, during these four years, our team will focus on offering service-oriented energy-saving solutions, such as our whole home assessment approach. This will be done with the help of marketing, program team members and trade ally partners. Most of the offerings described in this chapter are offered in collaboration with the regional electric utility, ComEd, as well as other key stakeholders such as IHWAP, municipalities and community action agencies. Where appropriate, Nicor Gas will also partner with Ameren, Peoples Gas, and North Shore Gas to deliver some programs. Nicor Gas believes that these collaboration efforts will result in increased savings and convenience for customers by capturing both electric and natural gas measures within the same project.

2.2 Home Energy Efficiency Rebate Program

Objective

The objective of the Home Energy Efficiency Rebate (HEER) program is to obtain energy savings by overcoming market barriers to the purchase and installation of high-efficiency natural gas space and water heating equipment and other targeted measures in residential applications.

Target Market

The program focuses on single-family and small multi-family (2-4 unit) property owners and tenants installing existing natural gas space heating and water heating equipment.

Collaboration

The natural gas space and water heating measures are generally delivered exclusively by the Nicor Gas Energy Efficiency Program. Advanced thermostats may be coordinated with ComEd and other utility program administrators.

Offerings

This program provides incentives for the purchase and installation of high-efficiency natural gas furnaces and boilers, advanced thermostats and other high-efficiency natural gas equipment. Customers are

encouraged to install the most efficient gas heating equipment and appliances available when replacing older, less efficient equipment. Program participants also may be eligible for on-bill financing, which reduces the upfront expense to the customer for their energy efficiency purchase.

New emerging high-efficient gas heat pump technologies for residential applications are expected to emerge within the 4-year timespan of this plan. As they become available, they may be integrated into the program as eligible measures.

Delivery Strategy

Customers can participate in this program in one of two ways. First, customers can hire a Contractor Circle installing member (CCim) to install the efficient equipment and will receive an instant rebate at the time of installation, eliminating the need for the customer to submit a rebate application. CCims are knowledgeable about Nicor Gas rebate offerings, so they can educate the customer on available incentives. Only Contractor Circle members can offer the instant discount. In this model, the CCim is the trusted source who helps ensure that customers install energy-efficient equipment, and the CCim receives the rebate for qualifying equipment.

Alternatively, customers can use a contractor of their choosing, even if they are not a Contractor Circle member. In these cases, customers submit rebate applications themselves and can choose to receive rebates as checks, prepaid cards or virtual wallet payments.

Marketing and Outreach Strategy

The driving force behind HEER is a combination of direct marketing to customers and effective outreach to trade allies (installing contractors, distributors, manufacturers, etc.) and other partners (municipalities, community organizations, etc.) to increase program engagement.

Mass marketing (TV, radio, billboards, print, online) is the primary customer-facing marketing approach. Additional marketing tactics, such as bill inserts and email blasts, serve as compliments to the mass marketing strategy. Community partnerships, events and media campaigns play a large role in educating customers about these offerings, as well as establishing trust between Nicor Gas, the customer and the community.

Trade ally participation will also be key to achieving our program goals. The Nicor Gas trade ally outreach team supports trade allies by:

- Educating trade allies about the offerings and providing program support via calls, email, in-person meetings, webinars, training events and/or virtual meetings
- Providing tools and resources to help the trade ally provide a great customer experience
- Supporting/attending trade ally events, training, conference, and other industry events
- Hosting roundtable meetings which are used to share program information and solicit feedback from the participating contractors
- Recruiting non-Contractor Circle members to encourage them to join the network

Innovation

The program will incorporate gas heat pumps as they become more commercially available and in coordination with the innovation programs outlined in Chapter 5.

The program will also stay on top of the latest residential technologies, such as triple pane windows and water heating technologies. The program will look to include these technologies in its measure mix as they are incorporated into the Illinois TRM or deemed acceptable as custom measures through third-party evaluators.

Eligible Measures

The available measures are listed in measure summary report in Appendix A. The key measures in the HEER program include:

- High-efficiency residential furnaces
- High-efficiency residential boilers
- Tankless water heaters
- Advanced thermostats

Please see the measure summary report for more details.

Program Targets

The program budget and savings targets are provided in Table 8 below. Please note the figures are rounded to thousands.

Table 8 HEER Program Targets

THERMS	
Gross Therms	14,622
Net Therms	12,746
Lifecycle Gross Therms	225,121
Lifecycle Net Therms	194,304
BUDGET	
Implementation Cost	7,483
Incentive Cost	8,649
Total	16,132
\$ / Therm	
\$ / Gross Therm	\$1.10
\$ / Net Therm	\$1.27
\$ / Lifecycle Gross Therm	\$13.96
\$ / Lifecycle Net Therm	\$12.04
COST EFFECTIVENESS	
TRC	4.05
PAC	4.09

2.3 Home Energy Savings Program

Objective

The Home Energy Savings (HES) program helps customers complete comprehensive retrofits in existing single-family buildings by providing financial, education, and logistical support to overcome key market barriers. The program promotes energy assessments with direct installation of energy-saving measures as well as the installation of building envelope improvements.

Target Market

HES targets Nicor Gas and ComEd customers with gas space heating and electric central air conditioning in single-family homes or multi-family buildings with up to four units. The gas-only component targets Nicor Gas customers and select municipalities serviced by municipal electric providers.

Collaboration

The assessment offerings are provided jointly with ComEd, and the weatherization rebates are also coordinated and partially funded by ComEd for joint customers. Nicor Gas may work with Ameren Illinois and local municipal utilities and co-ops to develop similar coordinated offerings for customers not served by ComEd. Where there is not an electric partner, Nicor Gas provides gas-only offerings. No electric measures are installed during these gas-only assessments, and Nicor Gas pays full cost for joint fuel measures like thermostats and weatherization.

Offerings

The HES program includes two offerings: home energy assessments and weatherization rebates.

Home energy assessments

With home energy assessments, customers begin their energy efficiency customer journey by learning about offerings in the portfolio and what changes they can make in their homes. Energy Advisors directly install energy-saving products at the time of the assessment and educate on how these products help save energy and money. Energy Advisors create tailored reports for each assessment, identifying additional savings opportunities, efficiency upgrades and available rebates. Direct installation measures include pipe insulation, showerheads, faucet aerators, programmable and advanced thermostats, as well as LED lamps and other electric measures where the Program has a partnership with an electric utility.

Customers can choose either in-person or virtual assessments. With the virtual offering, Energy Advisors meet customers through a virtual platform and provide recommendations for immediate energy-saving changes as well as information on other portfolio offerings. After the virtual assessment is complete, Nicor Gas delivers the energy-saving products to the customer's home for self-installation.

Nicor Gas is also testing a healthy home assessment in the Income-Qualified portfolio to target air quality, water quality, toxins and other safety issues along with energy efficiency. If successful, Nicor Gas may expand this offering beyond the Income-Qualified segment.

Weatherization rebates

The weatherization rebate offering provides financial incentives to customers installing air sealing, insulation or duct sealing measures. This work must be performed by a contractor that is industry-certified and program-approved. After a customer has expressed interest in the program, a participating contractor schedules a site visit to the home. No assessment is required. The participating contractor

completes the work and provides an instant discount to the customer (in other words applies the incentive and deducts the cost directly on the bill to the customer).

Delivery Strategy

The Nicor Gas Energy Efficiency Program implementing contractor identifies, trains, and employs a network of regional BPI-certified Energy Advisors to perform home energy assessments, provide customer-specific energy efficiency recommendations, install energy-saving measures at the time of the assessment, and provide leave-behind kits with energy-saving products that the customer can self-install. The air sealing, insulation, and duct sealing work is performed by program-approved trade allies that are pre-vetted to ensure they meet all program requirements. All installation work will meet rigid performance standards established by BPI, Nicor Gas, the partner electric/municipal utility, and the program vendor. This offering employs a systematic approach to home improvement that addresses all aspects of building systems.

Eligible customers who complete qualifying building envelope improvement projects can receive a rebate through the prescriptive offering of HES. Customers do not need to participate in the assessment offering in order to take advantage of the prescriptive offering. However, only program-approved trade allies can complete the work. Nicor Gas and the program vendor work together to train approved trade allies on program requirements.

Marketing and Outreach Strategy

This program may employ a variety of marketing and outreach tactics in order to produce customer participation, such as targeted emails, bill inserts and other microtargeted approaches. In addition, other program materials may be created to educate customers about the offering and additional ways to save. These materials can be used by the outreach team as well as participating trade allies and other partners to promote the offering.

The outreach team may complement these efforts with community outreach, including events and community partnerships. The Marketing and Outreach Center also educates customers that call into the Energy Efficiency Program about the HES offering and can schedule assessments for customers during the call.

Innovation

The program may incorporate thin triple pane windows and other measures developed through the innovation programs described in Chapter 5 as they become commercially available. The program's virtual assessments and self-installed direct installation processes were also developed through continuous improvement efforts.

The program will also look to include other new technologies in its measure mix as they are incorporated into the Illinois TRM or deemed acceptable as custom measures through third-party evaluators.

Eligible Measures

The available measures are listed in the measure summary report in Appendix A. The key measures in the HES program include:

- Air sealing and attic insulation
- Basement sidewall and wall insulation

- Duct sealing
- Direct install of low-flow devices including showerheads, bath and kitchen aerators
- Direct install of advanced thermostats with customer co-pay
- Programmable thermostat and education
- Weatherstripping

Please see the measure summary report for more details.

Program Targets

The program budget and savings targets are provided in Table 9 below. Please note the figures are rounded to thousands.

Table 9 HES Program Targets

THERMS	
Gross Therms	1,689
Net Therms	1,623
Lifecycle Gross Therms	27,621
Lifecycle Net Therms	26,831
BUDGET	
Implementation Cost	5,453
Incentive Cost	6,659
Total	12,112
\$ / Therm	
\$ / Gross Therm	\$7.17
\$ / Net Therm	\$7.46
\$ / Lifecycle Gross Therm	\$2.28
\$ / Lifecycle Net Therm	\$2.22
COST EFFECTIVENESS	
TRC	1.87
PAC	0.76

2.4 Multi-Family Program

Objective

The Multi-Family (MF) program addresses residential (living units) and common areas (central plants, laundry rooms, etc.) in multi-family buildings with 5 units or more. The program goal is to overcome market barriers to the installation of energy efficiency measures by offering comprehensive assessments, a range of rebate offerings, generous financial incentives (including free offerings), and technical assistance. The program employs a “one-stop shop” approach that allows customers to easily navigate the different services available to these customers across the portfolios of Nicor Gas and its partner electric utilities.

Target Market

The MF program targets property owners and managers of large multi-family buildings with five units or more that use natural gas for space or water heating. These include high-rise and low-rise buildings, town homes, condominiums, assisted living, retirement communities, school dormitories, and similar buildings.

Collaboration

Nicor Gas intends to offer this program jointly or in collaboration with other regional electric utilities.

Offerings

The program includes seven components that work together to provide customers with turnkey, umbrella services to drive comprehensive energy upgrades. The offerings include:

- Free energy assessments to identify comprehensive opportunities
- Free direct installation of low-cost measures in living units and common areas
- Prescriptive rebates for standard upgrades applicable to most buildings
- Custom rebates for more complex projects or other opportunities not covered by the other offerings
- Free Central Plant Optimization (CPOP) to upgrade centralized boiler systems
- Structured weatherization rebates for air sealing and insulation projects
- Technical assistance to help customers navigate the program, take advantage of all program services, coordinate with other offerings, and follow through to implement projects

The program is offered jointly or in coordination with electric utility partners to ensure that customers implement electric and gas solutions in one stop. The program also coordinates with the on-bill financing and income-qualified offerings to help customers take advantage of these other offerings when appropriate. The goal is to ensure that customers have all the information needed to easily choose the best offerings for their buildings and to help them follow through to execute those choices.

Delivery Strategy

The delivery strategy is to provide turnkey, umbrella services that help customers save energy, increase tenant comfort, and improve property values. The program is coordinated with electric utility partners and with other portfolio offerings to provide a “one-stop-shop” that makes it easy for customers to identify and execute comprehensive, multifuel energy upgrades.

Delivery begins with effective outreach to multi-family building owners, property management companies, apartment and rental associations, business trade and community associations, and trade allies serving the multi-family market. The program relies heavily on one-on-one engagement with building owners, property managers and trade allies to promote the program and provide technical assistance. Program education requires direct outreach, and participation often requires several touch points. Outreach targets are encouraged to begin the program workflow by scheduling a comprehensive energy assessment.

During outreach, and while scheduling the assessment, participants are informed of income-qualified offerings, which provide free incentives for all measures and upgrades. If customers qualify, they are channeled through the income-qualified intake process, which uses consistent intake forms and systems for a seamless customer experience.

Once scheduled, the program staff conducts the free energy assessment to identify program opportunities. Assessments are delivered jointly with electric partners to help customers implement comprehensive, multifuel solutions. Customers receive tailored reports, outlining recommendations for each of the other program tracks. Customers are assigned a lead contact to navigate the program process, beginning with a review of the assessment recommendations and next steps. The contact also provides information on financing options to help pay for the upgrades, including the Nicor Gas On-Bill Financing initiative, as well as other market financing options.

In the direct installation offering, program staff install free measures in living units and common areas, including low-flow showerheads, faucet aerators, pipe wrap, shower timers, thermostatic radiator valves and programmable thermostats. Customers can also receive advanced thermostats for an associated co-pay. Electric partners also fund free lighting measures. Customers can choose between two installation options: 1) the property manager can schedule installation by the program staff, or 2) they can utilize "virtual direct installation" where products are shipped directly to the property manager for self-installation.

The assessment covers a comprehensive set of prescriptive and custom rebate opportunities. Prescriptive projects receive fixed rebates for standard upgrades applicable to most buildings, including efficient furnaces, boilers, water heaters, laundry equipment, and similar measures. Custom measures include projects not covered by the prescriptive offering, and rebates are based on measured energy savings. The program contact helps the customer identify projects for implementation and guides them through the Nicor Gas Find-a-Contractor web tool to identify Contractor Circle members who can complete the installations. Building owners can also use their own contractor or internal maintenance staff to perform the work.

In the CPOP offering, the program contact works with customers to schedule a program-approved contractor to provide free central plant upgrades, including boiler tune-ups, boiler controls, pipe and tank insulation, and steam trap testing and repair.

In the Weatherization offering, customers receive structured rebates for air sealing, insulation, and other measures installed by BPI-certified contractors. The rebates will be structured per cubic foot of infiltration reduction, or square foot of insulated area. Program contacts will help customers sequence comprehensive projects that pair weatherization and heating upgrades. Since weatherization upgrades reduce peak heating requirements, these customers can save additional money by downsizing heating equipment.

Marketing and Outreach Strategy

Nicor Gas employs a comprehensive multi-family marketing and outreach strategy. The program partners with property management companies to secure agreements that treat multiple properties through a single point of contact, and also engages with smaller organizations managing individual properties. General outreach may occur through advertisements in apartment association publications, or attending local apartment and rental association meetings, industry events, and conferences. These tactics drive general program awareness and help develop relationships. As partnerships evolve, presentations at local properties, rental and owner association meetings, and other forums help recruit participants. The marketing team will collaborate across the Nicor Gas portfolio and with partnering utilities to create program materials and provide a uniform “one-stop shop” that simplifies and facilitates customer engagement.

During the outreach process, Nicor Gas will ensure that owners and managers understand the income-qualified offerings that provide additional free services, more generous financial incentives, and—for the Healthy Home initiative—broader services. Outreach activities will also cover on-bill financing options that customers can use to finance upgrades. The goal is to ensure that customers have all the information needed to easily choose the best offerings for their buildings.

Innovation

The program may incorporate measures developed through the innovation programs described in Chapter 5, as well as new delivery strategies developed through continuous improvement activities. New technologies may include thermostatic radiator valves, radiator replacements, drain water heat recovery, ozone laundry systems, venturi steam traps, water heat controls, pipe insulation, water tank insulation, and boiler descaling. New delivery approaches include the CPOP, virtual assessment, and virtual direct installation offerings.

The program will also stay on top of the latest commercial and industrial technologies, such as gas heat pump technologies, advanced windows, ventilation air deflectors, hybrid designs, on-site renewables, and other innovations. The program may look to include these technologies in its measure mix as they are incorporated into the Illinois TRM or deemed acceptable as custom measures through third-party evaluators.

Eligible Measures

The available measures are listed in the measure summary report in Appendix A. The key measures in the MF program include:

- Free assessment and report
- Free direct installation of low-flow showerheads, bath and kitchen aerators, shower timers, thermostatic radiator valves, and programmable thermostats
- Direct installation of advanced thermostats, with co-pay
- Prescriptive rebates for furnaces, boilers, water heating, laundry equipment, and other measures
- Custom incentives for measures not covered by prescriptive rebates
- Free installation of CPOP services, including boiler tune-ups, pipe insulation, steam traps, and other measures that optimize heating system performance
- Structured rebates for air sealing and insulation measures

Please see the measure summary report in Appendix A for more details.

Program Targets

The program budget and savings targets are provided in Table 10 below. Please note the figures are rounded to thousands.

Table 10 MF Program Targets

THERMS	
Gross Therms	1,685
Net Therms	1,580
Lifecycle Gross Therms	24,184
Lifecycle Net Therms	22,664
BUDGET	
Implementation Cost	4,257
Incentive Cost	4,281
Total	8,538
\$ / Therm	
\$ / Gross Therm	\$5.07
\$ / Net Therm	\$5.40
\$ / Lifecycle Gross Therm	\$2.83
\$ / Lifecycle Net Therm	\$2.65
COST EFFECTIVENESS	
TRC	2.32
PAC	0.89

2.5 Energy Education and Outreach Program

Objective

The Energy Education and Outreach program's objective is to increase residential customers' understanding of energy usage in their homes and educate these customers on available energy efficiency opportunities.

Target Market

All residential customers served by Nicor Gas.

Collaboration

The program will include offerings that will be delivered jointly with electric utility partners for Energy Education Kits and by Nicor Gas only for Energy-Saving Kits and Home Energy Reports.

Offerings

Energy education and outreach is the first step in a typical household's energy efficiency journey. The offerings in this program include:

- Customer-requested energy-saving kits
- Energy education for elementary school students
- Behavior modification techniques that foster energy efficiency as part of everyday living

The offerings are further explained below.

[Energy-Saving Kits \(ESKs\)](#)

Nicor Gas will continue distributing free ESKs during 2022-2025. There are two versions of ESKs, specifically 1) a water-saving kit and 2) a weatherization kit. The water-saving kit includes high-efficiency showerheads (1 or 2 per kit), a kitchen aerator, a shower timer and bathroom aerators (1 or 2 per kit). These devices conserve water, and therefore save the natural gas needed to heat the water. The weatherization kit includes weatherstripping, rope caulk, light switch and outlet gaskets, and a door sweep. These measures help seal air leaks to prevent drafts from entering the home, decrease air loss and reduce the energy needed to heat the home.

[Energy Education Kits \(EEKs\)](#)

The EEK offering is designed to educate fifth grade students about using energy wisely. The curriculum provided in this program adheres to the academic standards set for ELA, Math, Next Generation Science, Technology and College and Career Readiness. These materials employ the universal design approach; they are flexible and easy to use by students of varying abilities. Each student will also receive an energy-saving kit, which may include natural gas and electricity-saving products, such as showerhead, aerators, shower timer, LED night light, digital thermometer, BR30 850 lumens lamp, flow rate test bag, Mercaptan sticker and plumber's tape. The curriculum teaches students and parents about how these products can save energy and encourages installation for class experiments as well as long-term use.

[Home Energy Reports \(HER\)](#)

This behavior modification offering generates energy savings through residential customer engagement and behavioral change strategies. This offering will provide individualized energy use information through HERs tailored to customer usage and habits to drive changes in energy usage behavior. HERs may use historical energy use data, customer demographics, and other information to provide personalized, actionable tips to customers. Information will be delivered to customers in multiple formats on a regular basis to provide education about natural gas consumption and energy efficiency opportunities.

Delivery Strategy

The program is delivered through the three offerings described above, with each representing a vital step of Nicor Gas' overall customer engagement strategy to save energy at home. The delivery strategy of each of the offerings is explained below.

[ESKs](#)

The ESKs are free to all Nicor Gas residential customers who request a kit. Customers can order a kit online through our website, by calling our outreach center, through community partners such as community action agencies and other partners or by engaging with Nicor Gas at an event (virtual or in-person). In some cases, our marketing and outreach center may follow up with interested parties we became aware of through program cross-promotions, QAQC efforts, other utility departments (e.g. credit and collection, contact center, new business development), or external partners.

[EEKs](#)

The offering is delivered by engaging schools and teachers. Teachers that enroll are provided with educational materials, lesson plans, student guides, workbooks and other engaging activities that can be

used inside and outside the classroom. Further, Nicor Gas plans on delivering kits toward income-qualified customers. Nicor Gas may choose schools that are located in areas where a significant portion of low-and-moderate income homes exist based on data driven approaches.

Two different EEKs are delivered depending upon whether school is in a joint ComEd/Nicor Gas, or Nicor Gas-only area. Kits distributed to schools in the joint areas include both energy-saving electric and gas measures while the Nicor Gas-only areas include energy-saving gas-only measures (unless an electric provider is identified to contribute towards the electric measures in the kit).

HER

Customers receive HERs on a regular basis, either as a paper report or an email. The HER is customized to user data and area trends. This information allows the customer to see how their home is performing regarding natural gas usage compared to homes of similar size in their area. Each report also contains customized, seasonal tips to help make easy energy-saving improvements. Tips may also include promotions for free offerings and other program messaging to drive participation.

Marketing and Outreach Strategy

These offerings provide the Nicor Gas Energy Efficiency outreach representatives an opportunity to interact with customers, teach them about the importance of energy efficiency and show why they should participate in our programs. Like with any brand, the first participation level is the hardest to garner from customers, but once trust is established, continued participation is easier to achieve.

The Nicor Gas Energy Efficiency Program will use a concierge-like service through the Marketing and Outreach Center to proactively engage customers. Additionally, offerings such as the energy-saving kits and the energy education kits present a great opportunity to reach out to low-and-moderate income customers as well as multicultural markets, which will be areas of focus during 2022-2025.

ESKs

The main marketing distribution channel to market ESKs are utility bill inserts, outreach events, targeted emails, website promotions, social media posts, and partnering with community partners and Community Action Agencies. These tactics have been the most effective way to penetrate different customer segments, such as multicultural markets and low-to-moderate income populations. Additionally, through the energy-saving kits, marketing can gather additional customer information in order to promote other offerings in the portfolio.

EEKs

Although the EEK marketing and communications are conducted by the implementer (which includes school recruitment, online information and collateral development); the Nicor Gas marketing team plays a significant role in reviewing the design of materials and assisting with media outreach opportunities. If a media event or engagement opportunity is deemed appropriate, it will be coordinated between the implementer, Nicor Gas and electric utility partners.

Behavior

The behavior offering serves as both an education and marketing source that doesn't require customer recruitment on the front-end. The program itself serves as an additional marketing tool to customers and engages them in learning about, and participating in, other Nicor Gas energy efficiency offerings. The implementer will create and modify reports, emails, letters and website content with Nicor Gas marketing guidance and support.

Innovation

The shower timer in the water-saving kit and the weatherization kit were developed through ongoing continuous improvement efforts. The Nicor Gas Energy Efficiency team will also work to identify additional measures appropriate for this offering.

Eligible Measures

A comprehensive list of available measures are listed in Appendix A. The key measures in the Energy Education and Outreach program include:

- Energy-Saving Kits
- Elementary Education Kits
- Home Energy Reports

Please see the measure summary report for more details.

Program Targets

The program budget and savings targets are provided in Table 11 below. Please note the figures are rounded to thousands.

Table 11 Education and Outreach Targets

THERMS	
Gross Therms	4,980
Net Therms	4,794
Lifecycle Gross Therms	41,650
Lifecycle Net Therms	37,930
BUDGET	
Implementation Cost	4,167
Incentive Cost	3,543
Total	7,710
\$ / Therm	
\$ / Gross Therm	\$1.55
\$ / Net Therm	\$1.61
\$ / Lifecycle Gross Therm	\$5.40
\$ / Lifecycle Net Therm	\$4.92
COST EFFECTIVENESS	
TRC	8.11
PAC	1.62

2.6 Residential New Construction Program

Objective

The objective of the Residential New Construction (RNC) program is to obtain energy savings by increasing the energy efficiency of new construction single-family detached homes and townhomes. The program provides participating new home builders and their verifier companies a financial incentive to either a) exceed state and local building code requirements regarding duct and air sealing, along with the installation of specific high-efficiency equipment, or b) install prescriptive high-efficiency equipment only.

Target Market

The target market for RNC includes homebuilders and their verifier companies that work together to build homes in Illinois.

Collaboration

RNC is a Nicor Gas-only offering.

Offerings

RNC works with homebuilders and their verifier companies to build homes in the Nicor Gas service territory that are safer, more comfortable, durable and energy efficient due to the installation of high-efficiency equipment and by optionally exceeding duct and air sealing building code requirements. Verifiers are typically building rating companies or on-site contractors, but they can be any entity designated by the builder, or even the builder itself.

RNC provides monetary incentives for homebuilders and their verifier companies to promote energy-efficient new construction building practices.

Delivery Strategy

The key elements of the delivery strategy include:

Builder & Verifier Recruitment: The primary recruitment effort will target homebuilders and their verifier companies in the Nicor Gas service territory, with recruitment occurring through individual contact, group outreach, online events and involvement in regional builder associations.

Technical Assistance: The implementation contractor will provide training and guidance regarding program offerings and participation processes to builders and verifiers as needed to provide support and minimize barriers to participation.

Project Verification: Program verification will occur through independent verifier companies that participate in the program, as they are on-site during home construction and have access to the information required for program data submissions. This data is then uploaded to the implementer for QA/QC verification. The builder may also submit program data on its own behalf.

Communications, Education and Training: The implementation contractor is responsible for educating and training the homebuilders and their verifier companies. The implementation contractor will conduct periodic training sessions detailing the requirements and administrative functions for participating in the program. Builders and their verifier companies participating in the program will receive regular communications about program activities to ensure that they are informed and engaged participants.

Marketing and Outreach Strategy

The marketing strategy will focus on raising awareness and creating action among both homebuilders and their verifier companies that are directly involved in the process of constructing new single-family homes and duplexes. Messaging will emphasize the distinct advantages of using energy-efficient building practices and installing energy-efficient components throughout the construction process. The program will provide a tangible benefit/incentive to influence home builders and verifiers to participate.

The program will be promoted using various targeted marketing tactics, including direct outreach, online events and involvement in regional home builder associations. The implementation contractor will provide all recruitment and training services for the program. The participating verifier companies are an integral link in promoting the program to homebuilders in addition to the efforts by the implementation contractor. This comprehensive effort is intended to communicate the benefits of the program to homebuilders and motivate them to differentiate themselves in the marketplace by building energy efficient homes. The implementation contractor is also responsible for leading the creation and development of all marketing materials, including webpage content, event presentations, and program fact sheets.

Innovation

The program will also stay on top of the latest in new construction practices and technologies, such as thin triple paned windows, gas heat pump technologies, hybrid designs, on-site renewables, microgrids, community designs, and other innovations around residential communities. The program will look to include these technologies in its measure mix as they are incorporated into the Illinois TRM or deemed acceptable as custom measures through third-party evaluators.

Eligible Measures

The available measures are listed in the measure summary report in Appendix A. The key measures in the RNC include:

- Furnace, >92% AFUE – RNC (Base measure package)
- Furnace, >95% AFUE – RNC (High-efficiency and prescriptive measure package)
- Furnace, >97% AFUE – RNC (High-efficiency and prescriptive measure package)
- Bonus Incentives – RNC (advanced thermostat bonus)

Please see the measure summary report for more details.

Program Targets

The program budget and savings targets are provided in Table 12 below. Please note the figures are rounded to thousands.

Table 12 RNC Program Targets

THERMS	
Gross Therms	1,068
Net Therms	854
Lifecycle Gross Therms	20,203
Lifecycle Net Therms	16,163
BUDGET	
Implementation Cost	1,576
Incentive Cost	1,846
Total	3,422
\$ / Therm	
\$ / Gross Therm	\$3.21
\$ / Net Therm	\$4.01
\$ / Lifecycle Gross Therm	\$5.90
\$ / Lifecycle Net Therm	\$4.72
COST EFFECTIVENESS	
TRC	2.41
PAC	1.64

3 Income-Qualified Programs

3.1 Income-Qualified Overview

This chapter describes the Nicor Gas Energy Efficiency Program's proposed programs for Income-Qualified (IQ) customers. Section 8-104(e-5) of the Act defines IQ customers as household with incomes at or below 80% of area median income (AMI), which is roughly equivalent to 300% of the federal poverty level. The IQ offerings provide opportunities to the most vulnerable customers in the Nicor Gas service territory. The IQ programs will be offered jointly or in collaboration with other Illinois utilities, state agencies, and local community action agencies (CAAs) and community-based organizations (CBOs).

This chapter covers the following programs:

- IQ Weatherization, serving both single-family and multi-family buildings
- Public Housing Authority (PHA)
- Affordable Housing New Construction (AHNC)
- IQ Energy-Saving Kits (IQ ESK)

Nicor Gas uses a one-stop-shop approach to help educate, guide and provide choices for IQ customers to receive the services that best fit their needs. The offerings provide free single-family and multi-family home weatherization, free upgrades for heating and water heating systems, free direct installation of low-cost measures such as showerheads and faucet aerators, and free kits with similar low-cost measures. The IQ portfolio also includes the PHA program, which provides free services and enhanced rebates for PHA buildings, and the AHNC program, which provides design assistance and financial incentives for developers of affordable housing.

The IQ programs target homeowners and renters, as well as owners of multi-family buildings serving IQ households. For the purpose of program delivery and tracking, Nicor Gas defines multi-family as buildings with at least five living units. Smaller multi-family buildings are tracked along with detached single-family residences.

Nicor Gas has designed the programs to leverage resources from the statewide IHWAP program, which for decades has administered federal- and state-funded programs to weatherize homes for low-income households. The largest offerings described in this chapter directly supplement these IHWAP programs, providing funds to expand IHWAP's reach into more homes, and directly using the infrastructure IHWAP has developed to deliver these services through a statewide network of CAAs.

The Nicor Gas IQ programs also serve key markets beyond the reach of the IHWAP program.

- Nicor Gas has created a "Contractor Channel" that supplements IHWAP's capacity. IHWAP limits participation to households with incomes below 200% of the federal poverty level, and the contractor channel serves additional customers with incomes up to 80% AMI, which is approximately 300% of the poverty level. The contractor channel also serves customers who cannot be served with current IHWAP capacity constraints, due to budget limits or technical limits at the local CAAs that deliver IHWAP services. For example, many CAAs do not have the expertise to retrofit multi-family buildings.
- Nicor Gas will offer a new "Healthy Home" initiative that partners with CBOs, health care providers, insurance companies, and other groups to provide IQ households with comprehensive services that combine energy efficiency, health, safety, and other initiatives to ensure that homes are safe, dry, and warm.
- The PHA and AHNC programs target services to additional key markets. The PHA program serves agencies providing subsidized public housing and the AHNC program serves organizations building new affordable housing.

- The IQ ESK program provides free measures to households who cannot be met within the capacity constraints of the other programs.

In the Settlement Stipulation reached with the Negotiating Parties, Nicor Gas made a number of agreements regarding the operation of the IQ programs. While the detailed Stipulation language defines these specific agreements, key provisions include:

Spending and Financial Incentives

- Nicor Gas will spend an annual average of at least \$13.0 million per year in dedicated IQ program spending (excluding IQ customer participation in non-IQ dedicated programs, innovation programs, or any other portfolio level costs).
- Nicor Gas will spend at least \$11.9 million per year on offerings providing whole-building retrofits. These programs include the IQ Weatherization, PHA, and AHNC programs.
- Nicor Gas will continue to provide all measures in the IQ Weatherization and IQ ESK programs free of charge, without co-pays. However, if Nicor Gas partners with an electric utility program that requires co-pays, Nicor Gas will offer incentives consistent with the electric program design.
- Nicor Gas will work with CAAs and other implementers to ensure that contractors do not assess charges for weatherization quotes.
- Nicor Gas will not actively market On-Bill Financing to IQ customers.
- Nicor Gas will target services to communities with the greatest need, particularly to diverse and historically underserved communities, using data driven approaches to target investment. Nicor Gas will collaborate with other utilities and interested Stakeholders on data and approaches used to target services, assess bill impacts, and measure customer energy burden.

Multi-family Program Operations

- Nicor Gas will spend at least 30% of the total IQ budget on multi-family customers.
- In the multi-family Contractor Channel and Healthy Home offerings, Nicor Gas will support the full cost of air sealing and insulation upgrades that have an estimated payback of 20 years or less, unless there are technical limitations or customer objections.
- Nicor Gas will deliver multi-family services within a “one-stop shop” framework that makes it easy and streamlined for customers to navigate electric and natural gas offerings, IQ and non-IQ offerings, and EE and non-EE utility offerings. This framework will include a single point of contact, working with ComEd, other utilities, CAAs, or CBOs, to provide a common intake process, identify appropriate program services, coordinate program access, schedule, coordinate, and monitor work with qualified contractors, and resolve quality issues.

Health and Safety (H&S)

- Nicor Gas will budget H&S improvements of at least 5% of the total budget for whole building retrofit programs.
- Nicor Gas will provide H&S funding for single-family Contractor Channel and Healthy Home projects that include up to 15% of the total project costs per home with a not-to-exceed value of \$1,000 per home. This cost will be split 50/50 between utilities for jointly funded projects or 100% by Nicor Gas for Nicor Gas-only projects.
- Nicor Gas will provide H&S funding for multi-family Contractor Channel and Healthy Home projects that include up to \$2,000 per eligible measure or 50% of the total project, whichever is

greater. This cost will be split 50/50 between utilities for jointly funded projects or 100% by Nicor Gas for Nicor Gas-only projects.

- Nicor Gas will work with IHWAP to develop appropriate allocations of H&S funding for IHWAP projects.
- Nicor Gas commits to analyze and leverage external sources of funding for H&S improvements.
- Nicor Gas commits to better understand the air sealing and insulation materials currently being used in IQ retrofits; to limit or eliminate the worst, unhealthiest materials; and to work with utilities and other stakeholders to report on material use and identify options for healthier materials.
- Overall, Nicor Gas may spend up to \$1.5 million/yr on H&S.

Affordability

- The Nicor Gas Energy Efficiency Program and Implementation Contractors will provide customers accessing energy efficiency programs with information about available energy payment assistance, including information on the Low Income Home Energy Assistance Program, Percentage of Income Payment Plans, and all other utility-specific assistance programs. Information will be provided in English, Spanish, and other languages.
- The Nicor Gas Credit and Collections/Contact Center will utilize current systems to connect customers experiencing energy unaffordability to energy efficiency programs.
- Nicor Gas will continue to recruit customers at risk of being disconnected, with high arrears, on payment arrangements, or on energy assistance programs into its IQ energy efficiency programs.

IHWAP Offerings

- Nicor Gas will leverage the efficiencies available through existing IHWAP infrastructure and services, such as enrollment and marketing, to the extent that this can reduce the need for similar services at a lower cost than utility-only programs, subject to CAA or other capacity constraints.
- Nicor Gas will seek input from and coordinate with CAAs on agency capacity and annual growth in utility funding budgeted to IHWAP braided efforts.
- Nicor Gas will braid IHWAP funds for multi-family housing with any CAAs that receive DCEO approval to deliver multi-family weatherization services. Nicor Gas will inform CAAs that braiding in multi-family buildings is allowed, work with CAAs to better understand specific barriers to serving multi-family buildings, and support or co-fund training and equipment.
- Subject to agreement by DCEO, Nicor Gas will split funding 50%/50% for each IHWAP building served, including funding for all efficiency measures, health and safety measures, and administrative costs, consistent with IHWAP guidelines. Nicor Gas will claim 100% of the savings achieved through all efficiency measure installations. Nicor Gas will negotiate with DCEO with the goal of reaching consensus on a designated level of IHWAP training contribution.

Contractor Channel and Healthy Home Offerings

- Nicor Gas will consult with CAAs, CBOs, and other organizations that perform weatherization services about changes to measure installation guidelines.
- Nicor Gas will consider the following criteria before installing advanced thermostats:
 - The appropriate brand and type of thermostat based on the availability of broadband wi-fi in the home;
 - Client interest after advanced thermostat functionality has been explained;
 - Whether the client is housebound; and

- Technical issue that would significantly increase labor costs associated with thermostat installation.
- Nicor Gas will provide the following information to clients receiving advanced thermostats:
 - Verbal and written operating instructions, and
 - A phone number to call for assistance on the use of the product.
- Nicor Gas will install furnaces, boilers, or water heaters only in cases of an emergency replacement (e.g., existing system no longer functioning) or to address a health/safety risk (e.g., cracked heat exchanger on gas furnace).

IQ Funding

As described in Section 1.8, Section 8-104(e-5) requires minimum annual spending for income-qualified offerings that are proportionate to total utility revenues contributed by households earning less than 150% of the federal poverty level. For Nicor Gas this represents 11.4% of the portfolio budget, or \$5.2 million per year. In consultation with the SAG members and additional community agencies, Nicor Gas will instead spend at least \$13 million per year for these offerings, which represents 28% of the portfolio budget, or 2.5 times the minimum requirements outlined in the Act. This spending includes at least \$11.9 million for programs providing comprehensive efficiency improvements, which include the Weatherization, PHA, and AHNC programs. Spending also includes \$1.1 million per year for the IQ ESK program, which, although not providing full, comprehensive upgrades, will provide initial energy efficiency services to over 35,000 thousand households who cannot be served within the capacity constraints of the other offerings. Nicor Gas will also manage the IQ portfolio to ensure that at least 30% of IQ spending goes toward multi-family projects in the IQ Weatherization program

In addition to the direct activities and spending outlined in this Chapter, Nicor Gas will incur additional spending to serve and support income-qualified customers.

- **Participation in Residential Programs:** Historically, income-qualified customers have also taken advantage of other residential offerings, especially the free offerings like Home Energy Assessments and Energy Savings Kits. Nicor Gas may also include customers from income-eligible communities in the Elementary Energy Education and Home Energy Reports offerings. While Nicor Gas will only track IQ spending from the direct offerings outlined in this Chapter 3, the Company expects that additional spending on IQ customers from the residential offerings will represent at least \$0.8 million per year.
- **Portfolio Overhead Activities Supporting Low-Income Programs:** The portfolio support functions outlined in Chapters 5 and 6 provide support for the IQ programs in areas like marketing, IT systems, evaluation, and innovation. The proportional share of these portfolio costs for direct IQ programs represents an additional \$3.5 million per year.

As shown in Table 13, this additional spending increases total spending on IQ customers across the portfolio to \$17.3 million. This represents 38% of the total portfolio budget, or 3.3 times the minimum required by the Act.

Table 13 IQ Spending Summary

Spending Area	Annual Budget (\$Millions)	Share of Total Portfolio Budget
Direct IQ Programs		
<i>Comprehensive Programs</i>	11.9	26.%
<i>IQ ESK</i>	\$1.1	2.4%
Total Direct IQ Programs	\$13.0	28.4%
IQ Households Participating in Residential Programs	\$0.8	1.8%
Portfolio Functions Supporting IQ Programs	\$3.5	7.6%
Total Spending on IQ Customers	\$17.3	37.9%

Income-Qualified Best Practice Collaboration

Nicor Gas has committed to engage in good faith discussions within the collaborative IQ groups with the aim of sharing best practices such as:

- Streamlining qualification of eligible customers, including qualification via census data or other similar approaches.
- Seeking to engage more diverse businesses within the IQ delivery of programs and services.
- Developing ways to reach customers whose annual incomes fall between 200% of the federal poverty level (IHWAP's eligibility cut-off) and at or below 80% AMI (target market defined in Section 8-104 of the Act).
- Developing ways to serve single-family and multi-family weatherization customers.
- Developing evaluation metrics for IQ programs.
- Developing healthy home BPI standards (or similar) within IQ communities.

Nicor Gas will work with other utilities, as appropriate and in relation to jointly delivered programs.

3.2 Income-Qualified Weatherization Program

Objective

The IQ Weatherization program provides comprehensive no-cost weatherization and other improvements to IQ customers.

Target Market

The program targets Nicor Gas residential households with income at or below 80% of area median income as determined by the federal HUD guidelines. The program targets homeowners, renters, and owners of multi-family buildings who rent to IQ households. For the purpose of program delivery and tracking, Nicor Gas defines multi-family as buildings with at least of five living units. Smaller multi-family buildings are tracked along with detached single-family residences. While the program services renters, building owners must apply for program services and be involved in the delivery process.

Nicor Gas has worked with SAG to define processes that make it easier for IQ households to qualify for program services. While individual households can verify home income levels, multi-family buildings can also qualify by participating in other affordable housing or energy assistance programs, by being located in census tracts with high concentrations of IQ households, by charging affordable rents, or by otherwise documenting that more than half of tenants have incomes below 80% AMI.

Collaboration

The IQ weatherization program will be delivered jointly or in collaboration with other program administrators including ComEd, Ameren, Peoples Gas and North Shore Gas. The program will also collaborate with federal, state, and local government agencies and community organizations.

The Healthy Home offering will also coordinate with health care providers, insurance companies, and other groups who are responsible for the enhanced health outcomes that will come from the Healthy Home protocols. For example, when comprehensive Healthy Home upgrades reduce heat stress, cold stress, and mold, this should reduce health care costs in addition to utility bills.

Offerings

The program includes three separate offerings, each of which has separate single-family and multi-family components.

The **IHWAP** offering coordinates with the statewide IHWAP program that offers weatherization services through federal programs administered by the U.S. Department of Energy and U.S. Department of Health and Human Services. The IHWAP offering directly supplements these IHWAP programs, providing funds to expand IHWAP's reach into more homes, and directly using the infrastructure IHWAP has developed to deliver these services through a statewide network of CAAs.

The **Contractor Channel** offering delivers services in communities where local CAAs do not have the capacity or expertise to fully serve all households in financial need. In some communities, CAAs are not able to take on the staffing, working capital, and other long-term commitments required to expand capacity. In other communities, CAAs do not have the technical expertise to address the unique requirements of multi-family buildings. Nicor Gas, along with ComEd and other partners, has identified additional contractors to serve these communities.

The **Healthy Home** offering partners with CBOs, health care providers, insurance companies, and other groups to provide IQ households with comprehensive services that combine energy efficiency, health, safety, and other initiatives to ensure that homes are safe, dry, and warm.

Delivery Strategy

The three offerings use similar delivery strategies, with some differences that reflect the contractors involved and scopes of services. All offerings are provided free of charge, without copays from customers or building owners. All offerings use a workflow that includes assessments, direct installation, major upgrades, and quality assurance. The offerings also use a one-stop shop approach that helps customers easily navigate the range of offerings and program services.

Assessments

Assessments address all energy-saving opportunities, including improvements for natural gas and electricity savings. Assessments also provide information about water savings and other benefits that building owners receive from measure installations. Assessments are completed by Energy Advisors certified by the Buildings Performance Institute (BPI), with multi-family assessments performed by Advisors with additional certifications.

In addition to energy-saving opportunities, assessments may also identify health and safety issues that may need to be addressed before energy efficiency measures can be installed. For example, leaky roofs must be repaired to avoid water damage that impedes insulation performance. Similarly, issues like faulty wiring, dangerous materials, or other safety hazards must be addressed to ensure safe working conditions for installers. Nicor Gas has established a fund of \$1.5 million per year to address these Health and Safety measures across all of the IQ programs discussed in Chapter 5. These funds will be augmented by additional funds provided by IHWAP, ComEd and other program partners.

The **Healthy Home** offering will rely on Energy Advisors certified as BPI Healthy Home Evaluators. BPI Healthy Home protocols go beyond energy efficiency to identify measures that keep homes dry, clean, pest-free, safe, contaminant-free, ventilated, and maintained. Energy Advisors addressing multi-family buildings have earned additional multi-family certifications from BPI.

Direct Installations

Installation contractors directly install a range of low-cost measures like faucet aerators, showerheads, pipe insulation, and advanced thermostats, as well as lighting and additional measures saving electricity. In multi-family buildings, contractors work with building owners to coordinate schedules and gain access

to individual living units. Education materials are provided to help households understand the installed measures, and the program takes additional steps to ensure that advanced thermostats are likely to save energy based on occupant preferences.

Major Upgrades

Major upgrades identified in the assessment are installed by specialized contractors with appropriate training and certifications. Program administrators—including the CAAs delivering the IHWAP offering, as well as implementation contractors delivering the Contractor Channel and Healthy Home offerings—establish arrangements with installation contractors that set out pricing, installation procedures, and other terms and conditions. This approach streamlines project specification, pricing, and scheduling.

Major measures may include air sealing and insulation, heating and water heating equipment upgrades, control systems and other measures appropriate to individual buildings. Major measures may also include a Central Plant Optimization Program (CPOP) that provides multi-family buildings with a suite of measures (tune-ups, pipe insulation, steam traps, and other services) that optimize boiler system performance. Major measures also include required health and safety measures, as well as electric measures such as cooling systems and appliances that are funded by electric utility partners.

The three offerings differ slightly in eligibility requirements for some major measures. For example, the IHWAP offering follows federal and state guidelines for installing new heating and water heating measures, while the Contractor Channel offering only replaces equipment in cases of equipment failure or safety hazards. In addition, the Healthy Home initiative expands health and safety measures beyond those addressed by the IHWAP or Contractor Channel offerings. Each offering also defines multi-family specifications that differ from those for single-family buildings.

Quality Assurance

The program maintains quality by first establishing rigorous program standards, including procedures for assessments and installations. Program staff also provide project management services that schedule and monitor program installations to ensure efficient and quality delivery. Finally, staff inspect 100% of project completions to ensure that measures are installed according to program specifications.

One-Stop Shop

The offerings will use a one-stop shop approach that helps customers easily navigate the range of offerings and program services. Regardless of which utility a customer first approaches to initiate program services, Nicor Gas and ComEd will develop a set of common intake processes that steer customers to the right offerings and efficiently gather appropriate data. These intake processes will also address the utilities' Residential, Multi-family, and other relevant offerings to limit program confusion and ensure that eligible customers are served by the more generous IQ offerings. Finally, the intake process will provide customers with information on-bill payment assistance from programs like the federal Low-Income Heating Energy Assistance Program and the Nicor Gas Percentage of Income Payment Plan.

Beyond intake, the one-stop shop approach will use a "single point of contact" strategy that assigns customers to individuals or teams for help in navigating program workflows. Contacts will help customers understand program offerings, coordinate contractor scheduling, and ensure quality control.

Marketing and Outreach Strategy

Given the unique delivery strategies, the marketing efforts will be carried out by the implementation contractors, partner low-income agencies, as well as the Nicor Gas Energy Efficiency marketing team.

The program relies heavily on the partner organizations, who have already established trusted channels for reaching out to target customers and building owners.

The marketing team may also promote this offering through targeted tactics, such as targeted emails, bill inserts, and targeted social media posts. Community events will also play a large role in educating customers about this offering and driving participation.

Innovation

The program will incorporate a range of new technologies that have been developed through the innovation programs described in Chapter 5. These include thermostatic radiator valves, radiator replacements, advanced windows, venturi steam traps, gas heat pump technologies, and other advancements. The Contractor Channel, Healthy Home, and CPOP offerings were also developed through the programs' ongoing commitment to continuous improvement.

The program will also stay on top of additional technologies to include in the measure mix as they are incorporated into the Illinois TRM or deemed acceptable as custom measures through third-party evaluators.

Eligible Measures

The available measures are listed in the measure summary report in Appendix A. The key measures in the IQ Weatherization Program include:

- Air and duct sealing and attic insulation
- Basement sidewall and wall insulation
- Direct install of low flow devices including showerheads, bath and kitchen aerators
- Direct install of advanced thermostats
- Programmable thermostat reprogramming and education
- High efficiency water heaters and furnaces
- Central Plant Optimization Program (CPOP)

Please see the measure summary report for more details.

Program Targets

The program budget and savings targets are provided in Table 14 below. Please note the figures are rounded to thousands.

Table 14 IQ Weatherization Program Targets

THERMS	
Gross Therms	3,194
Net Therms	3,194
Lifecycle Gross Therms	51,001
Lifecycle Net Therms	51,001
BUDGET	
Implementation Cost	14,155
Incentive Cost	29,470
Total	43,626
\$ / Therm	
\$ / Gross Therm	\$13.66
\$ / Net Therm	\$13.66
\$ / Lifecycle Gross Therm	\$1.17
\$ / Lifecycle Net Therm	\$1.17
COST EFFECTIVENESS	
TRC	1.24
PAC	0.40

3.3 Income-Qualified Energy-Saving Kits Program

Objective

The IQ Energy-Saving Kit (IQ ESK) program provides free energy-saving products to help IQ customers begin their customer journey toward comprehensive energy efficiency improvements.

Target Market

The program targets all Nicor Gas residential customers who are at or below 80% of area median income as determined by the federal HUD guidelines.

Collaboration

The IQ ESK offering will be delivered jointly with ComEd and may also be delivered with other electric utility partners. Nicor Gas also collaborates with state and local organizations to help identify customers and distribute kits.

Offerings

The program helps customers begin to immediately save energy and money with simple energy-saving measures that can be installed by the customer. These measures can be the first step on an energy efficiency journey, leading to more comprehensive upgrades provided free of charge through other IQ

program offerings. Since the other programs do not have the capacity or budget to serve all eligible IQ customers, the IQ ESK program helps customers take immediate steps to help lower their energy bills.

The IQ ESK may include differentiated offerings, such as a water-saving kit with showerheads, faucet aerators, and a shower timer, as well as a weatherization kit with caulking, weatherstripping, and other air sealing measures. Nicor Gas will work with ComEd to identify lighting and other appropriate electric measures to include in the kit offerings.

Delivery Strategy

Nicor Gas will work with organizations such as IHWAP, Illinois Department of Health and Human Services, Community Action Agencies, local governments, community-based organizations, and other entities that serve income-qualified customers and communities. Nicor Gas will coordinate with ComEd and other potential electric utility partners to identify measures to include in the IQ ESK kits.

Nicor Gas and ComEd will work with an implementation contractor who will be responsible for providing portals for ordering kits, maintaining measure inventory, and fulfilling orders delivered directly to customers or to Nicor Gas and its partners for distribution.

Marketing and Outreach Strategy

The Nicor Gas Energy Efficiency marketing team may promote this offering through targeted tactics, such as targeted emails, bill inserts, and targeted social media posts. Kits are also offered to qualifying customers during the intake for LIHEAP and IHWAP programs. Community events can also play a large role in educating customers about this offering and driving participation. In addition, the EE marketing team will collaborate with other internal Nicor Gas departments such as the Contact Center, Credit and Collections and others to ensure that customers with billing challenges are aware of energy saving offerings, especially free offerings.

Innovation

The weatherization kit and the shower timer in the water-saving kit were developed through ongoing continuous improvement efforts. The program will also work to identify additional measures appropriate for other kit offerings.

Eligible Measures

The available measures are listed in the measure summary report in Appendix A. The key measures in the IQ ESK Program include:

- Low flow shower head
- Low flow faucet aerators
- Dual-spray kitchen faucet aerator
- Shower timer
- Plumbers tape
- Outlet and switch foam gasket
- Closed cell foam tape weatherstripping
- V-Seal type weatherstripping
- Self-adhesive door sweep
- Rope caulk

Program Targets

The program budget and savings targets are provided in Table 15 below. Please note the figures are rounded to thousands.

Table 15 IQ ESK Program Targets

THERMS	
Gross Therms	2,121
Net Therms	2,121
Lifecycle Gross Therms	27,204
Lifecycle Net Therms	27,204
BUDGET	
Implementation Cost	2,703
Incentive Cost	1,697
Total	4,400
\$ / Therm	
\$ / Gross Therm	\$2.07
\$ / Net Therm	\$2.07
\$ / Lifecycle Gross Therm	\$6.18
\$ / Lifecycle Net Therm	\$6.18
COST EFFECTIVENESS	
TRC	12.63
PAC	2.05

3.4 Public Housing Authority Program

Objective

The IQ Public Housing Authority (PHA) program provides broad and impactful energy efficiency opportunities to Public Housing Authorities to help the income-qualified households they serve.

Target Market

The program targets organizations that provide subsidized public housing. The program focuses on multi-family facilities, which, for tracking purposes, Nicor Gas defines as buildings with five or more living units.

Collaboration

The PHA program will be delivered jointly with other program administrators including ComEd, Ameren, Peoples Gas and North Shore Gas.

Offerings

The PHA program provides a flexible approach to serve the needs of agencies responsible for managing public housing. While the program focuses on the large multi-family buildings that make up the majority of this housing stock, it will also address smaller multi-family buildings and other properties managed by these agencies.

Delivery Strategy

Program workflow includes multiple stages, including assessments, direct installation, major upgrades, and quality assurance. The program also uses a one-stop shop approach that helps customers easily navigate the range of offerings and program services.

Assessments

Assessments address all energy-saving opportunities, including improvements for natural gas and electricity savings. Assessments also provide information about water savings and other benefits that building owners receive from measure installations. Assessments are all completed by Energy Advisors certified by the Buildings Performance Institute (BPI), with multi-family assessments performed by Advisors with additional certifications.

In addition to energy-saving opportunities, assessments also identify health and safety issues that may need to be addressed before energy efficiency measures can be installed. For example, leaky roofs must be repaired to avoid water damage that impedes insulation performance. Similarly, issues with faulty wiring, dangerous materials, or other safety hazards, must be addressed to ensure safe working conditions for installers. Nicor Gas has established a fund of \$1.5 million per year to fund Health and Safety measures across all of the IQ programs discussed in Chapter 5. These funds will be augmented by additional funds provided by ComEd and other program partners.

Direct Installations

Installation contractors may directly install a range of low-cost measures including faucet aerators, showerheads, pipe insulation, and advanced thermostats, as well as lighting and additional measures saving electricity. Contractors work with building owners to coordinate schedules and gain access to individual living units. Materials are provided to help residents understand the installed measures, and the program takes additional steps to ensure that advanced thermostats are likely to save energy based on occupant preferences.

Major Upgrades

Major upgrades identified in the assessment are installed by specialized contractors with appropriate training and certifications. Some major measures are provided free of charge, although major equipment upgrades require some copay from building owners.

Major measures include:

- Air sealing and insulation, heating and water heating equipment upgrades, control systems and other measures appropriate to individual buildings
- Central Plant Optimization Program (CPOP) that provides multi-family buildings with a suite of measures (tune-ups, pipe insulation, steam traps, and other services) that optimize boiler system performance
- Required health and safety measures, as well as cooling systems, appliances, and other major electric measures funded by electric utility partners

Quality Assurance

The program maintains quality by first establishing rigorous program standards, including procedures for assessments and installations. Program staff also provide project management services that schedule and monitor program installations to ensure efficient and quality delivery. Finally, staff inspect project completions to ensure that measures are installed according to program specifications.

Marketing and Outreach Strategy

Given the unique delivery strategies, marketing efforts will be carried out by the implementation contractors, partner low-income agencies, as well as the Nicor Gas Energy Efficiency marketing team. The Nicor Gas Energy Efficiency marketing team may promote this offering through targeted communications with agencies responsible for managing PHA properties.

Innovation

The program will stay on top of the latest in technologies, such as thin triple paned windows, gas heat pump technologies, drain water heat recovery, and other innovations. The program will look to include these technologies in its measure mix as they are incorporated into the Illinois TRM or deemed acceptable as custom measures through third-party evaluators.

Eligible Measures

The available measures are listed in the measure summary report in Appendix A. The key measures in the IQ PHA Program include:

- Air and duct sealing and attic insulation
- Basement sidewall and wall insulation
- Direct install of low flow devices including showerheads, bath and kitchen aerators
- Direct install of smart thermostats
- Programmable thermostat reprogramming and education
- High efficiency water heaters and furnaces
- Central Plant Optimization Program (CPOP)

Please see the measure summary report for more details.

Program Targets

The program budget and savings targets are provided in Table 16 below. Please note the figures are rounded to thousands.

Table 16 PHA Program Targets

THERMS	
Gross Therms	150
Net Therms	150
Lifecycle Gross Therms	2,435
Lifecycle Net Therms	2,435
BUDGET	
Implementation Cost	976
Incentive Cost	1,797
Total	2,772
\$ / Therm	
\$ / Gross Therm	\$18.46
\$ / Net Therm	\$18.46
\$ / Lifecycle Gross Therm	\$0.88
\$ / Lifecycle Net Therm	\$0.88
COST EFFECTIVENESS	
TRC	0.92
PAC	0.30

3.5 Affordable Housing New Construction Program

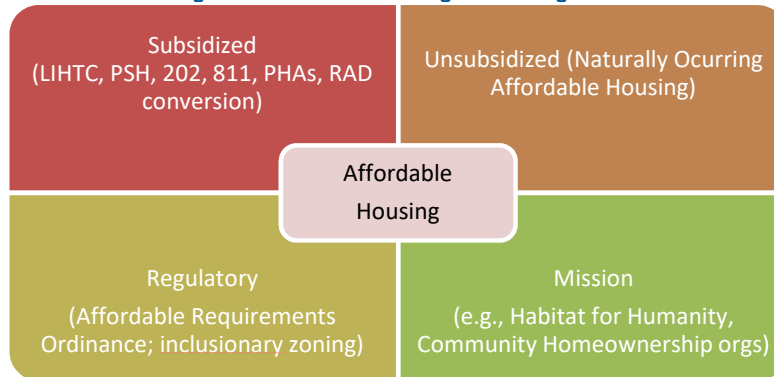
Objective

The objective of the Affordable Housing New Construction (AHNC) program is to provide technical guidance and financial incentives for developers of affordable housing to improve comfort and reduce energy use for IQ households, while exceeding current Illinois building code requirements.

Target Market

The program targets developers of affordable housing projects. The program focuses on multi-family new construction, which, for tracking purposes, Nicor Gas defines as buildings with five or more living units. However, the program may also address single-family housing. Projects must include units that will be affordable for IQ residents earning at or below 80% of the area median income (AMI) as defined by federal HUD guidelines. As shown in Figure 5 the target market covers subsidized affordable housing, affordable housing built for regulatory compliance (inclusionary zoning), mission-driven affordable housing, and naturally occurring affordable housing.

Figure 5 Affordable Housing Market Segmentation



Collaboration

The AHNC program will be delivered in coordination with other program administrators including ComEd, Peoples Gas and North Shore Gas.

Offerings

The AHNC offering provides incentives and technical assistance for the developers and builders of new and renovated buildings that eventually will be occupied by IQ customers. The program requires measures covering natural gas systems, including building envelope, HVAC systems, and water-heating equipment, as well as electric systems such as lighting and appliances, which are covered by electric utility partners. Design and construction of all living spaces within participating buildings must meet or exceed the Multi-Family Standard. The standard includes an integrated bundle of energy cost-reduction measures (ECMs) designed to deliver significant energy savings over the current Illinois Energy Conservation Code baseline.

Delivery Strategy

The Nicor Gas Energy Efficiency Program will rely on an implementation contractor to promote and implement the AHNC program. The contractor will work with developers, architectural and design firms, and builders of affordable housing to promote the availability and value of the program. The program contractor will provide technical assistance to help design teams identify potential energy efficiency strategies, and then model those strategies to help teams understand potential energy savings, cost savings, building performance improvements, and other sustainability benefits. The program will provide incentives that improve the financial performance of the energy efficiency investments and provide project management services to help participants navigate the program workflow process.

Marketing and Outreach Strategy

The implementer is responsible for outreach and marketing efforts in this program. The Nicor Gas Energy Efficiency team may provide support as needed.

Active project outreach for AHNC follows several channels. It leverages relationships with past program participants and with local agencies such as the Illinois Housing Development Authority (IHDA), Chicago Housing Authority (CHA) and other public housing authorities (PHAs), Chicago Department of Planning and Development (DPD) and industry associations such as Illinois Housing Council (IHC), Chicago Rehab Network, and community development corporations to identify projects that are good candidates

for AHNC. Implementation staff also identify project leads through extensive engagement in the Northern Illinois affordable housing design and development community, or by monitoring industry publications and subscription services such as *Construction Wire*, *Curbed Chicago*, and *Crain's Real Estate Daily*. Implementation outreach staff may conduct face-to-face meetings and lunch-and-learns with design firms, developers, funders, other project team members, or any of the entities noted above. Implementation outreach staff may attend industry events in order to identify project contacts, better understand the market, and network with potential participants. The implementation team may present, host a booth or sponsor key events.

The outreach goal is to identify projects and influencers with sufficient lead time to ensure design meets the requirements of the Multi-Family Standard. Messaging and collateral emphasize the value of the offering to the project and its residents, and the importance of sustainability and financial leverage in winning highly competitive funding solicitations. Figure 6 demonstrates the priority targets for AHNC outreach and marketing, proceeding out from decision-making authority to various types of influence on project design and finance.

Figure 6 Priority targets for AHNC outreach and marketing



Encouraging repeat participation is a key strategy for filling the AHNC project pipeline with high quality projects. Many developers and design teams are repeat participants in the program, who then provide personal testimonials and referrals to other parties. AHNC has supported successful projects in recent years; this track record, combined with consistent outreach and engagement, has enhanced the industry's confidence and credibility in the AHNC offering. The implementation outreach team regularly follows up with past participants to learn about project pipeline and encourage teams to (re)apply.

Innovation

The program will stay on top of the latest in new construction practices and technologies, such as thin triple paned windows, gas heat pump technologies, hybrid designs, on-site renewables, microgrids, community designs, and other innovations. The program will look to include these technologies in its

measure mix as they are incorporated into the Illinois TRM or deemed acceptable as custom measures through third-party evaluators.

Eligible Measures

The available measures are listed in the measure summary report in Appendix A. The key measures in AHNC include:

- High-Performance Windows
- Reduced Infiltration
- Reduced Thermal Bridging
- High-Performance HVAC Equipment
- High-Performance Fans
- Efficient Ventilation
- Advanced HVAC Controls
- High-Performance Interior Lighting
- Interior Lighting Controls
- High-Performance Exterior Lighting
- High-Performance Water Heating Equipment
- Hot Water Conservation
- Efficient Appliances

Please see the measure summary report for more details.

Program Targets

The program budget and savings targets are provided in Table 17 below. Please note the figures are rounded to thousands.

Table 17 AHNC Program Targets

THERMS	
Gross Therms	201
Net Therms	201
Lifecycle Gross Therms	4,143
Lifecycle Net Therms	4,143
BUDGET	
Implementation Cost	658
Incentive Cost	544
Total	1,202
\$ / Therm	
\$ / Gross Therm	\$5.98
\$ / Net Therm	\$5.98
\$ / Lifecycle Gross Therm	\$3.45
\$ / Lifecycle Net Therm	\$3.45
COST EFFECTIVENESS	
TRC	3.99
PAC	1.21

4 Commercial Programs

4.1 Commercial Program Overview

This chapter describes the Nicor Gas Energy Efficiency Program's proposed portfolio for commercial energy efficiency offerings, which target commercial, industrial and public sector segments. The commercial portfolio includes rebates, assessments, custom incentives, strategic energy management and new construction offerings. As emerging technologies are vetted, they may be incorporated as new measures in the portfolio. Nicor Gas will look to partner with commercial customers for pilot locations to test and research new technology, including gas heat pump technology, for example.

Public sector customers can take advantage of the same measures and services as the other commercial customers. The Program will utilize unique strategies to educate and engage public sector customers. This may include targeted messaging on bill inserts, digital ads and other mediums to show how public sector customers can participate. The minimum spending targets are determined according to Section 8-104 guidelines. A minimum of 10% of Nicor Gas Energy Efficiency Program portfolio spending must be allocated to public sector measures and offerings. As described in Section 1.9 the minimum public spending target is \$4.57 million per year.

4.2 Business Energy Efficiency Rebates Program

Objective

The Business Energy Efficiency Rebates (BEER) program's goal is to produce natural gas savings in the commercial, public, and industrial sectors by encouraging customers to make energy-saving improvements and offering incentives for qualifying upgrades. This offering also provides free energy assessments to identify energy-saving opportunities, install free energy-saving products on-site, and provide a customized report of efficiency recommendations.

Target Market

The target market for this program is commercial, industrial, and public sector customers that are either using 60,000 therms or more per year or are part of a corporate-owned enterprise with more than 10 locations. Customers using less than 60,000 therms per year are served through our Small Business offering (Section 4.5). Program managers also have the discretion to adapt program eligibility to ensure that customers receive assessments and other services that meet their business needs.

Collaboration

The program will be primarily delivered by Nicor Gas, with collaboration from the other Illinois utilities when appropriate. The commercial food service offering will be managed jointly with the four other Illinois investor-owned utilities.

Offerings

The four BEER offerings include assessments, rebates, commercial food service (CFS), and business optimization (BOP).

Nicor Gas provides free energy assessments that introduce customers to energy efficiency, provide technical assistance and identify efficiency opportunities. Energy Advisors provide tailored customer-facing reports that summarize assessment findings and make recommendations for energy-saving projects. Where customers are interested, assessments will address GHG reductions or other customer sustainability goals in addition to natural gas savings. During the assessment, Energy Advisors can also

install free energy-saving products such as showerheads, faucet aerators, laminar flow aerators, salon sprayers, weatherstripping, and indoor pipe insulation. Customers may also take advantage of virtual assessments, which includes free products shipped to their site for self-installation.

Business rebates include four categories of measures:

- Space and water heating rebates include furnaces, boilers (condensing and non-condensing), infrared heaters, condensing unit heaters, direct fire space heaters, ENERGY STAR® storage water heaters and programmable thermostats.
- Steam trap rebates include commercial, dry cleaner and industrial/process steam traps.
- Key efficiency improvement rebates include boiler reset controls, pipe insulation, pool/spa cover, ozone laundry, clothes dryer modulation controls, demand-controlled ventilation, compressed air heat recovery, tank insulation, and green door hinges.
- Boiler tune-ups are available every 36 months for process and space heating boilers.

Nicor Gas is transitioning to deliver CFS rebates directly to equipment distributors. By providing these “midstream” rebates, instead of the more typical “downstream” rebates for individual end users, Nicor Gas increases market influence and market reach. Nicor Gas leverages the relatively limited number of distributors in Northern Illinois to promote measures and pass along rebates to all customers purchasing equipment. CFS equipment includes conveyor ovens, infrared rotisserie ovens, rack ovens, infrared charbroilers, infrared salamander broilers, infrared upright broilers, bottom-finned stock pots, pasta cookers and pre-rinse spray valves. There are also rebates for ENERGY STAR® certified equipment, including combination ovens, convection ovens, commercial steamers, fryers, and griddles.

The BOP offering provides a free suite of measures that optimize boiler system performance. The free offering targets customers who may not be financially able to implement other more expensive measures or may not have energy efficiency as a current strategy. The offering targets commercial and public sector customers, with a special focus on businesses located in income-qualified communities. The measures include, but are not limited to, pipe insulation, steam traps, steam trap surveys and boiler tune-ups.

Delivery Strategy

Prescriptive measures are marketed to customers through a combination of market push and pull strategies as well as trade ally engagement. These efforts stimulate demand, while simultaneously increasing market provider investment in stocking and promoting high-efficiency products.

The overall delivery strategy consists of:

- Reaching and educating business customers with focused marketing and implementation tactics
- A simple-to-follow and streamlined process to performing energy assessments and equipment upgrades, retrofits and tune-ups which are designed to target known market barriers
- Project facilitation supported by an experienced, knowledgeable, and motivated team of trade allies and engineers to ensure recommended energy efficiency projects are completed and installed correctly
- Knowledgeable and accessible customer support and outreach staff capable of directly addressing customer and trade ally inquiries, while escalating and directing other inquiries as necessary

Marketing and Outreach Strategy

The driving force behind the BEER offering is a combination of direct marketing to customers and effective outreach to trade allies (installing contractors, distributors, manufacturers, etc.) and other partners (municipalities, park districts, community organizations, etc.) to increase program engagement.

Trade ally participation is key to achieving our program goals. The Implementation Contractor and Nicor Gas trade ally outreach teams support trade allies by:

- Educating trade allies about the offerings and providing program support via calls, emails, in-person meetings, webinars, training events and/or virtual meetings
- Providing tools and resources to help the trade ally provide a great customer experience
- Supporting/attending trade ally events, trainings, conferences and other industry events
- Hosting roundtable meetings which are used to share program information and solicit feedback from the participating contractors
- Recruiting non-Contractor Circle members to encourage them to join the network

The offering will also use targeted marketing tactics (emails, mail and direct outreach) to motivate business customers, facility owners and property managers. Targeting will take into consideration customers with GHG reduction or other sustainability goals.

Nicor Gas will also explore opportunities to engage customers who use commercial kitchen equipment in their business (e.g. restaurants and institutional kitchens), as well as the trade allies and professional organizations that work with these types of customers.

Innovation

The program may incorporate measures developed through the innovation programs described in Chapter 5, as well as new delivery strategies developed through continuous improvement activities. New technologies include venturi steam traps, green door hinges, boiler water descaling and infrared heaters. New delivery approaches include the BOP and CFS midstream offerings, as well as virtual assessment approaches.

The program will also stay on top of the latest commercial and industrial technologies, such as gas heat pump technologies, ventilation air deflectors, hybrid designs, on-site renewables, and other innovations. The program will look to include these technologies in its measure mix as they are incorporated into the Illinois TRM or deemed acceptable as custom measures through third-party evaluators.

Eligible Measures

The available measures are listed in the measure summary report in Appendix A. The key measures in the BEER program include:

- Steam traps, including Venturi steam traps
- Pipe and tank insulation
- High efficiency HVAC and water heating equipment
- Air compressor heat recovery
- Commercial kitchen equipment

- HVAC and mechanical tune ups
- Controls such as demand-controlled ventilation, hot water circulation, thermostats
- Commercial dryer controls and Ozone laundry

Program Targets

The program budget and savings targets are provided in Table 18 below. Please note the figures are rounded to thousands.

Table 18 BEER Program Targets

THERMS	
Gross Therms	16,506
Net Therms	14,698
Lifecycle Gross Therms	139,125
Lifecycle Net Therms	122,865
BUDGET	
Implementation Cost	7,800
<u>Incentive Cost</u>	5,981
Total	13,781
\$ / Therm	
\$ / Gross Therm	\$0.83
\$ / Net Therm	\$0.94
\$ / Lifecycle Gross Therm	\$10.10
\$ / Lifecycle Net Therm	\$8.92
COST EFFECTIVENESS	
TRC	8.58
PAC	2.90

4.3 Custom Incentives Program

Objective

The purpose of the Custom Incentives (Custom) program is to assist medium to large commercial, industrial and public sector customers in identifying and implementing cost-effective gas-saving measures that are not otherwise addressed in Nicor Gas' BEER or Small Business offerings. Custom projects may include, but are not limited to, Combined Heat and Power (CHP) systems, process heat recovery technologies, other low-emissions technologies such as gas heat pumps, and more. Additionally, the Custom program offers retro-commissioning (RCx), which aims to optimize operations and improve building efficiency by returning facilities to their intended operation or design specifications.

Target Market

The target market for this program is commercial, industrial, and public sector customers that are either using 60,000 therms or more per year, or the customers who belong to a corporate-owned enterprise with 10 or more locations. Program managers also have the discretion to adapt program eligibility to ensure that customers receive assessments and other services that meet their business needs.

Collaboration

The program will be delivered by Nicor Gas in coordination with ComEd and Ameren (RCx and CHP).

Offerings

There are several offerings within the Custom program. Nicor Gas provides custom assessments and engineering studies that help customers understand their energy efficiency opportunities by quantifying the estimated project costs, potential energy savings and forecasted incentives. Technical assistance is provided to customers or their contractors to help quantify the energy-saving opportunity and the customized incentives for specific projects.

The Custom program also provides cash incentives and technical assistance to help customers identify and implement energy efficiency retrofit opportunities that are not covered by other business energy efficiency offerings. These projects involve unique or process-related equipment or multiple measures with interactive effects that do not qualify under the prescriptive program. Performance-based incentives are provided to customers working on larger-scale projects. Custom incentives are typically higher than prescriptive rebates and are based on energy savings or engineering analysis.

The RCx offering helps customers identify and implement low- and no-cost measures to improve efficiency of existing buildings. Services are delivered through a closed network of RCx trade ally service providers that have been trained in program protocols and processes. For smaller facilities, RCx providers conduct a targeted assessment of areas with substantial energy-saving opportunities, such as packaged HVAC units. Larger facilities are eligible to receive a more comprehensive assessment of building systems and controls. This program includes a strong customer education component to promote the value of retro-commissioning, targeting senior management and decision-makers as well as facility operations and maintenance staff. Such education is provided through program outreach, assessment activities and the trade ally, and is also supported through market conditioning efforts.

Delivery Strategy

The program will be primarily delivered by a program implementation contractor (IC).

Energy efficiency assessments or engineering studies may be performed in-person or virtually by the IC or third-party engineering consultants. These studies will be subject to Nicor Gas pre-approval and quality review to ensure the accuracy of savings and incentives calculations. Where customers are interested, assessments may address GHG reductions or other customer sustainability goals in addition to natural gas savings. Nicor Gas may also partner with electric utilities to coordinate efforts and provide more comprehensive (both gas and electric) assessments of efficiency opportunities and reduce the overall study costs.

Custom projects require:

- Collection of facility data
- Pre-approval application (must be submitted for review prior to equipment purchase/installation)
- Site inspection (in some cases, there will be an on-site inspection of existing equipment)
- Pre-approval acknowledgement by program implementer (customer can proceed with equipment purchase/installation)
- Installation confirmation and final approval application (invoices, cost documents, measures installed, etc.)

- Final approval acknowledgement by program implementer (calculation of therm savings, final incentive payments)

For the RCx offering, the IC will oversee activities conducted by participating RCx providers, review studies, provide independent evaluation of savings estimates and provide post-installation verification.

Key elements of RCx implementation include:

- Recruitment and pre-screening: The implementer recruit customers and pre-screen applications to determine if the project qualifies under the program criteria.
- Initial project assessment: The implementation contractor and selected RCx service provider meet with the customer to determine if enough potential savings exist to merit participation.
- Formal agreement: In this agreement, the customer commits to spend a certain amount to implement a bundle of measures, such that the complete project has a pre-specified payback, and the project must be completed in a pre-specified time limit.
- RCx study: The RCx provider will conduct an in-depth analysis of the measures selected by the customer to generate the diagnostic and calculation report.
- Implementation: The customer implements the measures according to the report. Nicor Gas does not provide an incentive to assist with implementation costs.
- Measurement and Verification (M&V): The IC or an evaluation contractor will return to the project site to verify savings. If measures are not implemented in accordance with the agreement, the customer will be responsible for repayment of all study costs and incentives received.

Finally, the Custom program will offer incentives for related projects installing equipment such as CHP systems. CHP activity continues to build; the offering has had one feasibility study in 2018, seven in 2019 and 11 in 2020 resulting in one installation in 2019 and one installation in 2020, with more to come. Based on DOE projections, Nicor Gas expects that the CHP market will continue to grow into the 2022-2025 plan cycle.

Marketing and Outreach Strategy

Similar to the BEER program, the driving force behind the Custom offering is a combination of direct marketing to customers and effective outreach to partners such as trade allies, distributors, manufacturer, local community groups, associations and trade associations.

Nicor Gas' internal staff, as well as the IC, will look to drive more participation to this program through outreach activities to pre-screened customers. Screening will take into consideration customers with GHG reduction or other sustainability goals. The IC will also conduct outreach to key market influencers, such as trade allies, trade associations, energy service companies (ESCOs), engineering firms and architects. Outreach may be in the form of meetings, webinars, calls/email, training seminars, trade shows, events or educational strategies. Nicor Gas expects that some participation will come from cross referrals from other programs such as the standard rebate offering.

Trade Ally (installing contractors, distributors and manufacturers) participation will also be key to achieving our program goals. The IC and the Nicor Gas trade ally outreach teams support trade allies by:

- Educating trade allies about the offerings and providing program support via calls, email, in-person meetings, webinars, training events and/or virtual meetings
- Providing tools and resources to help trade ally provide a great customer experience

- Supporting/attending trade ally events, training, conference, and other industry events
- Hosting roundtable meetings which are used to share program information and solicit feedback from the participating contractors
- Recruiting non-Contractor Circle members to encourage them to join the network

We will also use targeted marketing tactics (emails, mail and direct outreach) to motivate business customers, facility owners, and property managers to take part in the program.

Innovation

The program may also incorporate measures developed through the innovation programs described in Chapter 5, as well as new delivery strategies developed through continuous improvement activities. The program will also stay on top of the latest technologies and look to include these technologies in its measure mix as they are incorporated into the Illinois TRM or deemed acceptable as custom measures through third-party evaluators.

Eligible Measures

The available measures are listed in the measure summary report in Appendix A. The key measures in the Custom program include:

- Customized projects
- Retro-commissioning and process heating projects
- Combined Heat and Power (CHP)
- Gas heat pumps
- Please see the measure summary report for more details.

Program Targets

The program budget and savings targets are provided in Table 19 below. Please note the figures are rounded to thousands.

Table 19 Custom Program Targets

THERMS	
Gross Therms	7,745
Net Therms	6,233
Lifecycle Gross Therms	128,958
Lifecycle Net Therms	102,740
BUDGET	
Implementation Cost	8,285
Incentive Cost	9,290
Total	17,575
\$ / Therm	
\$ / Gross Therm	\$2.27
\$ / Net Therm	\$2.82
\$ / Lifecycle Gross Therm	\$7.34
\$ / Lifecycle Net Therm	\$5.85
COST EFFECTIVENESS	
TRC	2.67
PAC	1.94

4.4 Strategic Energy Management Program

Objective

The objective of the Strategic Energy Management (SEM) program is to obtain energy savings by focusing on improving and optimizing commercial, industrial and public sector processes and energy equipment. Cohorts are grouped according to building type, including, K-12 schools, universities, hospitals, large businesses and more.

Target Market

The target market is medium to large commercial, industrial and public sector customers. There is also the potential for SEM to be expanded to the large multi-family and community sectors, both private and public.

Collaboration

It is the intent of Nicor Gas to offer this program jointly or in collaboration with other regional electric and municipal utilities.

Offerings

The SEM offering has primarily been a coordinated program with ComEd, and there is potential for coordinated programs that include Peoples Gas and North Shore Gas (with ComEd and Nicor Gas)

and/or Ameren Illinois (with Nicor Gas). The offering is delivered in small cohorts (10-12) of customers of similar size who use a significant quantity of natural gas and electricity annually. The cohort members work together with the program staff for one year and jointly determine operational, process and equipment efficiency opportunities in their respective facilities. The participating customer group includes an executive or leader of the organization. Each cohort customer group nominates an internal energy champion who acts as the site project manager and is responsible for driving operational and process efficiencies in his or her facility. This champion partakes in the program training and is responsible educating and sharing this information with others in their respective organizations.

SEM provides a high level of customer support, including coaching, engineering, and energy modeling. SEM aims to generate process and behavior savings at customer facilities by focusing on waste reduction, process improvement, and lean principle applications toward energy usage. Organizational and behavior changes are promoted within program design, which includes workshops, webinars, resources and tools, one-on-one coaching, and support on building the organization's own energy practices. The SEM services are provided at no cost to the participating customers. SEM assists participating customers with integrating energy efficiency disciplines into their business and explains the cost of energy in their products and services as part of their business operations. The offering also drives more customer participation in the prescriptive rebate and custom incentive programs as they implement additional energy-saving measures.

Delivery Strategy

Nicor Gas and ComEd work with the implementation contractor (IC) to identify and recruit 10 to 12 customers into a cohort. The IC, Nicor Gas and partner utilities meet with the customer's staff to present program benefits and expectations. The customer will have the opportunity to express what they see as advantages or challenges of participation. Program materials are used to assist with the decision-making process, including an Executive Sponsor Roadmap, which outlines specific activities and the time commitment involved in the SEM program. The value of SEM begins with identifying energy cost-reduction opportunities, then linking the recommendations to other (often more important) business objectives, such as equipment reliability, reduced maintenance costs, sustainability, GHG reduction, and employee productivity and comfort.

The first year is the most intensive, consisting of workshops/activities as well as establishing energy models. The SEM program engages the participants' designated energy champion, executive sponsor, and energy team members in meetings and peer-to-peer training sessions that will typically occur on a monthly basis during the first SEM program year and on a quarterly basis during the optional subsequent years of SEM. Participants agree to send at least two staff to each session, and to actively participate in these sessions, including presenting on relevant topics or progress.

The SEM coach conducts the workshops, manages model development and program coordination, and interfaces with participants at all on-site events and group workshops. The SEM energy manager's function, with guidance from the SEM coach, will be to assist and supplement the site energy champion and team in front-end research and scoping, service provider identification and vetting, bid evaluation, data collection, cost benefit analysis, project write-up and funding request, project management and tracking, and project close out.

The IC tracks energy savings by creating baseline statistical energy models and regularly updating each model throughout the engagement. The IC's internal model development process ensures creation of the best-fitting and most user-friendly energy model. The model development process includes data

discussion, collection, alignment and normalization, prototype modeling, including analysis of missing or anomalous data, variable distribution, time series charts, outlying data points, scatterplots, and correlation between variables. Final modeling includes the analysis of autocorrelation, regression outliers, residual values and distributions, and model limitations.

After the measurement period concludes, the IC prepares a final report for each participant. The final report includes an overview about the participant's involvement in the SEM process, feedback from the participant, documentation of completed energy-saving activities (including GHG reduction and other sustainability objectives), as well as a summary of statistical basis and rationale for the baseline model savings and calculations.

After the first year, participants can continue their energy-saving journey by establishing additional SEM processes, working on projects and tracking savings using the energy models created in year one by joining the Alumni cohort. The Alumni program includes maintaining energy models and compiling savings reports, conducting regular workshops and specific topic of interest interactive webinars, regular remote check-in meetings and an annual needs assessment for each participant. Depending upon individual needs, one-on-one SEM coaching will be available to orient new energy champions, executive sponsors and team members. One-on-one energy manager support will also be available for this cohort.

Marketing and Outreach Strategy

Given that this offering targets Nicor Gas' larger therm users, most of the customer participation will be accomplished through existing relationships developed by Nicor Gas' account management and Nicor Gas Energy Efficiency outreach teams. The program will be targeted to business and public sector customers, including facility owners and property managers. Targeting may take into consideration customers with GHG reduction or other sustainability goals.

The marketing team will play a role in reviewing the IC-developed collateral and aiding in other marketing needs, such as events.

Innovation

The program may incorporate measures developed through the innovation programs described in Chapter 5, as well as new delivery strategies developed through continuous improvement activities. The program will also stay on top of the latest technologies and methods for long-term energy savings.

Eligible Measures

The available measures are listed in the measure summary report in Appendix A. The key measures in the SEM Program include:

- Low-cost/no-cost behavior savings
- Identification of potential Prescriptive and Customized projects and savings, which if not claimed by these programs, will be claimed as SEM savings

Please see the measure summary report for more details.

Program Targets

The program budget and savings targets are provided in Table 20 below. Please note the figures are rounded to thousands.

Table 20 SEM Program Targets

THERMS	
Gross Therms	3,158
Net Therms	3,158
Lifecycle Gross Therms	15,789
Lifecycle Net Therms	15,789
BUDGET	
Implementation Cost	1,110
Incentive Cost	2,630
Total	3,740
\$ / Therm	
\$ / Gross Therm	\$1.18
\$ / Net Therm	\$1.18
\$ / Lifecycle Gross Therm	\$4.22
\$ / Lifecycle Net Therm	\$4.22
COST EFFECTIVENESS	
TRC	4.51
PAC	1.29

4.5 Small Business Program

Objective

The Small Business (SB) program obtains long-term natural gas savings for small business and public sector gas customers by providing financial incentives, information, and direct installation of energy-saving products to overcome key market barriers.

Target Market

The target market for this program is Nicor Gas commercial and public sector customers using up to 60,000 therms of gas annually. While any small business customer can receive program services, the program targets customers with substantial heating and water heating loads, including dry cleaners and other customers with boiler systems. Program managers also have the discretion to adapt program eligibility to ensure that customers receive assessments and other services that meet their business needs. (For example, some customers with relatively low gas usage may be best served by the assessment provided under the BEER and Custom programs.)

Collaboration

The program will be primarily delivered by Nicor Gas with potential collaboration with other Illinois utilities.

Offerings

This program will provide small commercial and public sector gas customers with two primary options to participate: rebates for installing energy-efficient improvements and assessments that provide energy education along with installation of free energy-saving products.

Rebates incentivize customers to install energy-efficient equipment or make energy-saving improvements. Small business rebates include five categories:

- Space and water heating rebates include furnaces, boilers (condensing and non-condensing), Infrared heaters, condensing unit heaters, direct fire space heaters, ENERGY STAR® storage water heaters, and programmable thermostats.
- Steam trap rebates include commercial, dry cleaner and industrial/process steam traps.
- Key efficiency improvement rebates include measures such as boiler reset controls, pipe insulation, pool/spa cover, ozone laundry, clothes dryer modulation controls, demand-controlled ventilation, heat recovery, tank insulation, and green garage hinges.
- Boiler tune-ups are available every 36 months for process and space heating boilers.
- Commercial food service equipment is also available to small business customers within the midstream CFS offering described as part of the BEER program in Section 4.2.

The second option is the free energy assessment, which introduces customers to energy efficiency, provides technical assistance, identifies energy-saving opportunities, and prioritizes energy efficient improvements. Customers are given a customized energy report that aligns with the rebates available for small business customers. Small business customers may also qualify for custom incentives for large energy-saving projects. These assessments are offered in-person or virtually.

During the assessment, Energy Advisors may install free energy-efficient products that result in immediate energy savings. Measures may include high-efficiency bathroom and kitchen aerators, showerheads, pre-rinse spray valves, salon sprayers, laminar flow aerators, weatherstripping and pipe insulation. In a virtual assessment, these measures may be delivered to the customer for self-installation.

The assessment and installation of energy-efficient products are implemented with the following objectives:

- Introduce small business customers to Nicor Gas Energy Efficiency offerings
- Educate small business customers about the benefits of energy efficiency
- Help customers take the next steps on their energy efficiency journey by providing leave-behind materials including the assessment report
- Produce long-term energy savings by incentivizing customers to do the recommended work
- Deliver immediate gas and energy savings for the small business sector through direct installation of energy-saving low-cost measures

Unlike large commercial businesses that may have access to greater technical and financial resources, the small business sector has limited access to specialized resources to help them undertake energy efficiency projects. Small businesses generally benefit from the assessment and direct install turn-key approach, where a single contractor conducts an audit to identify and install appropriate gas measures. Small business customers will also be eligible to finance program measures through the Nicor Gas On-Bill Financing program.

In coordination with the Market Development Initiative (MDI) described in Section 6.7, Nicor Gas will test new program strategies aimed at weatherizing small businesses in disadvantaged communities as well as targeting programs to restaurants and other businesses impacted by the Covid-19 pandemic. While the main program delivery costs for these strategies will be covered within MDI, incentive costs and savings associated with installed measures will be tracked as part of the small business or other appropriate program.

Delivery Strategy

SB will be primarily delivered by a program implementation vendor. The vendor will contract with individual installation vendors and regional trade allies to conduct outreach to customers and provide turn-key installations. The overall delivery strategy includes:

- Reaching and educating the small business customers through focused marketing and implementation tactics
- A simple-to-follow and streamlined process to performing energy assessments and equipment upgrades, retrofits, and tune-ups, designed to target known small business market barriers
- Project facilitation supported by an experienced, knowledgeable, and motivated team of trade allies and engineers to ensure recommended energy efficiency projects are completed and installed correctly
- Knowledgeable and accessible customer support and marketing staff capable of directly addressing customer and trade ally inquiries, while escalating and directing other inquiries as necessary
- Cost-effective quality assurance and verification activities to ensure installed savings are realized

Marketing and Outreach Strategy

Several communication strategies will be employed to drive participation. Efforts include targeted marketing by mail and email, and outreach to key influencers such as Chambers of Commerce and neighborhood and regional trade associations. Additionally, outreach efforts are aimed at targeted economic development organizations, events, and follow up on referrals by Nicor Gas' internal staff. Trade allies, distributors, manufacturers, and other industry stakeholders will be educated about the program's purpose, requirements, and incentives so they can help promote and support our efforts.

Innovation

The program incorporates measures developed through the innovation programs described in Chapter 5, as well as new delivery strategies developed through continuous improvement activities. New technologies include venturi steam traps, green door hinges, boiler water descaling, and radiator replacements. New delivery approaches include virtual assessments.

The program will also stay on top of the latest technologies for small businesses, such as gas heat pump technologies, ventilation air deflectors, and other innovations. The program will look to include these technologies in its measure mix as they are incorporated into the Illinois TRM or deemed acceptable as custom measures through third-party evaluators.

Eligible Measures

The available measures are listed in the measure summary report in Appendix A. The key measures in the SB program include:

- Steam traps
- Commercial water heating equipment
- Customized projects
- High efficiency HVAC equipment and tune ups
- Pipe and tank insulation
- Controls such as DCV, hot water circulation, thermostats
- Commercial dryer controls and ozone laundry
- Air compressor heat recovery

Please see the measure summary report for more details.

Program Targets

The program budget and savings targets are provided in Table 21 below. Please note the figures are rounded to thousands.

Table 21 SB Program Targets

THERMS	
Gross Therms	5,295
Net Therms	4,420
Lifecycle Gross Therms	39,182
Lifecycle Net Therms	32,857
BUDGET	
Implementation Cost	3,615
<u>Incentive Cost</u>	3,265
Total	6,880
\$ / Therm	
\$ / Gross Therm	\$1.30
\$ / Net Therm	\$1.56
\$ / Lifecycle Gross Therm	\$5.69
\$ / Lifecycle Net Therm	\$4.78
COST EFFECTIVENESS	
TRC	4.92
PAC	1.53

4.6 Commercial and Industrial New Construction Program

Objective

The objective of the Commercial and Industrial New Construction (CINC) program is to obtain energy savings during the design and construction of new buildings, major renovations of existing buildings, and tenant buildouts in the commercial, industrial, large multi-family (five units or more), and public sector markets. Through collaboration with other Illinois utilities, this comprehensive regional new construction program captures both gas and electric savings for commercial, industrial, large multi-family and public sector projects.

Target Market

The target market for CINC includes builders, developers, designers, engineering, and architecture firms involved in the construction of new commercial, industrial, large multi-family and public sector buildings. The program will target new construction projects, as well as major renovation projects, in the early phase of design.

Collaboration

It is the intent of Nicor Gas to offer this program in collaboration with regional electric and municipal utilities.

Offerings

CINC provides financial incentives and technical assistance to help building owners and design teams exceed the current energy codes.

CINC targets projects that are early in design to maximize opportunities to employ high-performance building design strategies. There are two pathways to participate. The Best Practices pathway is a prescriptive approach, designed for fast-moving, developer-led projects. This option includes a pre-determined list of measures for specific building types along with resources and guidelines for how to best implement the measures. Incentives are on a per-square-foot basis for implementing the curated package of measures with optional advanced measures. Available building types include warehouse and industrial, large multi-family and assisted living, office, retail, and grocery. The design team can receive an incentive of \$1,000 + 2% of the owner's incentive for accurate submission of the program's design workbooks.

The Performance Path offers a custom hands-on technical approach to new construction projects. This pathway influences the incorporation of high-performance design strategies by using whole building energy simulation to optimize building design for energy performance. Modeling results include incentive amounts for exceeding the current IL Energy Code and annual energy cost-savings estimates. This allows the design team to identify design strategies and technologies that will take their building design further and have the greatest impact on the building's energy use. An additional design incentive is available for the design team through High Performance Design Incentive.

This offering is available for new construction, addition/expansion and major renovation projects in the commercial, industrial, multi-family and public sector markets. Buildings must be at least 5,000 square feet to qualify for participation. Project plans must include (for joint gas and electric service territories) the improvement of at least two major building systems including lighting, primary HVAC equipment, envelope or qualified refrigeration systems.

Delivery Strategy

Most projects are proactively recruited into CINC through targeted outreach efforts. The outreach team identifies project leads through existing relationships in the northern Illinois design community and by monitoring industry publications and subscription services such as Construction Wire, Curbed Chicago, and Crane's Real Estate Daily. The team leverages relationships with local trade associations such as AIA Chicago, ASHRAE Illinois and Illinois Green Alliance to identify projects that are good candidates for the offering.

Encouraging repeat participation is a key strategy for filling the project pipeline with high-quality projects. In the new construction market, project timelines are long and windows for design influence can be short. Serving this market with credible technical assistance requires established relationships and trust early on. Repeat customers are more familiar with program requirements and value the program's technical assistance offerings and incentives.

CINC provides a high level of technical and analytical support that differentiates it from similar programs in other parts of the country. Where many other commercial new construction programs place the burden of technical analysis on the customer or members of the design team, this offering provides energy modeling and technical consulting as a free service to program participants. This approach is grounded in the reality that energy efficiency is usually lower on the priority list than other design objectives, and financial incentives represent a small fraction of the overall construction budget.

The program is designed to minimize paperwork, simplify the participation process, and deliver rigorous technical information on energy efficiency opportunities at the appropriate time in the design process.

The technical assistance offering is tailored to meet the needs of an individual project. Technical assistance may include any of the following elements:

- Conceptual energy modeling to evaluate tradeoffs early in the design process
- Preliminary recommendations based on industry best practice
- Full energy modeling, quantifying energy savings as well as savings impacts from interactive effects
- Scaled energy modeling (custom spreadsheet analysis)
- Energy model output listing baseline assumptions, recommended energy conservation measures, estimated energy savings, cost savings and financial incentives
- Participation in project meetings with design team and customer
- Presentation/explanation of the energy modeling results to team
- Design assistance
- Research and information on specific energy-saving technologies

Marketing and Outreach Strategy

The implementation contractor will primarily be responsible for the marketing efforts of this program. The Nicor Gas Energy Efficiency team will provide support as needed. The program will be marketed to building owners and managers, design professionals, trade allies and contractors. Outreach to building owners and managers will be accomplished through case studies, direct marketing, trade ally trainings, education events and Nicor Gas account executive contact or EEP marketing contact.

Marketing to the design professionals, trade allies and contractors will focus on securing involvement in projects early in the design phase. It will stress the value add that better, more efficient buildings can have for their customers and their businesses.

Innovation

The program will stay on top of the latest in new construction practices and technologies, such as thin triple paned windows, gas heat pump technologies, hybrid designs, on-site renewables, microgrids, community designs, and other innovations. The program will look to include these technologies in its measure mix as they are incorporated into the Illinois TRM or deemed acceptable as custom measures through third-party evaluators.

Eligible Measures

The available measures are listed in the measure summary report in Appendix A. The key measures in the CINC program include:

- Large Commercial New Construction
- Bonus Incentives

Please see the measure summary report for more details.

Program Targets

The program budget and savings targets are provided in Table 22 below. Please note the figures are rounded to thousands.

Table 22 CINC Program Targets

THERMS	
Gross Therms	862
Net Therms	465
Lifecycle Gross Therms	17,756
Lifecycle Net Therms	9,588
BUDGET	
Implementation Cost	1,703
<u>Incentive Cost</u>	406
Total	2,109
\$ / Therm	
\$ / Gross Therm	\$2.45
\$ / Net Therm	\$4.53
\$ / Lifecycle Gross Therm	\$8.42
\$ / Lifecycle Net Therm	\$4.55
COST EFFECTIVENESS	
TRC	3.39
PAC	1.60

5 Innovation Programs

5.1 Innovation Program Overview

There is no one-size-fits-all solution for energy efficiency. Residential customers use energy differently than multi-family customers; industrial customers use energy differently than small businesses. Our solutions must be as diverse as our customers' needs. The Nicor Gas Energy Efficiency Program must continue to innovate and introduce new ideas and options that benefit our customers.

The Nicor Gas Energy Efficiency Program will employ emerging technologies and market transformation tools and techniques to integrate innovation into its offerings. These initiatives will play a critical role in identifying and demonstrating innovative energy efficiency technologies and enabling cost-effective natural gas energy efficiency savings. Understanding these technologies will allow Nicor Gas to identify market barriers, develop market intervention strategies and accelerate adoption of energy efficiency products or services that create lasting change.

Since the inception of an energy efficiency statute in Illinois, the State Legislature has adopted a policy that invites innovation and additional research. The Legislature understood program administrators would need access to less traditional mechanisms and methods to overcome certain market barriers; and they elected to allow program administrators to spend a capped amount of the overall portfolio costs for breakthrough equipment and devices, as well as market transformation initiatives. Section 8-104 of the Act affords program administrators up to 3% of the portfolio budget to be dedicated to breakthrough equipment and devices and up to 5% of the portfolio budget to be dedicated toward market transformation initiatives.

While today's energy efficiency program model has resulted in measurable end-use emissions reductions, we recognize that sustained change requires an even more comprehensive and innovative approach. It requires looking at all sectors and customer types throughout the entire customer lifecycle, from a developer building a new home in our territory, to a customer turning on gas service for the very first time, to a customer who is well-acquainted with energy efficiency and is looking for the next great savings opportunity. It necessitates a market perspective that identifies barriers and develops interventions to overcome them. Leveraging and developing new technologies and transforming markets can propel all efforts forward well beyond the life of this four-year plan. Nicor Gas has listened to stakeholders, is observant of the changes occurring around us all, and keenly aware that the EE Program must do much more than simply deliver cost effective therms. The programs within this chapter are a major part of our strategy to meet these goals.

5.2 Emerging Technology Program

Nicor Gas recognizes the profound significance that innovation plays in delivering an impactful energy efficiency portfolio to our customers, the Northern Illinois region, the broader U.S., and the world. Energy efficiency is not an isolated program or effort. The innovations developed through the Nicor Gas portfolio intersects and impacts:

- a) All customers large and small by helping reduce natural gas usage, and thus saving money and reducing greenhouse gas emissions;
- b) Income-qualified customers such as seniors, veterans and disadvantaged communities that cannot afford to be left behind in the energy efficiency movement;
- c) Regional, national and global decarbonization efforts to reduce greenhouse gas emissions, and assist Illinois to achieve its climate goals; and,

- d) Innovation involving new technologies and transforming markets to propel all efforts forward well beyond the life of this four-year plan.

Since 2012, the Nicor Gas Emerging Technology Program (ETP) has successfully screened and tested hundreds of technologies to confirm their natural gas-savings and suitability for inclusion in energy efficiency offerings. Nicor Gas will continue to expand the ETP for 2022-2025 to support adoption of additional energy-saving measures and build on innovations outlined in the Lessons Learned and Future Considerations section of this chapter.

To further reinforce the path from research and development (R&D) to widespread customer adoption of energy-efficient solutions, Nicor Gas will continue the state-of-the-art & award-winning Market Transformation (MT) initiative. This will focus on identification and removal of key market barriers to maximize program energy savings. The MT initiative allows Nicor Gas to leverage existing ETP efforts and streamline the path to market for new technology developers, all while providing increasingly cost-effective natural gas saving opportunities for end-use customers.

About the ETP

The primary mission of the ETP is to seek out new or unproven technologies that may be suitable for inclusion in the Nicor Gas Energy Efficiency Program and verify their natural gas savings through field tests and *in-situ* pilot demonstrations. In doing so, the ETP leads the industry by bridging the gap between R&D and widespread customer adoption of energy-efficient solutions. After successfully demonstrating savings, Nicor Gas develops the technologies into new energy efficiency measures to be incorporated into the Illinois Technical Reference Manual (TRM) as prescriptive offerings or to be provided as customized solutions to Nicor Gas customers.

Since its inception in 2012, the ETP has conducted 139 technology evaluations, and approximately 21 of those technologies gained approval for entry into the Illinois TRM as tabulated in the table below.

	Short Technology Name	Measure ID#
1	High Efficiency Commercial Rooftop Units (RTUs)	4.4.11
2	ShowerStart Thermostatic Shower Restriction Valve	5.4.8
3	Multi-family Demand Controls for Central Domestic HW Systems	4.3.8
4	Commercial Ozone Laundry	4.3.6
5	Commercial and Industrial Air Barriers	4.4.33
6	EcoFactor Leapfrog – Smart Thermostat	5.3.11
7	Destratification fan	4.4.34
8	Commercial Dryer Gas Stepping Retrofit by EZ-Efficiency	4.8.4

	Short Technology Name	Measure ID#
9	Moisture Sensor Retrofit for Dryers	4.8.10
10	Residential Ozone Laundry System	5.1.12
11	Spring Loaded Garage Door Hinge	4.8.12
12	Air Deflector for Unit Ventilator (ADUV)	4.4.47
13	Venturi Steam Traps	4.4.16
14	Drain Water Heat Recovery	5.4.11
15	Chemical Boiler Descaling	4.4.49
16	Interior Storm Windows	5.6.7
17	Pipe Insulation	4.4.14
18	Small Commercial Thermostat	4.4.18
19	Heating Load Reduction System (reducing outdoor air)	4.4.45
20	Through-the-wall Condensing Furnace/AC Pac	4.4.40
21	Hydronic Heating Radiator Replacement	4.4.52

These technologies have since translated into over 600,000 therms of gas savings for residential, commercial and industrial customers across Nicor Gas' service territory. The Nicor Gas' ETP has emerged as a national leader and is well-positioned to maintain that standing in the future. Holding a high-profile leadership position is a significant advantage for Nicor Gas, as it opens up collaborative opportunities to leverage limited funds and staff while also advancing the overall market in a direction that is conducive to meeting the goals of the Nicor Gas Energy Efficiency Program.

The ETP's Role in Bringing New Technologies to the Marketplace

The ETP plays a unique role within the Nicor Gas Energy Efficiency Program by bridging the gap between R&D and early customer adoption.

R&D occurs near the beginning of the technology development spectrum, where the focus is on prototype development, laboratory validation and field tests. During R&D, a product has not typically been commercialized. Some performance data may be available but is usually limited in scope and may require additional or large-scale demonstration for measurement and validation, often within specific climates or building types.

After the initial R&D has been conducted by technology developers, the ETP steps in. The ETP's initial efforts seek to identify products that have the potential to reduce customers' natural gas consumption, reduce greenhouse gas emissions, or otherwise assist with broader decarbonization efforts, and could thus be candidates for inclusion in the Nicor Gas Energy Efficiency Program as prescriptive or customized offerings. Conversely, technology developers can also submit their products to the ETP for program consideration. Regardless of how candidate technologies are identified, the ETP assesses a technology's market potential and validates performance and gas savings. Specific activities during this phase include:

- Assessment of a product's commercial readiness
- Evaluation of performance data, benefits, market barriers, costs and availability of service networks
- Deployment of demonstrations and scaled field placements that expand technical and market understanding of performance, reliability, and serviceability
- Development of cost and energy data for use in creating savings goals and greenhouse gas emissions metrics
- Generation of information in support of market transformation activities, with a specific focus on such topics as deployment challenges, training guidelines and contractor relationships
- Recommendation of incentive levels and other components of customer offerings such as identifying whether a measure should be prescriptive versus custom and best practices for installation and calculating savings
- Dissemination of information on products and services that can assist in training, education, and outreach efforts

In addition to the core activities described above, the ETP publishes case studies, supports the Illinois TRM update process, offers trainings and provides best practice guidance on technologies for trade allies, Nicor Gas customers, and other market actors. These efforts help maintain the pipeline of new energy efficient natural gas technologies upon which ETP, the Nicor Gas Energy Efficiency Program, our customers and the broader communities rely to meet energy efficiency and decarbonization goals.

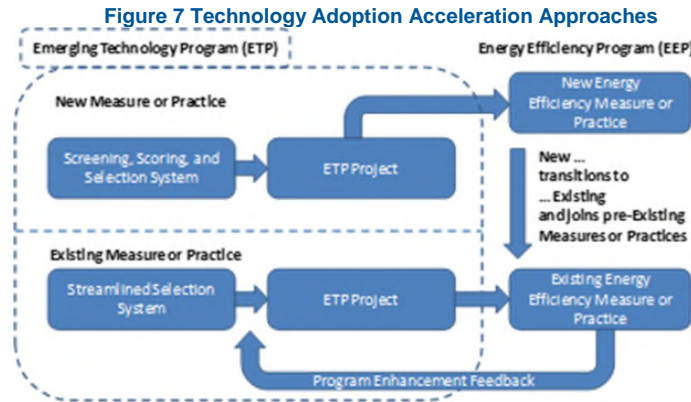
It is important to note that the ETP is not a resource program, meaning there are no energy savings goals for the ETP itself. Rather, ETP conducts research and generates information that leads to informed decision-making within the larger Nicor Gas Energy Efficiency Program. This informed decision-making helps ensure that the Nicor Gas Energy Efficiency Program captures low-risk, cost-effective energy savings while also keeping the program at the forefront of new technology development and innovation.

Two Approaches to Accelerating Technology Adoption

Depending on whether a technology is new to the marketplace or is well-established and merely underutilized, the ETP takes differing approaches (Figure 7) to accelerate widespread adoption:

- ***New measure or practice:*** This path begins by scanning a variety of sources to identify potential emerging technologies and practices that are best positioned to meet the energy efficiency needs of Nicor Gas customers. The ETP team then uses a screening, scoring, and selection system to identify the most promising technologies and practices for review, evaluation, and/or pilot assessment in an ETP project.
- ***Existing measure or practice:*** This path harnesses the collective experience and insights of the larger Nicor Gas Energy Efficiency Program to assess and enhance existing offerings. Key activities may include enhancing program designs, developing new market delivery strategies, improving product offerings, and/or looking into new technology applications.

A streamlined version of the screening, scoring, and selection system, determined on a case-by-case basis, can be used to evaluate any particular EE program enhancement. This streamlined process may also be used for technologies that are determined by the ETP to already have sufficient available data and justification for inclusion in the Nicor Gas Energy Efficiency Program, without the need for an ETP field-based pilot.



The Stage-Gate Process

The ETP utilizes a stage-gate process to advance a technology from early identification to introduction into incentive programs. In the stage-gate process, a technology or product progresses through a series of stages. Between each stage is a gate, where the decision is made whether to allow the technology to continue to the subsequent stage or, if it does not meet the required criteria, it is eliminated or paused.

Initial screening and prioritization occur in the earliest stages of the process where the ETP performs preliminary technology and market assessments. Lab or field studies occur at the later stages, to provide additional data to perform a detailed assessment of the technology and to verify claimed energy savings values. Nicor Gas refers to the stages in this process as “Ready”, “Set”, and “Go”.

1. **Ready Stage:** In the Ready Stage, technology developers or other interested parties fill out an online application and receive immediate feedback based on the information they provide. The application generates a weighted score (Example of possible stage gates in Figure 8) and is an early indicator of a product’s potential viability for eventual inclusion in Nicor Gas Energy Efficiency offerings.
2. **Set Stage:** Once the idea meets the minimum standards to clear the Ready Stage, it proceeds to the Set Stage where a deeper evaluation is performed by the ETP. This evaluation includes an engineering review and analysis of the technology or product, as well as market viability analysis.

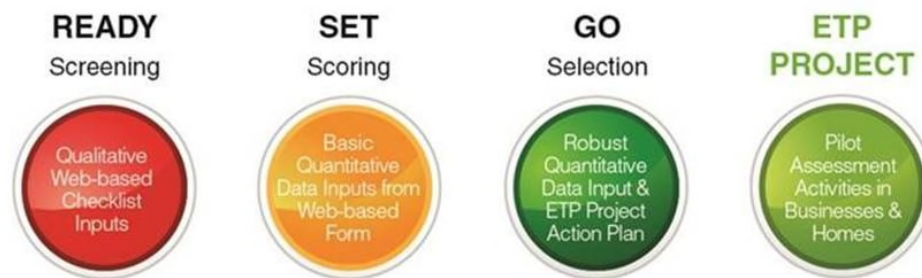
The engineering and technical analysis aims to understand technical details of the proposed idea. The resulting due diligence report determines whether the proposed idea is technologically sound.

The market viability analysis aims to determine market size, target segment, energy and GHG savings potential, and how the product or technology in question meets Nicor Gas Energy Efficiency Program needs. To help inform this analysis, the ETP uses various resources such as

market intelligence data, market characterization analysis, and equipment saturation studies.

3. **Go Stage:** The technologies and products deemed viable in the Set Stage are moved to the Go Stage. The Go Stage aims to develop a complete action plan for a field test, commission a simulation/engineering study, modeling and/or develop a laboratory test to validate and evaluate the proposed idea.
4. **ETP Project:** The detailed action plan from the Go Stage serves as the basis for conducting an ETP project with aim of evaluating, validating, and testing the energy-saving claims of manufacturers and developers, as well as investigating potential barriers to market adoption, such as product distribution networks, warranties, installation challenges, and end-user acceptance. The ETP project provides essential quantitative and qualitative data in support of either incorporating a proposed idea into Nicor Gas Energy Efficiency offerings or rejecting the proposed idea.

Figure 8 Ready, Set, Go, Project Process



Criteria	Score	Weighting	Final Score
Cost-Effectiveness	1-5	4	0-20
Gas Savings Potential	1-5	5	0-25
Value to Nicor Gas Portfolio	1-5	2	0-10
Non-Energy Benefits	1-5	2	0-10
Support and Distribution in Chicagoland Area	1-5	2	0-10
Technological Maturity	1-5	3	0-15
Ease of Implementation/ Market Adoption	1-5	2	0-10
TOTAL	-	-	0 to 100

ETP Value

In an environment where portfolio cost-effectiveness is increasingly harder to achieve and every ratepayer dollar must be carefully directed, ETP's ultimate role is to help the Nicor Gas Energy Efficiency Program decide which technologies can facilitate meeting its goals while mitigating the risks that are inherent with offering any new or unproven technologies to customers.

Since inception, the ETP has supported the development or enhancement of numerous energy efficiency offerings. Perhaps just as importantly, the ETP has also filtered out technologies that were unsuitable for

efficiency programs due to long payback periods or low value to the overall portfolio. This has allowed the Nicor Gas Energy Efficiency Program to direct its resources to measures with reliable savings.

Additionally, because the ETP acts to accelerate verified efficient, emerging technologies, even customers who do not directly participate in Nicor Gas Energy Efficiency offerings can reap the rewards of the ETP's work through a marketplace that has a greater variety of proven high-efficient technologies.

Partnerships and Collaborations

To leverage limited resources, the ETP works with partners across North America. In addition to stretching ETP funds, these collaborative efforts keep the program at the forefront of the industry and facilitate the early identification of new technologies with significant potential. Some of the collaboratives, partners, and subscriptions that the ETP has joined, formed, or is currently considering include:

- The US DOE's Advanced Research Projects Agency-Energy (ARPA-E) program
- Other utility program administrators in Illinois (both gas and electric, when appropriate)
- Non-Illinois-based utilities
- The Northwest Energy Efficiency Alliance (NEEA)
- The California Emerging Technologies Coordinating Council
- Chicago-based Clean Energy Trust (CET)
- GTI
- Research Park at the University of Illinois
- Manufacturing R&D groups
- Product trade associations
- FreshPatents.com

Collaboration with utilities both inside and outside of Illinois can bring particularly significant benefits. Through partnering, some utilities may be able to utilize the ETP's established methods and processes—that might otherwise take the outside utilities another 3 to 5 years to independently develop—in exchange for shouldering a portion of the operational costs of the pilot. This allows the Nicor Gas Energy Efficiency Program to leverage statutorily limited ETP funding, ideas, project host sites, and information to complete more work. Because of these benefits, collaborative initiatives with one or more Illinois-based Plan Administrators are expected to expand.

Because maintaining a robust and far-reaching collaborative network is an important component of accelerating early-stage products and systems to market, and by extension, utility EE programs, the ETP will continue to explore additional collaboration opportunities as they present themselves. These collaboration opportunities include partners within Illinois and the Midwest, as well as from groups around the country and abroad. To further facilitate enhanced collaboration opportunities, Nicor Gas may consider sponsoring events such as forums with universities and other early-stage entities to share ideas and network.

Lessons Learned and Future Considerations

Lessons learned from previous program cycles have created a strong foundation for the current ETP cycle. The ETP continues to evolve as it adapts to key findings and trends.

- **Shifting from “Widgets” to “Solutions”:** For many years, emerging technology work across the utility industry tended to focus on discreet technologies that could replace incumbent products to provide incremental savings. However, technical advances and increasingly constrained

resources are creating a shift away from this old paradigm. Utilities are increasingly focusing on whole-building solutions, savings opportunities that merge products and services, or other ways to deliver more comprehensive energy savings and provide customers with ancillary benefits, such as increased comfort or convenience or helping them achieve greenhouse gas reduction goals. The ETP will continue to expand work into the area of providing holistic solutions to customers whenever possible.

- **Market Viability:** The market viability evaluation was added to the stage-gate process to verify whether there is an actual market for the product in question before embarking on a potentially costly test or pilot. This marks a novel strategy that few utilities pursue. By carefully evaluating the commercial viability of products in addition to their technical feasibility, the ETP reduces uncertainty and, subsequently, the cost of launching measures and maintaining the EE portfolio.
- **Tracking Trends and Adapting:** Not only do individual technologies advance and improve, but the entire marketplace is evolving. It's critical for the ETP to monitor these meta changes and adapt operations and strategy. For instance, wireless technologies and cloud computing have revolutionized entire swaths of the technology industry and have, in turn, opened new opportunities for ETP applications that were previously cost-prohibitive.
- **Active Participation from Product Makers and Vendors:** A contribution by interested parties into ETP projects is vital to program success and is now required of companies and other entities wishing for their product to be tested and evaluated by the ETP. This commitment can be satisfied in several ways, including supplying the ETP with product samples at no cost for evaluation, assisting with pilot site identification, and/or providing installation and configuration assistance.
- **Pilot Site Selection:** Finding candidate sites and facilities to install and test pilot evaluations remains a significant challenge. The details range from interrupting business operations to allow for installation of new equipment to commercial manufacturers having to alter entire production processes. The ETP has been successful in finding key partners who can serve as test sites or hosts for new demonstrations. These relationships can significantly speed the pilot activities in the field.
- **Product Development Process:** The ETP will adopt components of traditional product marketing utilized by many consumer product companies. These techniques include determining how the consumer perceives Nicor Gas Energy Efficiency offerings and what level of incentive is enough to drive an energy efficiency upgrade.
- **Product Technology Mix:** It is critical to consider whether a product's energy impacts are affected by seasonal variation, as this variation can necessitate longer testing timeframes. For example, if a product is only operated during the heating season, everything required to test must be properly in place before the heating season begins or else the pilot risks an entire year of delay (and of subsequent customer incentive launch). To help mitigate this risk, the ETP will look for a balanced product mix of heating and non-heating season products so there are always multiple pilots to run.
- **Advancing Mature but Underutilized Technologies:** Though new technologies are continually entering the market, the ETP also emphasizes existing technologies that never attained significant market adoption. Due to changing market conditions such as low gas prices, demographics, consumer desires, decarbonization policies, product pricing, or improved performance, these previously non-viable products may now be able to penetrate the market.
- **Serving All Customer Segments:** The ETP aims to maintain a diverse mixture of products across all market sectors in order to maximize the number of energy-saving opportunities.

ETP Budget

The ETP budget for 2022-2025 is shown in Table 23 below.

Table 23 ETP Budget

Program	2022	2023	2024	2025	Total
ETP	\$1,371	\$1,371	\$1,371	\$1,371	\$5,485

5.3 Market Transformation Program

Nicor Gas is continuing to advance its award-winning Market Transformation (MT) program. The goal of MT is to identify and remove market barriers associated with new measures or offerings by intervening in the market to overcome those barriers. Over time, MT will result in lower cost delivery and maximize energy savings achieved within the Nicor Gas Energy Efficiency Program. MT activities dovetail well with existing ETP efforts by creating a faster pathway to market for fledgling technology developers, while providing increasingly cost-effective natural gas-saving opportunities to end-use customers.

Nicor Gas' Market Transformation Efforts in an Evolving Landscape

Great progress has been made in Illinois to establish a framework for MT within the statewide Technical Reference Manual (TRM) version 9.0. This framework outlines the overall MT principles and the mechanism for MT activities to claim savings over time unlike the previous four-year portfolio. These savings may even extend beyond the four years of this plan. Through the leadership of Nicor Gas, this sets the stage in IL to advance strategies beyond simple rebates to more market-wide approaches reaching more customers and creates deeper long-lasting savings by transforming the market.

Nicor Gas recognizes that MT activities are closely aligned with traditional ETP work, and that coordinating both efforts internally can reap additional benefits. These include leveraging staff and research efforts, strengthening and sustaining the pipeline of technologies and solutions that feed into EE programs. This helps to cultivate partnerships with other research organizations who have regional, national, and international reach.

The MT program will play a pivotal role in increasing customer adoption of Nicor Gas Energy Efficiency Program offerings through identification and removal of market barriers that currently hinder broad application of these technologies and solutions. At a higher level, Nicor Gas' MT program can also enable other regulatory and societal benefits, including serving under-served communities, strengthening Illinois gas-electric utility partnerships, supporting environmental sustainability goals and increasing overall customer satisfaction.

MT Process Overview

The Nicor Gas MT process follows a series steps adopted from best practices to expedite market transformation effects:

1. **Identify Market Barriers:** The first step is to identify market barriers that hinder adoption of energy-efficient products, services, and practices. This includes the evaluation of high-potential technologies and examines barriers that may include product availability, quality or price; lack of financing; insufficient technical capability or tools; or low awareness of business benefits.

2. **Assess Opportunities and Leverage Points:** In the next step, a comprehensive market investigation and analysis is conducted. To overcome barriers identified in the previous step, it is critical to identify opportunities to achieve maximum market uptake and to exploit those opportunities fully. During this stage, a comprehensive plan is developed that outlines the barriers and opportunities that can help achieve the full market potential for energy efficient products, services, or practices.
3. **Implement Market Interventions:** In this step, the comprehensive MT plan developed in the previous step is executed.
4. **Evaluate and Adjust Initiatives:** As the implementation process moves forward, the components of the project and overall strategy must be evaluated and adjusted as needed. Because markets are dynamic, it is critical that the MT process be flexible and adaptable.

Because MT depends on behavioral change, intervention approaches should focus primarily on people and their actions, and secondarily on the underlying technology innovations. However, in some cases, changes to the technologies or services are needed to enable the intended changes in the behavior of the market decision makers.

Market Transformation Opportunity Areas

The MT program will investigate opportunity areas during EEP 2022-2025. The MT program will identify and validate various market intervention strategies to alleviate the barriers associated with each opportunity area, with the aim of increasing technology adoption.

- 1) **Leverage MT platform to enhance ETP:** Since the ETP does not directly intervene in the market, the technologies and products validated in the ETP can benefit from MT initiatives for enhanced customer adoption. In many cases, new or underutilized technologies successfully evaluated in ETP may need additional market interventions such as support network development and/or installer or trade partner education for successful adoption in the marketplace.
- 2) **Advanced Windows:** The Company will continue its ongoing collaborative market transformation initiative to promote thin triple windows.
- 3) **Efficiency Performance Standards:** The Company will continue investigating and developing a MT initiative to promote the adoption of efficiency performance standards for existing buildings in one or more municipalities in its service territory.
- 4) **Residential and Commercial Building Energy Code Compliance:** The application of MT principles to influence codes is an important objective. This can include efforts to reach the current code, stretch beyond a current code, or create new codes. Nicor Gas will continue to build upon efforts that have already begun in Illinois through statewide efforts with other utilities, and collaboration with other stakeholders. Ultimately, if MT is pursued to the logical conclusion, a change in the code is the final transformative step in the MT journey.
- 5) **Novel Ideas and Strategies:** The MT program will also seek to invest resources and intervene where it is deemed appropriate and beneficial to Nicor Gas Energy Efficiency Program and Nicor Gas customers. A few additional opportunities that MT will consider exploring in 2022-2025 and beyond may include work that intersects and impacts:
 - All customers large and small by helping reduce natural gas usage, and thus saving money and reducing greenhouse gas emissions
 - Income-qualified customers such as seniors, veterans and disadvantaged communities that cannot afford to be left behind in the energy efficiency movement

- Regional, national and global efforts to reduce greenhouse gas emissions, and assist Illinois to achieve climate goals
- Innovation involving new technologies and transforming markets to propel all efforts forward well beyond the life of this four-year plan.
- Tree planting and green infrastructure such as properly designed and configured windbreaks can help mitigate winter heating requirements. The same trees and planting can, in some cases, also provide summer shading to reduce air conditioning requirements and mitigate urban heat island effects.
- Investigation of energy savings potential from use of green infrastructure to manage storm water management. There is a partnership opportunity with water and wastewater utilities to help Nicor Gas customer achieve natural gas and water savings utilizing “green infrastructure” such as permeable pavement, bio swales, and dense tree planting, all of which may reduce municipal wastewater treatment energy expenditures while also bringing ancillary benefits such as reducing stress on city infrastructure that handles runoff.
- Investigation and understanding of zero net energy building approaches with the aim to lift barriers towards ZNE construction practices in the new construction market in Illinois, investigate hybrid gas and renewable construction practices and smart neighborhoods that leverage natural gas strategies to provide superior resiliency, reliability and minimize greenhouse gas emissions locally and across the region.

MT Budget

The MT budget for 2022-2025 is shown in Table 24 below.

Table 24 MT Budget

Program	2022	2023	2024	2025	Total
MT	\$2,285	\$2,285	\$2,285	\$2,285	\$9,141

6 Portfolio Support Functions

6.1 Overview

This chapter describes the business functions that support the programs outlined in chapters 2 through 4. While chapters 2 through 4 describe the approaches used to deliver programs to customers, this chapter describes the support functions required to develop, market, track, evaluate, and administer those programs.

This chapter includes the following sections:

- Section 6.2 describes the Administrative functions required to support the overall portfolio.
- Section 6.3 describes the Marketing and Outreach (MOC) activities that increase awareness of program offerings, encourage customers and trade allies to participate, and provide ongoing support through the MOC call center platform.
- Section 6.4 describes the Evaluation, Monitoring, and Verification systems used to confirm program savings and improve program processes and performance.
- Section 6.5 describes the Information Technology platform that supports the marketing, tracking, analysis, and evaluation of program activities.
- Section 6.6 describes the Planning systems used to develop, analyze, and adjust the program portfolio through annual and four-year planning cycles.
- Section 6.7 describes the Market Development Initiative activities which will invest in workforce and business development for underrepresented populations and economically disadvantaged communities, combining research, development of a market development action plan, and contractor and workforce support.

Nicor Gas appropriately allocates support function costs to each individual program and includes those allocated costs as part of the implementation costs (i.e., non-incentive costs) values shown in tables at the end of each program section. Nicor Gas costs that reflect activities not directly supporting individual programs are tracked as portfolio costs and reported in this chapter.

6.2 Portfolio Administration

This section addresses the portfolio support functions not addressed in the other sections of Chapter 6.

Accounting and Finance

This function manages the financial transactions necessary to administer the Nicor Gas portfolio. The Nicor Gas Energy Efficiency Plan has established comprehensive financial systems within the broader Nicor Gas and Southern Company financial systems to:

- Develop and manage budgets
- Pay implementation contractors, trade allies and other vendors
- Track accounts payable
- Track spending by program, support function, cost type and time period
- Provide financial data in reports to management, the Illinois Commerce Commission (ICC), and stakeholders
- Provide financial controls

Regulatory and Stakeholder Support:

This function manages communications, reporting, and other coordination with the ICC and various stakeholder groups.

Regulatory support functions include:

- Preparing filings and participating in regulatory proceedings before the ICC, including proceedings for approving the EEP, setting rates to recover the costs of administering the EEP, reconciling costs spent on administering the EEP, and verifying savings generated by the EEP
- Preparing quarterly and annual reports documenting EEP spending, savings, and activities
- Managing the systems required to track the spending, savings, and activities included in regulatory filings and reports

Stakeholder support functions include:

- Participating in the Illinois SAG process, including serving on the SAG Management Committee, participating in SAG Large Group Meetings, participating in the SAG Portfolio Planning Process, and providing presentations for SAG members
- Participating in subcommittees that periodically update the Energy Efficiency Policy Manual and TRM Policy Document
- Participating in the SAG Technical Advisory Committee which annually updates the IL TRM
- Participating in the SAG NTG Policy, which annually updates NTG values used to calculate program savings
- Participating in SAG working groups that cover topics such as Evaluation approaches, Non-Energy Impact calculations, Market Transformation strategies, and Fuel Conversion strategies
- Participating in other SAG subcommittees, which in the past have covered topics such as approaches for encouraging Combined Heat and Power systems and approaches for documenting energy efficiency successes.
- Participating in Low Income Advisory Committees, including committees operating in both Northern and Southern Illinois, to work with other utilities, state and local agencies, community-based organizations, and other stakeholders to improve services to income-qualified households and new SAG subcommittee to inform the MDI initiative

Procurement

This function manages the systems used to select and manage implementation contractors and other vendors supporting the Nicor Gas Energy Efficiency Program. Key activities include:

- Developing and executing the overall procurement strategy
- Developing and managing requests for proposals used to competitively procure implementation contractors and other vendors
- Developing master service agreements, scopes of work, and other contract documents
- Managing the Nicor Gas Diverse Business Program, which, as described in Section 6.7, develops and expands strategic partnerships with diverse implementation contractors, trade allies, and other vendors
- Tracking and reporting key metrics

Overall Management

This area covers other administration functions such as employee development, safety, facilities, logistic, and interaction with Senior Management and other Nicor Gas departments.

6.3 Portfolio Marketing and Outreach

Marketing and outreach are critical to achieving our overall portfolio savings goals for the program. From mass media marketing to in-person events, marketing and outreach play an important role in educating customers and trade allies (TAs). These elements and activities help drive participation across the Nicor Gas service territory.

Customer Communication Strategy

The Nicor Gas Energy Efficiency Program's communication strategy has evolved since the program's inception. We use a mix of broad efforts, from bill inserts, to mass media advertising, to hyperlocal print publications and more, to reach customers across the territory. Our efforts have become more targeted to position offerings that are directly relevant to our audiences. This approach has helped us execute more effective customer engagement, reinforce barrier-free participation, and curate more personalized experiences. The program marketing, communications and outreach strategy for EEP 2022-2025 will continue to build on this foundation while exploring additional avenues to elevate engagement. By leveraging the resources created over the past few years, including the dedicated Marketing and Outreach Center and the energyENGINE data warehouse, the Nicor Gas Energy Efficiency Program will achieve a balance between broad awareness, targeted outreach and relevant communications for engagement.

Trade Ally Communication Strategy and Outreach

The Nicor Gas Energy Efficiency Program's Trade Ally (TA) communication strategy employs a robust communication mix that includes targeted emails, distributor specific content, educational webinars, one-on-one meetings, roundtables and more. Part of the strategy includes supplying many resources for Trade Allies, including the dedicated Trade Ally and Contractor Circle sections on nicorgas.com and collateral material that supports specific offerings, sales and customer education. Trade Allies install products, provide services and/or support the Nicor Gas Energy Efficiency Program in many ways and the outreach team ensures that Trade Allies have tools from our team to help provide superior customer experiences and quality installations. We may provide trade ally training on program offerings, technical topics, safety, sales, energy efficiency, etc. As rebates change and new offers are introduced to the program, the communication and outreach team offers training and update sessions to keep contractors engaged in the program evolution and to provide service and support to customers.

The portfolio also has an exclusive Trade Ally initiative called the Contractor Circle program that offers two types of memberships.

- Contractor Circle installing membership (CCim) is for trade allies who install rebate-qualifying products or services. For example, HVAC companies who install furnaces, or weatherization contractors who provide air sealing and insulation services, fall into this category.
- Contractor Circle supplier membership (CCsm) is for companies who do not install products, but they support the program in other ways such as distributing or manufacturing rebate-eligible equipment or provide training that supports the Energy Efficiency Program.

CCim program eligibility is contingent on meeting minimum program participation levels. Membership offers many benefits including, but not limited to, being searchable on our "Find A Contractor Tool," providing instant discounts, providing Energy Efficiency Loans, use of the Contractor Circle logo on print and website, and free marketing materials (some of which are customizable with contractor information). This component has not only driven energy- and cost-savings for our customers, but has provided local businesses with a continuous pipeline of projects within the energy efficiency market.

Nicor Gas Energy Efficiency Program Awareness

Through customer and contractor feedback, we continue to find that broad awareness and education about Nicor Gas Energy Efficiency Program offerings, the website (nicorgas.com) and online resources (such as our Find a Contractor tool) are essential to keep the program front of mind for customers and contractors. As such, we will continue to layer the communication and outreach strategy with messages that inform customers and contractors of the program through channels including:

- Television, radio and billboards
- Community partnerships and events, such as the Brookfield Zoo and Fire Department Open Houses
- Bill inserts, email communications and other customer communications as well as trade ally-specific communications

The Company website will continue to serve as the central portal for educational resources and information. The Marketing and Outreach Center and the Trade Ally Outreach team will continue to serve as the front line of outreach, service and support for customers and contractors. Local community/low-income agencies will assist in the education, marketing and outreach to Income-Qualified customers, as well.

energyENGINE Segmentation and Targeting

Building on data from energyENGINE, Nicor Gas Energy Efficiency's data warehouse, and leveraging the integrated email marketing platform implemented in 2017, the Nicor Gas Energy Efficiency Program will continue to create a more relevant and personalized experience for our customers by targeting communications based on market data and past participation, as well as engaging them in-person with energy-saving kits and relevant program collateral at outreach events. The Nicor Gas Energy Efficiency Program will also incorporate digital media and search engine optimization to complement the personalized, hyperlocal customer experience.

Targeted marketing, communications and outreach efforts may include, but are not limited to:

- Email communications
- Zoned bill inserts
- Outbound call campaigns
- Multicultural marketing
- Community partnerships and outreach events, such as township energy fairs or community forums

Through targeted email marketing, the Nicor Gas Energy Efficiency Program has significantly increased customer engagement and education by sending right-sized messages based on customer data gathered within energyENGINE. For example, two neighbors may receive completely different email content based on what offers they have already participated in, what types of equipment or improvements they have demonstrated interest in, and how much energy they use in their homes. By targeting content, we are not promoting irrelevant offers or opportunities that customers have previously participated in from the program.

The Nicor Gas Energy Efficiency Program will also continue to emphasize ways all customers can participate, regardless of income. From distributing free energy-saving kits and sharing money-saving tips at food pantries and during energy assistance events, to promoting free home assessments and free

weatherization, program outreach and communications will meet customers where they are to encourage savings at any income level.

The Nicor Gas Energy Efficiency Program will also continue to try to reach customers in the way they preferred to be contacted, whether by phone or email, in mainstream media or local/cultural publications, or on the internet or more traditional media outlets.

Customer and Trade Ally Satisfaction

Customer and Trade Ally feedback helped shape the Nicor Gas Energy Efficiency Program – from the structure of the portfolio, to program implementation design, to the language used to describe the offerings. As an ongoing part of the energy efficiency marketing, communications and outreach strategy, the program will continue to use focus groups, trade ally roundtables, surveys, and customer journey-mapping to continuously improve the participation experience and remove any perceived barriers.

Figure 9 Multi-language marketing

Customer and Trade Ally Satisfaction

Customer and Trade Ally feedback helped shape the Nicor Gas Energy Efficiency Program – from the structure of the portfolio, to program implementation design, to the language used to describe the offerings. During the previous four-year plan, customer journey-mapping and focus groups resulted in more streamlined communications and the removal of some major pain points in the participation

process. For example, customers missing required information on their rebate application submissions now receive a phone call from our outreach team in addition to receiving a letter in the mail so that we can ensure that we explore every communication avenue to try to rectify the issue. As an ongoing part of the energy efficiency marketing, communications and outreach strategy, the program will continue to use focus groups, trade ally roundtables, surveys, and customer journey-mapping process to continuously improve the participation experience and remove any perceived barriers.

6.4 Evaluation, Measurement and Verification (EM&V)

Evaluation, measurement, and verification (EM&V) are the processes used to improve the operations of energy efficiency programs, measure their impacts, and attribute energy savings to utility efforts. EM&V processes include:

- Site visits to confirm proper installation and operation of installed measures
- A range of methods to measure or estimate energy savings and other program impacts
- Participant surveys and other approaches to estimate free-ridership, spillover and net-to-gross (NTG) ratios
- Process evaluations that assess program operations and make recommendations to improve performance
- Analyses of non-energy impacts associated with program performance, such as reductions in air pollution or improvement in health outcomes
- Maintenance of data and communications systems

Section 8-104 of the Act requires gas utilities to provide quarterly status reports on program performance, annual independent evaluations of programs, and an independent evaluation of the overall portfolio at the end of each four-year EEP cycle. Section 8-104 also designates that a maximum of 3% of the portfolio budget may be expended on EM&V. Table 3, provided above in Section 1.9, provides proposed EM&V expenditures in each year for the costs of the external consultants serving as the Nicor Gas Independent Evaluators. These budgets do not include costs for additional evaluation activities, such the costs for EEP staff, consultants, attorneys, and program implementers incur to support evaluation efforts.

Evaluation activities generally fall into two categories: the impact evaluations that measure and verify program savings and the process evaluations that improve program performance. In addition, the EM&V function maintains systems to collect, track, and share evaluation data and to coordinate with evaluation contractors, stakeholders, and other utilities.

Impact evaluations determine program impacts using a range of metrics. Impacts are measured against program goals and include energy savings, cost-benefit ratios, number of participants, number of free-riders, spillover impacts and other measurable quantities. Impact evaluations use a variety of direct and indirect methods, including:

- Direct metering of individual equipment to compare energy use before and after measure installation, sometimes coordinated with statistical methods that account for changes in weather, occupancy, production or other factors affecting energy use
- Analysis of customer energy bills, comparing energy use before and after measure installation, again sometimes coordinated with statistical methods to account for external factors affecting energy use
- Randomized controlled trials or similar quasi-experimental methods that compare energy use for participating customers to usage from carefully selected control groups
- Application of algorithms from the Illinois Energy Efficiency Technical Reference Manual (TRM) or other customized algorithms that calculate energy savings from performance data such as equipment efficiency, capacity, and operating hours

Process evaluations determine if individual programs perform as designed and effectively reach targeted customers. Process evaluation methods include:

- Surveys, focus groups or other information collected from program actors, including customers participating (or not participating) in programs, trade allies delivering programs, and internal and implementation contractor staff managing programs
- Analyses of program procedures and workflows
- Comparisons to benchmarks and best practices at other utilities
- Development of program theories, customer journey maps, or similar techniques that identify key market barriers and the effectiveness of program in overcoming barriers

The Nicor Gas Energy Efficiency Program will use an independent evaluation contractor to evaluate the portfolio. The independent evaluator will support portfolio goals by providing high confidence and precision in measuring program and portfolio savings, without exceeding statutory budget limits. Statutory limits will apply at the portfolio level over the entire four-year portfolio period.

The independent evaluator will develop program evaluation plans for the entire four-year period and for each individual year. These plans will identify specific elements for evaluation, a schedule for activities, and budgets for each program and for portfolio-level activities. Nicor Gas and other stakeholders will review and comment on plans to ensure consistency with program implementation and other goals. Because some evaluation work must be conducted after a program or project is completed, spending in any given year may be associated with program operations from earlier years.

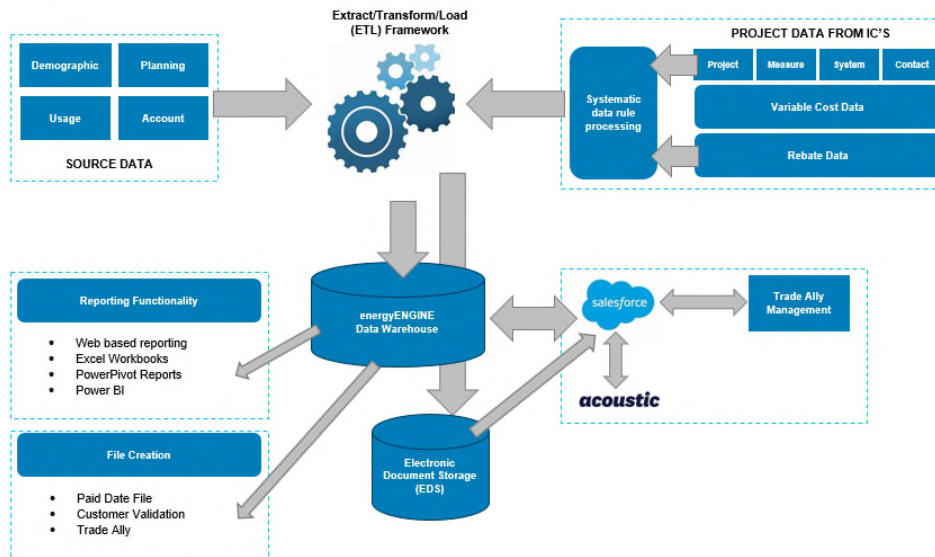
EM&V can be improved through collaboration with other utilities. Nicor Gas will share the expense of EM&V and minimize EM&V duplication with ComEd and other utility partners to maximize evaluation usefulness and cost-effectiveness.

6.5 Portfolio Technology, Business Intelligence and Data Analytics

The Nicor Gas Energy Efficiency Program continues to invest in an infrastructure needed to support program management, marketing and outreach, project tracking, and reporting. The Nicor Gas Energy Efficiency Program has developed a service management ecosystem that focuses on the ongoing development and enhancement of a strong platform to support its software and cloud infrastructures, data warehouse, analytics, and security.

The Nicor Gas Energy Efficiency Program generates a significant amount of customer participation data that must be collected, stored, analyzed and reported on by both internal and external parties. The data warehouse utilized to collect the data has been dubbed “energyENGINE.” Since the energy efficiency program’s inception, the information technology infrastructure has undergone four implementation phases. A schematic of this infrastructure is shown in Figure 10, and its evolution is described in the following phases.

Figure 10 Nicor Gas Energy Efficiency Information Technology Infrastructure



Phase 1

In 2010, the initial aim was to purchase and/or modify a software program to meet the requirements of running an energy efficiency program from a basic data and individual transaction basis. The Company needed an application that could manage the regulatory and tracking requirements to provide accurate recordkeeping. The Company contracted with a third-party vendor to configure, host and support the application, which became known as the Project Management Tracking (PMT) system. This system tracked all EEP-related customer activity, dollars spent, and therm savings. Specifically, the PMT provided the following:

- Program design – PMT maintained a database (or library) of energy efficiency measures.
- Program management – PMT provided the capability to manage the performance and cost of the energy efficiency programs. This included access to the status of specific projects and reporting results at the measure and program levels.
- Workflow management – Certain energy efficiency programs involved many steps in the application and management of installation activities, typically organized as a project. PMT provided the capability to manage the workflow of these projects. A historical record of the project was maintained in the system for future analysis and reporting.
- Incentive processing – PMT enabled efficient processing of incentive payments to customers and trade allies who participated in an energy efficiency offering. PMT tracked incentives paid on energy efficiency measures per customer account.
- Management reporting – The PMT provided reporting capabilities, including:
 - Executive/management – High-level reporting of key statistics on the performance of EEP and each individual program
 - Program management – Detailed reports to provide program managers with information to determine if programs were on track
 - Regulatory – These reports provided reliable/auditable data to support EEP performance against approved plans

Phase 2

In 2014, the EEP outgrew PMT, migrated off the platform, and incorporated the analytics into Salesforce, a data warehouse and Customer Relationship Management (CRM) application. As the Nicor Gas Energy Efficiency Program evolved, it identified the significant value of incorporating and analyzing data from multiple systems into a single source system. It undertook a second round of enhancements that focused on integrating these multiple sources of data into one platform; and a CRM system was introduced to answer and track customer engagements in each program and within the technology ecosystem. The core of the data warehouse was constructed utilizing data from the following sources:

- energyENGINE customer participation
- Customer utility billing data
- Utility data for larger customers
- Demographic customer data from third-party providers for both residential and business customers
- Planning data representing TRM values

In this phase, a new vendor took over from the Phase 1 provider. This phase also provided the Nicor Gas Energy Efficiency Program with a best-in-class data warehouse, reporting, data analytics, and CRM tool to meet the business' energy efficiency management requirements. Consolidating all these features into a central system that has a modular configuration provided the following enhancements and benefits:

- Data integrity – The central data warehouse serves as the “Single Source of Truth” for all data across the energy efficiency enterprise. In addition, it improved the trust level of information and alleviated challenges and issues caused by version control, data drift, and data lineage.
- Operational efficiency – Eliminated the need for manual aggregation of data to allow for more time to be spent on higher value activities. It also drastically improved the time required to make data available to end users.
- Ad-hoc analysis – Created the ability to run reports and pull customized data sets to quickly and efficiently answer key business questions.
- Regulatory reporting – Automated industry standard regulatory reports, freeing up resources to focus on value creation activities.
- Customer engagement – Implemented an integrated technology platform to run operations for call center-based energy efficiency marketing and outreach initiatives and an email marketing platform for the energy efficiency enterprise.

Simultaneously, the Nicor Gas Energy Efficiency Program integrated ExactTarget for email marketing to customers.

These enhancements were a major step in creating a central point for all key data. It allowed for customer information access by the EE marketing and outreach team who is responsible for interacting with customers and answering their inquiries. It was also during this phase that Nicor Gas settled on a standardized single file format for all offerings and measures. As a result of this added functionality, this consolidated application was re-branded as the Company's energyENGINE.

Phase 3

In 2016, the Nicor Gas Energy Efficiency Program made further enhancements to energyENGINE. As the program continued to mature, data needs continued to develop and grow, and increased efficiency opportunities presented themselves. Nicor Gas undertook adding two new modules to energyENGINE: Trade Ally Management and Evaluation, Measurement and Verification (EM&V).

Trade Ally Management:

The goal of the Trade Ally Management module is to provide a centralized location for collecting, storing, and reporting Trade Ally data. The Trade Ally systems previously resided with Nicor Gas Energy Efficiency's implementation contractors. Adding this capability in-house provided for:

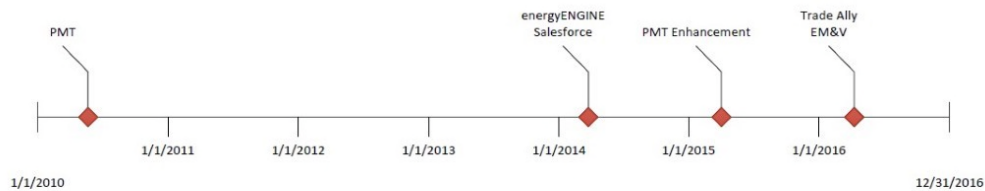
- The development of one comprehensive Master Trade Ally List for reporting purposes and management.
- Salesforce capabilities for Trade Ally data collection. Implementation Contractors and Nicor Gas Energy Efficiency Program employees have the capability of documenting conversations from meetings, events and encounters with trade allies.
- Trade Ally data points into the data warehouse. Nicor Gas is able to identify the number of jobs by trade ally, as well as the offerings and measures that each trade ally has performed in the program.
- Electronic storage for trade ally-related documents.

EM&V:

Nicor Gas and its evaluation contractor, currently Navigant, identified an EM&V project that sought out ideas for streamlining the evaluation process. The objectives of the project were to:

- Reduce the evaluation time by making near real-time performance data and relevant savings information available to the evaluator.
- Create a central repository for housing energy savings information required to perform annual evaluations. Examples of information housed include output files of various software tools, engineering calculation workbooks, pre- and post-production/site data used in savings calculation, etc.
- Service all data requirements of the evaluator by eliminating evaluator-to-implementation contractor data requests. This will reduce data verification needs and improve data quality allowing the evaluator needed data in near real-time to speed up evaluation activities.

Figure 11 Summary of energyENGINE evolution



Phase 4

In 2018-2019, the Nicor Gas Energy Efficiency Program needed to further enhance its information technology infrastructure and energyENGINE data warehouse. These enhancements were focused on:

- Data analytics, metrics, and reporting
 - Provide support and measurement for Company key performance indicators
 - Provide superior data analysis with business intelligence tools
 - Increase visibility into the rebate pipeline process
 - Leverage predictive analytics for energy efficiency project identification and customer participation
- Data accessibility
 - Provide an improved "self-service" method for users to access data
- Data security and integrity
 - Migrate existing information technology infrastructure to new cloud server
 - Increased functionality and cost effectiveness with the availability of new tools and security features

These enhancements ensured the energyENGINE data warehouse remained the central hub for all energy efficiency data. In addition, the enhancements to the infrastructure provided improved analytics, reduced costs, scalability and functionality.

Future Enhancements:

The Nicor Gas Energy Efficiency Program technology strategy for 2022-2025 will focus on opportunities that support the following enhancements and initiatives:

- Process efficiency
- Performance measurement
- Cost reduction
- Marketing strategies
- Data analytics

To support these initiatives, future opportunities include leveraging Advanced Meter Infrastructure (AMI) data and utilizing internal resources to calculate gross therm savings.

6.6 Portfolio Planning

The Nicor Gas Energy Efficiency Program portfolio planning group develops long-term energy efficiency plans that cover the four-year periods approved by the ICC, as well as annual and other short-term plans that adjust for ongoing changes in program costs, performance, and external factors.

Planning activities include:

- Designing programs and business strategies that represent a diverse cross section of opportunities for customers of all rate classes to participate, consistent with the requirements of Section 8-104(f)(5) of the Act.
- Managing the portfolio to meet savings goals while maintaining the 2% statutory budget constraint defined in Section 8-104(d) of the Act.
- Balancing the portfolio to meet additional statutory and stipulated constraints related to public sector spending, income-qualified spending, weight average measure life, cost effectiveness, and other requirements
- Evaluating the cost-effectiveness of measures, programs and the entire portfolio, consistent with the definition of the total resource cost framework outlined in Section 8-104(b) of the Act
- Completing baseline studies and savings potential studies that assess market segmentation, equipment ownership, measure savings, program design strategies, program participation, and program delivery costs
- Incorporating into the portfolio innovative new technologies and delivery approaches developed through the Emerging Technology program, Market Transformation program, and ongoing continuous improvement efforts
- Incorporating into the portfolio lessons learned from evaluation activities, including updated saving for energy efficiency measures, as well as improvements to program performance
- Incorporating into the portfolio lessons learned from customers satisfaction, market assessments, and other customer feedback
- Providing data and insights that track and improve program performance, including analyses that expand participation from underserved customers, workers, businesses, and communities

- Exploring new and creative innovative approaches to improve customer choice, satisfaction, loyalty, and engagement with energy efficiency programs
- Managing the energy efficiency portfolio planning process, including developing and maintaining planning tools and databases, managing internal planning communications and reporting, and participating in the statewide planning process
- Collaboratively working with other Illinois utilities and stakeholders through the Illinois SAG, low-income advisory groups, and other forums

6.7 Market Development Initiative

Nicor Gas will develop a Market Development Initiative (MDI) to invest in workforce and business development for underrepresented populations and economically disadvantaged communities. This standalone initiative will combine research, development of a market development action plan, and contractor and workforce support to increase the energy efficiency funds delivered directly to these groups, and:

- Increase the number of local and diverse participants in all contractual levels of the energy efficiency workforce throughout the Nicor Gas service territory;
- Strengthen the partnership and support for local and diverse business enterprises; and
- Increase the transparency of and equity in the Energy Efficiency Procurement process.

This initiative includes the following five components:

- **Research** – Working to better understand and support underrepresented populations and underserved communities to achieve sustainable solutions and leverage the Nicor Gas Energy Efficiency Program to achieve larger community and regional goals. This research will inform the development of a Market Development Action Plan (MDAP) that will serve as a blueprint for MDI implementation.
- **Implementation contractor support** – Execute MDI using the MDAP as a blueprint to drive the creation and expansion of enterprises working as implementation contractors delivering program and support services to the MDI communities, Nicor Gas portfolio, as well as to other utilities.
- **Trade ally partnerships** – Driving the creation and expansion of enterprises working as trade allies delivering energy efficiency measures directly to MDI communities, Nicor Gas customers, as well as to customers at other utilities.
- **Workforce development** – Helping workers develop the capabilities necessary for employment with implementation contractors, trade allies, utilities, and other enterprises serving the Nicor Gas portfolio and the broader energy efficiency industry.
- **Program support** – Supporting new program strategies in underserved communities, including offerings targeting small businesses in economically disadvantaged communities, restaurants and other small businesses affected by the pandemic.

Outside of this initiative, Nicor Gas will also deploy targeted marketing strategies to increase participation from underrepresented populations and underserved communities in the energy efficiency programs. These targeted marketing efforts are described in Section 6.3 covering Marketing and Outreach.

MDI Research

This component will support research performed by a contractor, with demonstrated experience in diverse market development efforts, to assess the number of ready, willing, and able diverse firms within Nicor Gas' territory. Research will also investigate barriers faced by underserved communities from fully participating in the Nicor Gas Energy Efficiency Program as customers, workers, trade allies, and implementation contractors. A new Stakeholder Advisory Committee (SAG) subcommittee specifically

dedicated to achieving the goals of MDI research shall be formed to provide input into research vendor selection, RFP, and plan scope, as well as the subsequent MDAP implementation plan.

Strategies in this area may include but not be limited to:

- Defining, analyzing, tracking, and reporting meaningful metrics for identifying underserved and disadvantaged communities and their participation in the energy efficiency portfolio.
- Working with underserved communities to develop plans that make their communities more energy efficient, sustainable, and resilient in the face of ongoing climate change.

Planning and Development

Nicor Gas will source a third-party implementation contractor with demonstrated experience in diverse market development efforts as an independent Tier 1 prime contract. The initiative will also be supported by internal Nicor Gas staff. The Implementation Contractor will develop a Market Development Action Plan (MDAP) that will be informed by the MDI research, and may include the following elements:

- Establishing a baseline analysis of the Nicor Gas territory
 - Identifying underrepresented populations and underserved communities
 - Analyzing the needs of the Nicor Gas portfolio of programs and support functions
 - Developing a matrix of Diverse Business Enterprises (DBE) —including minority owned, women owned, and veteran owned enterprises— currently serving the portfolio, as well as other diverse firms not yet participating and non-profits, community-based organizations and other enterprises serving these communities
 - Developing a matrix of local and DBE trade allies serving the portfolio and these communities.
- Gathering input from key market actors
 - Community-based organizations and non-profits
 - Implementation contractors and trade allies
 - Customers from underrepresented populations and underserved communities
- Defining meaningful metrics for tracking progress
 - Program participation, savings, and incentive spending for underrepresented populations and underserved communities
 - Program participation, savings, and spending flowing through implementation contractors and trade allies from underrepresented populations and underserved communities
- Providing transparent procurement assistance for MDI partners
 - Conducting outreach to educate all potential bidders on implementation contracts
 - Offering procurement workshops, webinars, seminars, and other educational opportunities
 - Structuring procurements that provide sufficient information on technical and performance requirements and time to enable non-traditional bidders to compete effectively for Tier 1 prime contracts and to form effective teams with other firms who sub-contract
 - Ensuring that the terms and conditions of procurement processes such as Requests for Proposals and Invitation for Bid are stringent enough to protect the utility's interests, but not so stringent as to disqualify new and/or marginally capitalized businesses, not-for-profits and CBOs from bidding on contracts within their capabilities, thus unnecessarily limiting competition.

- Developing the MDAP
 - Key activities in each area of the initiative
 - Goals and target metrics
 - Initial schedule and milestones for each area of the initiative
 - Initial budget allocations for each area of the initiative
 - Tracking, analysis, and reporting of key metrics

MDI will build on the framework developed within the existing Nicor Gas Divers Business Partnership (DBP) program for diverse suppliers. The DBP platform establishes the process Nicor Gas uses to develop and expand strategic partnerships with diverse businesses. Figure 12 outlines the DBP framework for onboarding and classifying businesses, and then growing engagement from small, transactional contracts to larger strategic partnerships. By leveraging this framework, MDI will jumpstart its ability to create deeper, sustainable engagements with vendors and trade allies, and also jumpstart the development of training and development resources.

Figure 12 DBP Partnership Levels

	Level 1: Traditional	Level 2: Basic Partnering	Level 3: Full Partnering	Level 4: Alliancing
Described as:	<i>Adversarial Arms Length Contractual</i>	<i>Collaborative Team Oriented</i>	<i>Value Added Integrating Team</i>	<i>Synergistic Strategic</i>
	Competition	Cooperation	Collaboration	Coalescence
Terms of the Agreement	<ul style="list-style-type: none"> • Each side has clearly established responsibilities • Client ‘monitors and inspects’ contractor • Little or no trust 	<ul style="list-style-type: none"> • Each side knows and commits to the goals of the project and to each other’s goals – requires a degree of trust 	<ul style="list-style-type: none"> • One integrated team • High degree of trust • Team has one set of goals for a successful project • Life of a project often has a separate organizational entity 	<ul style="list-style-type: none"> • Elements of shared risk also defined • Joint sharing of not only gains, but also liabilities for project failure • Both sides share goals and cost

Implementation Contractor Support

In this component, the MDI will support the development and growth of DBE implementation contractors, as well as implementation contractors that are community based or other nonprofit organizations meeting the needs of underserved communities.

Strategies to support these businesses may include:

- Conducting outreach to identify and educate firms about opportunities in the energy efficiency space, including workshops, webinars, seminars, job boards, purchasing fairs, and other educational opportunities.
- Creating tailored support plans specific to individual contractor needs.
- Partnering with local business incubators, U.S. Small Business Administration, the Illinois Office of Minority Economic Empowerment, DCEO, local governments, colleges, and other utilities that support the creation and development of DBE enterprises.
- Providing training programs that develop the capabilities necessary to create and expand implementation contracting businesses. Training may be provided directly by Nicor Gas or its

partners, or, instead, provided through grants for participating in existing trainings from organizations such as the Small Business Administration or the Association of Energy Services Professionals. Training will also be supported through grants for transportation, childcare, lodging, or similar services that overcome participation barriers.

- Providing funding or other support in obtaining necessary certification for technical requirements or business requirements (e.g., minority-owned business certification).
- Providing grants or other support for software, equipment, and other tools needed create and expand implementation contracting services.
- Creating mentorship programs with other contractors to help build the relationships and skills necessary to form effective teams with other firms who sub-contract and to grow the skills required to eventually support larger prime contracts.
- Periodically reviewing procurement requirements, bidding processes, and contract terms to remove barriers to participation in the bidding and awarding of contracts, while still maintaining the interests of Nicor Gas and its customers.

Trade Ally Partner Support

In this component, the MDI will support the development and growth of DBE trade ally partners, as well as trade allies that are located in or meeting the needs of underserved communities.

Strategies used to support these businesses may include:

- Conducting outreach to identify and educate trade ally firms about opportunities in the energy efficiency space, including workshops, webinars, seminars, and other educational opportunities.
- Creating tailored support plans specific to DBE trade ally needs.
- Partnering with local business incubators, U.S. Small Business Administration, the Illinois Office of Minority Economic Empowerment, DCEO, local governments, and colleges that support the creation and development of DBE businesses.
- Providing training programs that develop the capabilities necessary to create and expand trade ally businesses. Training may be provided directly by Nicor Gas or its partners, or supported through grants for trainings from organizations such as the American Society of Heating, Refrigerating and Air-Conditioning Engineers. Training will also be supported through grants for transportation, childcare, lodging, or similar services that overcome participation barriers.
- Providing funding or other support in obtaining necessary certification for technical requirements (e.g., Building Performance Institute certifications) or business requirements (e.g., minority-owned business certification).
- Providing grants or other support for software, equipment, and other tools needed participate in programs, for example for blower doors or IR cameras needed for energy assessments.
- Creating mentorship programs with other trade ally firms to provide guidance on the qualifications and capabilities necessary to serve energy efficiency markets.
- Periodically reviewing program requirements and rebate application terms to remove barriers to trade ally participation.

Workforce Development

In this component, the MDI will increase the skilled workforce to meet the needs of the Nicor Gas Energy Efficiency Program, including internal staff, implementation contractors, and trade allies, as well as the needs of the broader energy efficiency industry. The MDI team will identify areas that are understaffed or have growth opportunities to ensure that strategies support job placements.

Workforce development strategies may include:

- Conducting outreach to identify workforce needs among implementation contractors, trade allies, utilities, and other firms in the energy efficiency industry.
- Creating tailored support plans specific to key workforce needs.
- Partnering with local unions, job placement agencies, U.S. Small Business Administration, the Illinois Office of Minority Economic Empowerment, DCEO, local governments, and colleges that provide workforce training and placement.
- Providing training programs that develop the capabilities necessary for energy efficiency jobs. Training may be provided directly by Nicor Gas or its partners, such as the Nicor Gas Career Academy and the Construct programs offered in partnership with other utilities. Training may also be provided through grants for trainings from organizations such as local community colleges providing HVAC training. Training will also be supported through grants for transportation, childcare, lodging, remedial skills, interview skills, or similar services that overcome participation barriers.
- Providing funding or other support in obtaining necessary certification for technical requirements.
- Creating mentorship, internship, and apprenticeship programs with utilities, implementation contractors, and trade allies to provide exposure to energy efficiency opportunities and real-world work experience.
- Creating job boards, referrals, and other forums that provide actionable pathways to job placements.

Program Support

This component will include new program strategies in underserved communities that assist small businesses with weatherization and/or recovery from the COVID-19 pandemic and eliminate barriers for residential customers.

Nicor Gas will track spending for developing these offerings to MDI, but will track savings and spending for delivery and incentives within other offerings in the portfolio.

Budget

The program budget and savings targets are provided in Table 25 below. Nicor Gas agrees to spend \$1.5 million/year on average over the four-year Plan Period. Please note the figures are rounded to thousands.

Table 25 MDI Budgets

Program	2022	2023	2024	2025	Total
MDI	\$1,500	\$1,500	\$1,500	\$1,500	\$6,000

7 Portfolio Design Technical Assumptions

7.1 Cost Effectiveness Modeling

Model Overview

Nicor Gas utilizes a calculator designed by Energy and Environmental Economics (E3) to measure cost-effectiveness of the overall portfolio as well as individual programs and measures. Founded in 1989, E3 advises utilities, regulators, government agencies, power producers, energy technology companies, and investors on a wide range of critical issues in the electricity and natural gas industries. E3 developed the tools and framework for cost-effectiveness assessment of energy efficiency used by several investor-owned and publicly owned utilities in California, New York, Illinois, Pennsylvania, Maryland, and Ontario, Canada.

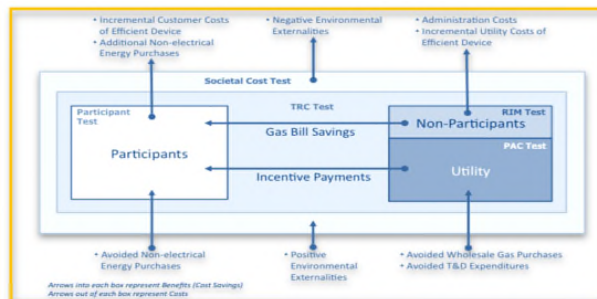
The E3 Calculator estimates savings, spending, and cost-effectiveness for energy efficiency programs and portfolios. Users can rely on default values and assumptions contained in the E3 Calculator to create customized versions that better reflect their programs or service territory. The Nicor Gas Energy Efficiency Program worked with E3 to modify the E3 Calculator for use in Illinois. To calculate cost effectiveness, the Nicor Gas Modified E3 Calculator begins with information about energy efficiency measures, arranges them into programs, and then arranges programs into a portfolio. Within the calculator, users specify measures with data on costs and savings, programs with additional data on participation and administrative budgets, and portfolios with additional data on portfolio administrative budgets. The model then calculates cost effectiveness for individual energy measures and programs, as well as for the total portfolio. The Nicor Gas calculator also organizes E3 outputs in a database structure that allows users to calculate and analyze a number of output metrics at the measure, program, and portfolio level.

Model Outputs

Cost-effectiveness analysis compares the benefits of energy efficiency (mostly from avoided energy costs and avoided pollution costs) against the associated costs (mostly program delivery and measure technology costs) of measures, programs, and portfolios. The E3 Calculator analyzes the cost effectiveness from several different perspectives (the participant, the utility, nonparticipating ratepayers, and society as a whole). The societal perspective is calculated using the total resource cost (TRC) framework that is consistent with the Illinois TRC test defined in Section 8-104(b) of the Act.

From each perspective, a benefit-cost ratio greater than one implies that the benefits of implementing energy efficiency outweigh the associated costs. A ratio less than one indicate that costs outweigh benefits. The higher the benefit-cost ratio, the greater the cost-effectiveness of the measure, program, or portfolio. The specific tests and perspectives within the E3 Calculator are outlined in Figure 13 and described further below.

Figure 13 Cost Effectiveness Tests in E3



- Illinois Total Resource Cost Test – In Illinois, the TRC test measures the benefits and costs of efficiency to society as a whole, based on the total costs to deliver energy efficiency measures and programs, including both participant and utility costs. Costs include participant costs to purchase, install and maintain the more efficient equipment and utility costs to market and administer the programs and portfolio. Any direct installation costs incurred by the utility are also included. Incentives are not counted in addition to the full measure costs incurred by participants, as incentives represent transfers from the utility to the customer to offset some of those installation costs. That is, an incentive increases the utility’s cost and decreases the participant’s cost by the same amount, with a net effect of zero. Benefits include avoided costs to the utility of procuring and delivering natural gas, avoided participant water costs (for water savings from measures like of low-flow showerheads), avoided costs of greenhouse gases, and other quantifiable societal benefits.
- Program Administrator Cost Test – Measures the effect of the efficiency measure on the administrating utility’s revenue requirement. The utility’s costs of implementing energy efficiency measures include direct installation costs incurred by the utility, incentives, program administration, and marketing expenses. Benefits include the utility’s avoided cost of procuring and delivering natural gas.
- Participant Cost Test – Measures the quantifiable costs and benefits from participating in energy efficiency programs. Participant costs include the purchase and installation of the efficient equipment. Benefits include incentives paid by the utility and participant energy and water utility bill savings.
- Ratepayer Impact Measure Test – Measures the net impact of efficiency programs on natural gas rates. This test compares the utility cost savings to the associated revenue losses. Costs are the same as those for the Program Administrator Cost Test, while benefits include the benefits for the Program Administrator Cost Test plus lost revenue from reduced energy sales.

Model Inputs

The following Table 26 describes the key inputs necessary for the computation of the benefit-cost ratios in the E3 Calculator.

Table 26 Common Inputs to Costs Effectiveness Tests

Input	Purpose
<i>Financial Inputs</i>	
Discount Rate	Since the mechanism for computing and comparing costs and benefits involves using net present value methods, the model requires a discount rate to consistently value dollar outlays in different years.
Retail Energy Rates	These are the natural gas and electricity rates paid by consumers, which are used to determine participant savings.
Utility Gas Supply Costs	the cost of gas paid by the utility to purchase, transmit, and distribute natural gas to customers.
Green House Gas (GHG) Costs	As required by Section 8-104(b) of the Act, natural gas avoided costs include reasonable estimates of the financial costs likely to be imposed by future regulation of emissions of greenhouse gases.

Input	Purpose
Water Costs	Water costs are estimated to account for direct benefits that accrue to participants for installing water conserving measures.
Other Quantifiable Societal Benefits (OQSB)	As required by Section 8-104(b) of the Act, TRC benefits include other quantifiable societal benefits. Nicor Gas quantified the societal benefits from avoiding non-GHG air emissions.
<i>Measure- and Program-Related Inputs</i>	
Measure Useful Life	Defines the number of years that installed efficiency measures provide savings.
Measure Annual Savings	Quantifies the reduction in energy consumption that occurs in each year of the measure's useful life.
Measure Participation	Tracks the number of efficient units installed by program participants. This typically tracks installed devices, but may also track other participation units such as square feet of new construction or linear feet of pipe insulation.
Measure Incremental Costs	Represents the cost difference between an efficient measure and a standard (baseline) measure, including differences in both purchase price and installation cost. Incremental costs for some measures also represent incremental costs (or savings) in ongoing operations costs.
Gas Savings Profile	Adjusts for seasonality of measure savings. Certain measures save gas predominantly in the winter while others apply annually. Gas avoided costs are also adjusted to reflect seasonal variation.
Net-to-Gross Ratio	Represents the fraction of gross energy savings that are attributable to the energy efficiency program. This factor accounts for both free-ridership (customers that would have installed the measures, even in the absence of the program) and spillover (additional savings generated by the program beyond those directly counted through measure participation).
Incentive Costs	Represents the rebates or other financial incentives paid to program participants for each installed measure.
<i>Non-Incentive Costs</i>	
Portfolio Administration and Program Implementation Costs	Tracks non-incentive costs required to deliver the programs and the portfolio, including internal staff salaries, administrative expenses, marketing expenses, vendor costs, information systems, and evaluation.

7.2 Assumptions and Data Sources for E3 Input Files

Discount Rate

Consistent with the Policy Manual, the Nicor Gas Energy Efficiency Program uses a TRC discount rate of 2.40% representing the societal discount rate computed in the IL-TRM².

Avoided Costs

Nicor Gas included in its avoided cost calculations the costs for purchasing natural gas commodity, as well as the costs to transport and deliver commodity to customers. As required by Section 8-104(b), TRC benefits also include the avoided costs of greenhouse gas emissions, as well as other quantifiable societal benefits, which Nicor Gas defines as the avoided costs of non-GHG emissions.

Nicor Gas calculated natural gas commodity prices at Henry Hub, using the *Wood Mackenzie Natural Gas Forecast, Long Term View* from December 2020. Nicor Gas added to these the pipeline delivery and gas basis charges required to transport gas from Henry Hub to the Chicago city gate, and the distribution costs required to deliver gas from the city gate to customers.

For societal avoided costs, Nicor Gas calculated GHG consistent with the *2016 Interagency Working Group Social Cost of Greenhouse Gases*, developed by federal agencies under Executive Order 12866. Nicor Gas also included other quantifiable societal benefits, based on estimates of health costs from non-GHG air emissions coming from natural gas combustion calculated by the Nicor Gas independent evaluator in October 2020.

Total avoided costs begin at \$0.84 per therm in 2022, increasing to \$2.10 per therm in 2054. Calculation of the 2022 avoided costs is shown in Table 27.

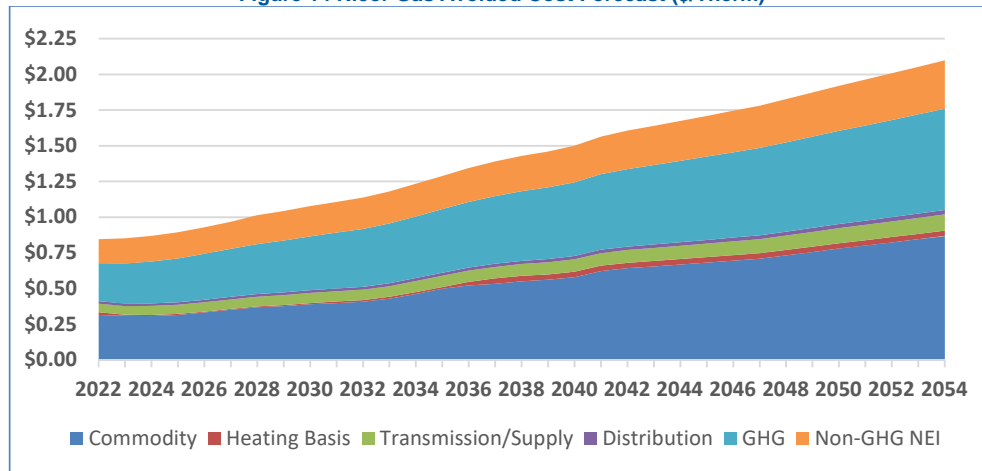
Table 27 Calculation of 2022 Avoided Costs

Avoided Cost Component	Cost (\$/Therm)
Natural Gas Commodity Price Forecast @ Henry Hub	\$0.333
Pipeline Delivery and Gas Supply Basis	\$0.060
Distribution Costs	\$0.017
Total Utility Avoided	\$0.410
Avoided Greenhouse Gases	\$0.266
Other Quantifiable Societal Benefits	\$0.168
Total Societal Avoided Costs	\$0.844

² See TRM V9, Volume 1, Section 3.10 (page 60 of volume 1).

The gas commodity price forecast extends to the year 2050. However, because the EEP includes measures with lifetimes longer than 25 years (such as the Residential New Construction program), these forecasts are extended to 2054 using a trend analysis. The avoided cost forecast through 2054 is shown in Figure 14.

Figure 14 Nicor Gas Avoided Cost Forecast (\$/Therm)



Water Benefits

Several measures included in the Nicor Gas Energy Efficiency Program such as aerators and low flow showerheads, save water in addition to natural gas. To account for economic benefits associated with these water savings, Nicor Gas constructed an index of municipal water rates for the 22 largest municipalities in the service territory. In the Nicor Gas service territory the cost of water for participants is \$6.31 per 1,000 gallons in 2019, using a weighted average by population. Throughout the period of the forecast, the water rate index is inflated at 4.01% per year based on historic inflation for water utility prices tracked by the U.S. Department of Labor.

Gas Savings Profiles

Gas usage varies with the time of year and type of equipment. Nicor Gas defined two gas savings profiles to represent these different usage patterns. A “winter only” profile applied to measures affecting space heating equipment and an “annual” profile applied to all other measures.

Seasonal Commodity Prices

Seasonal commodity prices were developed to match avoided costs to the gas savings profiles developed for heating and non-heating measures. Winter price premiums were calculated using monthly commodity price forecasts from the *Wood Mackenzie Natural Gas Forecast, Long Term View* from December 2020, and weighting winter prices by heating degree days for the Nicor Gas service territory. Winter price premiums ranged from \$0.019 per therm in 2022 to \$0.038 per therm in 2054.

Technical Assumptions

Technical assumptions include the inputs specified at the measure, program, and portfolio level required to calculate the costs and benefits of the Nicor Gas Energy Efficiency Program.

Measure inputs include the incremental costs participants incur to install efficient equipment relative to baseline alternatives, rebates and other financial incentives provided by Nicor Gas, incremental savings relative to baseline alternatives, water savings for certain measures, and equipment lifetimes. In addition, participation and NTG ratios are applied to each individual measure.

Nicor Gas used a variety of sources to calculate measure inputs. The algorithms and assumptions included in the January 1, 2021, version of the Illinois TRM, version 9, were used to calculate energy and water savings for measures covered by the TRM. For other measures, results of the Nicor Gas most recent applicable independent EM&V evaluation results were applied when available, and, if needed, data from other utilities and implementation contractors were also used.

In general, incremental costs and equipment lifetimes were also calculated using TRM assumptions and algorithms. Nicor Gas also used data mining and analysis of historic measure costs data, including contractor invoices and customer-reported project costs, to calculate incremental costs for a number of measures. Appendix A lists all the measure inputs used in the analysis.

Program inputs include the participation inputs that drive measure costs and savings, some program costs for marketing and administration, and NTG ratios. Participation inputs were developed from Nicor Gas program experience to date, benchmarking from other like programs, and feedback from SAG members. Participation was also adjusted to meet the budget limits set by Section 8-104(d) of the Act and the planning objectives outlined in Section 1.10.

Program costs were developed based on Nicor Gas program experience, modeling and analysis of historic program data, comparison to national and regional benchmarks, and feedback from SAG members.

Portfolio inputs include additional costs for portfolio functions, including portfolio management, marketing, emerging technology, market transformation, evaluation, and market development initiative. Portfolio costs were developed based on Nicor Gas experience to date, comparison to national and regional benchmarks, and feedback from SAG members. Portfolio costs are provided in Chapter 1.

Measure Incentive Costs

The Nicor Gas Energy Efficiency Program developed measure-level incentives based on a review of incremental measure costs, budget availability, historic program experience, other local and national benchmarks, and feedback from SAG members. The EEP believes that these incentive levels are properly designed to stimulate the market to reach the EEP planning objectives. However, should participation lag or dramatically exceed expectations, the Nicor Gas Energy Efficiency Program may modify incentive levels during the four-year period to achieve desired outcomes, all while managing portfolio constraints budgets, Stipulation agreements, and cost effectiveness.

Retail Rates

Retail rates included in the model are the blended forecast of Nicor Gas rates for each customer class, including residential, small business and large business.

Net-to-Gross Ratios

NTG ratios reflect the most recent NTG results from the independent evaluator and the SAG NTG Policy as applied prospectively for 2021.

7.3 Cost Effectiveness Results

The Nicor Gas Energy Efficiency Program, with a portfolio benefit-cost ratio of 3.00, achieves the requirements of Section 8-104 that Nicor Gas demonstrate “that its overall portfolio of energy efficiency measures, not including low-income programs..., are cost-effective using the total resource cost test and represent a diverse cross section of opportunities for customers of all rate classes to participate in the programs”.

Table 28 provides cost-effectiveness results for each program in the portfolio. Appendix A provides cost-effectiveness results for each measure in the portfolio. In Table 28, both the TRC and PAC results are presented, along with results of a sensitivity analysis excluding other quantifiable societal benefits. Table 28 also shows portfolio results for the entire portfolio, as well as results excluding IQ programs.

Table 28 Program TRC and PAC Results

Programs	Benefit-Cost Ratio			
	TRC	TRC excluding OQSB*	PAC	PAC excluding OQSB*
Residential	3.65	3.15	2.11	2.11
Education and Outreach	8.11	7.29	1.62	1.62
HEER	4.05	3.46	4.09	4.09
HES	1.87	1.61	0.76	0.76
MF	2.32	1.99	0.89	0.89
RNC	2.41	2.06	1.64	1.64
Income Qualified Program	2.14	1.89	0.55	0.55
IQ Weatherization	1.24	1.06	0.40	0.40
IQ PHA	0.92	0.79	0.30	0.30
IQ ESK	12.63	11.58	2.05	2.05
IQ AHNC	3.99	3.41	1.21	1.21
Business	4.34	3.71	2.10	2.10
SEM	4.51	3.80	1.29	1.29
SB	4.92	4.21	1.53	1.53
BEER	8.58	7.34	2.90	2.90
Custom	2.67	2.27	1.94	1.94
CINC	3.39	2.90	1.60	1.60
Portfolio	3.00	2.58	1.22	1.22
Portfolio Excluding Income Qualified	3.23	2.77	1.48	1.48

*OQSB = Other Quantifiable Societal Benefits

8 Conclusion

The Nicor Gas Energy Efficiency team is excited to implement the next four-year portfolio, which will yield cost-effective benefits for our customers. The portfolio will generate significant economic impact in the community, create and support jobs, reduce greenhouse gases, provide all customers with opportunities to participate, and help transform energy usage. It includes a new Market Development Initiative that will focus efforts in many communities that have historically been left behind, creating new opportunities and partnerships into the future.

With the experienced team of Nicor Gas Energy Efficiency Program staff, Nicor Gas expects a seamless transition as we execute the 2022-2025 portfolio. Our success will continue to rely on communication and partnership with stakeholders, implementation contractors, trade allies and independent evaluators. Most critical to success will be our continued focus on customer needs, providing simple, clear pathways for them to engage and take action. Working collaboratively, the Nicor Gas Energy Efficiency Program will continue to lead the way for years to come.

Appendix A – Measure List

The measures offered by the Nicor Gas Energy Efficiency Program are included in this appendix.

Measure #	Program	Program Component	Measures	Measure Inputs							Measure Savings (2022-2025)				Measure Cost Effectiveness (2022-2025)				
				TRM Volume	Units	Incremental Cost	Incentive	Direct Install Labor	Direct Install Materials	Other Rebate	Net to Gross Ratio	Measure Life	First Year Therms	Lifecycle Therms	Annual kWh	Annual gallons water	Participation	TRC	PAC
1	BEER	BEER BOP	Boiler Tune Up, Process	4.4.3	Project	\$1,450	\$1,450	\$0	\$0	\$0	92%	3.0	100,114	300,341	0	0	133	1.7	0.5
2	BEER	BEER BOP	Boiler Tune Up, 1800 MBH BOP	4.4.2	Project	\$1,250	\$1,250	\$0	\$0	\$0	92%	3.0	202,384	607,152	0	0	285	1.8	0.5
3	BEER	BEER BOP	Pipe Insulation, Indoor HW Space Heat	4.4.14	LN FT	\$14	\$4	\$0	\$0	\$0	92%	15.0	26,503	397,538	0	0	17,100	1.9	1.9
4	BEER	BEER BOP	Pipe Insulation, Indoor LPS Space Heat	4.4.14	LN FT	\$14	\$5	\$0	\$0	\$0	92%	15.0	151,999	2,279,980	0	0	38,000	4.8	3.9
5	BEER	BEER BOP	Pipe Insulation, Indoor MPS Space Heat	4.4.14	LN FT	\$14	\$5	\$0	\$0	\$0	92%	15.0	4,386	65,787	0	0	760	7.0	5.7
6	BEER	BEER BOP	Pipe Insulation, Indoor HPS Space Heat	4.4.14	LN FT	\$14	\$5	\$0	\$0	\$0	92%	15.0	200,607	3,009,099	0	0	26,600	9.1	7.4
7	BEER	BEER BOP	Pipe Insulation, Indoor DHW	4.4.14	LN FT	\$14	\$4	\$0	\$0	\$0	92%	15.0	5,384	80,756	0	0	2,850	2.3	2.3
8	BEER	BEER BOP	Pipe Insulation, Indoor LPS Process Heat	4.4.14	LN FT	\$14	\$5	\$0	\$0	\$0	92%	15.0	4,048	60,714	0	0	589	8.3	6.8
9	BEER	BEER BOP	Pipe Insulation, Indoor MPS Process Heat	4.4.14	LN FT	\$14	\$5	\$0	\$0	\$0	92%	15.0	16,953	254,302	0	0	1,710	11.9	9.7
10	BEER	BEER BOP	Pipe Insulation, Indoor HPS Process Heat	4.4.14	LN FT	\$14	\$5	\$0	\$0	\$0	92%	15.0	32,003	480,043	0	0	2,470	15.6	12.7
11	BEER	BEER BOP	Steam Trap, Commercial	4.4.16	Unit	\$150	\$150	\$0	\$0	\$0	92%	6.0	124,975	749,580	2,848	1,107,694	1,330	4.3	1.2
12	BEER	BEER BOP	Steam Trap, Indust MP 15-30 psig	4.4.16	Unit	\$335	\$335	\$0	\$0	\$0	92%	6.0	333,389	2,000,337	7,258	2,823,003	475	14.4	4.0
13	BEER	BEER BOP	Steam Trap, Indust MP 30-75 psig	4.4.16	Unit	\$335	\$335	\$0	\$0	\$0	92%	6.0	1,115,251	6,691,506	24,055	9,356,444	437	52.5	14.4
14	BEER	BEER BOP	Steam Trap, Indust HP 75-125 psig	4.4.16	Unit	\$335	\$335	\$0	\$0	\$0	92%	6.0	1,470,084	8,820,506	31,325	12,183,789	304	99.3	27.3
15	BEER	BEER BOP	Steam Trap, Indust HP 125-175 psig	4.4.16	Unit	\$335	\$335	\$0	\$0	\$0	92%	6.0	1,922,073	11,532,435	40,812	15,873,960	285	138.5	38.0
16	BEER	BEER BOP	Steam Trap, Indust HP 175-250 psig	4.4.16	Unit	\$370	\$335	\$0	\$0	\$0	92%	6.0	1,558,012	9,348,072	33,029	12,846,833	171	169.4	51.4
17	BEER	BEER BOP	Steam Trap, Indust HP 250 psig	4.4.16	Unit	\$418	\$335	\$0	\$0	\$0	92%	6.0	443,533	2,661,198	9,402	3,656,874	38	192.1	65.7
18	BEER	BEER BOP	Steam Traps - Test/Audit - CPOP	Custom	Unit	\$1,500	\$1,500	\$0	\$0	\$0	92%	0.0	0	0	0	0	152	0.0	0.0
19	BEER	BEER CFS	Commercial Steamer, E & 38%	4.2.3	Unit	\$2,100	\$2,000	\$0	\$0	\$100	86%	12.0	6,467	77,608	0	565,407	10	6.7	1.2
20	BEER	BEER CFS	Convection Oven, E >46%	4.2.5	Unit	\$550	\$500	\$0	\$0	\$50	86%	12.0	49,548	594,571	0	163	7.3	2.1	
21	BEER	BEER CFS	Combination Oven (16 pans)	4.2.1	Unit	\$4,200	\$2,000	\$0	\$0	\$100	86%	12.0	9,384	112,608	0	112	60.0	0.6	
22	BEER	BEER CFS	Large Conveyor Oven, >=25 in	4.2.4	Unit	\$1,800	\$1,500	\$0	\$0	\$100	86%	17.0	15,965	271,406	0	21	8.1	2.7	
23	BEER	BEER CFS	Large Conveyor Oven, <25 in	Custom	Unit	\$1,800	\$1,500	\$0	\$0	\$100	86%	17.0	31,170	529,887	0	41	8.1	2.7	
24	BEER	BEER CFS	Rack Oven - Single	4.2.18	Unit	\$4,933	\$1,000	\$0	\$0	\$100	86%	12.0	8,892	106,709	0	10	2.4	3.1	
25	BEER	BEER CFS	Rack Oven - Double	4.2.18	Unit	\$3,000	\$2,000	\$0	\$0	\$100	86%	12.0	16,602	199,228	0	10	7.3	3.0	
26	BEER	BEER CFS	Fryer - E >50%	4.2.7	Unit	\$1,200	\$750	\$0	\$0	\$50	86%	12.0	145,010	1,740,121	0	335	4.8	2.1	
27	BEER	BEER CFS	Fryer - Large Vat	Custom	Unit	\$1,200	\$750	\$0	\$0	\$50	86%	12.0	39,823	477,882	0	92	4.8	2.1	
28	BEER	BEER CFS	Griddle	4.2.8	Unit	\$857	\$500	\$0	\$0	\$50	86%	12.0	3,835	46,019	0	30	2.0	0.9	
29	BEER	BEER CFS	Pasta Cooker	4.2.17	Unit	\$2,400	\$200	\$0	\$0	\$25	86%	12.0	48,659	583,906	0	41	6.6	20.2	
30	BEER	BEER CFS	Infrared Rotisserie Oven	4.2.13	Unit	\$2,665	\$500	\$0	\$0	\$50	86%	12.0	5,152	61,821	0	10	2.6	3.6	
31	BEER	BEER CFS	Infrared Charbroiler	4.2.12	Unit	\$2,173	\$1,000	\$0	\$0	\$100	86%	12.0	18,232	218,788	0	30	3.7	2.1	
32	BEER	BEER CFS	Infrared Upright Broiler	4.2.15	Unit	\$4,400	\$500	\$0	\$0	\$50	86%	12.0	8,114	97,368	0	10	2.4	5.6	
33	BEER	BEER CFS	Infrared Salamander Broiler	4.2.14	Unit	\$1,000	\$500	\$0	\$0	\$50	86%	12.0	4,339	52,065	0	21	2.7	2.4	
34	BEER	BEER CFS	Conveyor Broilers	Custom	Unit	\$2,600	\$2,500	\$0	\$0	\$100	86%	12.0	6,080	72,962	0	10	3.1	0.9	
35	BEER	BEER CFS	Kitchen Demand Ventilation Controls	4.2.16	Project	\$1,992	\$1,250	\$0	\$0	\$100	86%	20.0	108,333	2,166,658	0	21	59.8	26.7	
36	BEER	BEER CFS	Dishwasher	4.2.6	Unit	\$800	\$750	\$0	\$0	\$50	86%	15.6	16,184	251,756	868	1,853,034	41	15.9	2.5
37	BEER	BEER Private	Bonus Incentives - BEER	Custom	Unit	\$1,060	\$1,000	\$0	\$0	\$0	86%	1.0	0	0	0	73	0.0	0.0	
38	BEER	BEER Private	Boiler Reset Controls, 300 MBH	4.4.4	Project	\$504	\$500	\$0	\$0	\$0	86%	16.0	1,527	24,427	0	5	11.3	3.4	
39	BEER	BEER Private	Boiler Tune Up, 400 MBH	4.4.2	Project	\$333	\$150	\$0	\$0	\$0	86%	3.0	6,106	18,317	0	44	4.4	1.6	
40	BEER	BEER Private	Boiler Tune Up, Process	4.4.3	Project	\$664	\$400	\$0	\$0	\$0	86%	3.0	30,827	92,480	0	44	3.4	1.6	
41	BEER	BEER Private	Condensing Boilers, >90%, <300 MBH	4.4.10	Unit	\$3,365	\$500	\$0	\$0	\$0	86%	25.0	5,003	125,071	0	27	1.6	3.3	
42	BEER	BEER Private	Condensing Boilers, >90% 300-499 MBH	4.4.10	Unit	\$4,190	\$1,500	\$0	\$0	\$0	86%	25.0	1,705	42,614	0	5	2.4	2.1	
43	BEER	BEER Private	Condensing Boilers, >90% 500-999 MBH	4.4.10	Unit	\$6,115	\$2,500	\$0	\$0	\$0	86%	25.0	9,926	248,138	0	17	2.8	2.1	
44	BEER	BEER Private	Condensing Boilers, >90% 1000-1700 MBH	4.4.10	Unit	\$9,415	\$5,000	\$0	\$0	\$0	86%	25.0	5,366	134,150	0	5	3.4	1.9	
45	BEER	BEER Private	Condensing Boilers, >90% 1701-2500 MBH	4.4.10	Unit	\$12,165	\$7,500	\$0	\$0	\$0	86%	25.0	19	842,574	0	19	4.2	2.1	
46	BEER	BEER Private	Hydronic Boilers, 285% <300 MBH	4.4.10	Unit	\$1,470	\$400	\$0	\$0	\$0	86%	25.0	123	3,085	0	5	0.50	0.6	
47	BEER	BEER Private	Hydronic Boilers, 285% 300-499 MBH	4.4.10	Unit	\$1,620	\$1,000	\$0	\$0	\$0	86%	25.0	143	3,568	0	2	1.1	0.5	
48	BEER	BEER Private	Hydronic Boilers, 285% 500-999 MBH	4.4.10	Unit	\$1,970	\$1,250	\$0	\$0	\$0	86%	25.0	256	6,388	0	2	1.6	0.7	
49	BEER	BEER Private	Hydronic Boilers, 285% 1000-1700 MBH	4.4.10	Unit	\$2,570	\$1,750	\$0	\$0	\$0	86%	25.0	482	12,050	0	2	2.2	1.0	
50	BEER	BEER Private	Hydronic Boilers, 285% 1701-2500 MBH	4.4.10	Unit	\$3,070	\$2,500	\$0	\$0	\$0	86%	25.0	1,366	34,147	0	5	2.7	1.0	
51	BEER	BEER Private	Furnace, >91% AFUE	4.4.11	Unit	\$802	\$400	\$0	\$0	\$0	86%	16.5	3,095	51,060	8,917	15	6.6	3.0	
52	BEER	BEER Private	Furnace, >95% AFUE	4.4.11	Unit	\$1,511	\$800	\$0	\$0	\$0	86%	16.5	55,759	920,016	127,808	209	3.7	1.9	
53	BEER	BEER Private	Furnace, >92% AFUE - CA	4.4.11	Unit	\$802	\$400	\$0	\$0	\$0	86%	16.5	3,051	50,339	7,431	12	6.5	3.5	
54	BEER	BEER Private	Furnace, >95% AFUE - CA	4.4.11	Unit	\$1,511	\$800	\$0	\$0	\$0	86%	16.5	3,616	59,661	7,431	12	4.0	2.1	
55	BEER	BEER Private	Condensing Unit Heaters, >90% <300 MBH	4.4.5	Unit	\$676	\$325	\$0	\$0	\$0	86%	12.0	557	6,681	0	2	4.5	2.7	
56	BEER	BEER Private	Infrared Heaters	4.4.12	Unit	\$1,716	\$700	\$0	\$0	\$0	86%	12.0	56,841	679,689	0	146	3.0	2.2	
57	BEER	BEER Private	Direct Fired Space Heater <800 MBH	Customized TRM 4.4.39	Unit	\$3,900	\$250	\$0	\$0	\$0	86%	15.0	4,885	73,268	0	2	8.7	3.4	
58	BEER	BEER Private	Direct Fired Space Heater 800-1600 MBH	Customized TRM 4.4.39	Unit	\$8,914	\$500	\$0	\$0	\$0	86%	15.0	9,769	146,534	0	2	7.6	39.3	
59	BEER	BEER Private	Direct Fired Space Heater >1600 MBH	Customized TRM 4.4.39	Unit	\$14,856	\$750	\$0	\$0	\$0	86%	15.0	14,998	224,966	0	2	7.0	40.2	
60	BEER	BEER Private	Storage Water Heater, >0.67 EF	4.3.1	Unit	\$440	\$50	\$0	\$0	\$0	86%	15.0	101	1,514	0	2	1.6	4.0	
61	BEER	BEER Private	Storage Water Heater, >88% TE	4.3.1	Unit	\$879	\$100	\$0	\$0	\$0	86%	15.0	704	10,556	0	2	5.5	13.8	
62	BEER	BEER Private	Programmable Thermostat - Commercial	Customized TRM 4.4.48	Unit	\$75	\$25	\$0	\$0	\$0	86%	11.0	35,204	387,248	0	180	31.8	27.8	
63	BEER	BEER Private	CDHW Controls - MF Buildings	4.3.8	Project	\$2,008	\$400	\$0	\$0	\$0	86%	15.0	26,243	393,641	6,868	12	13.1	17.6	
64	BEER	BEER Private	CDHW Controls - Dormitories	4.3.8	Project	\$2,008	\$600	\$0	\$0	\$0	86%	15.0	2,524	37,864	1,373	2	8.9	8.2	
65	BEER	BEER Private	Indoor Pool Covers	4.3.4	Unit	\$2,000	\$1,250	\$0	\$0	\$0	86%	6.0	5,463	32,779	0	31,983	2	7.5	3.2
66	BEER	BEER Private	Outdoor Pool Covers	4.3.4	Unit	\$2,040	\$750	\$0	\$0	\$0	86%	6.0	2,114	12,685	0	18,713	2	2.9	2.1
67	BEER	BEER Private	Ozone Laundry	4.3.6	Unit	\$11,976	\$5,250	\$0	\$0	\$0	86%	10.0	19,278	192,779	12	1,147,736	5	5.2	2.3
68	BEER	BEER Private	Modulating Commercial Gas Clothes Dryer - Coin	4.8.4	Unit	\$700	\$100	\$0	\$0	\$0	86%	14.0	1,117	15,645	0	5	5.1	10.3	
69	BEER	BEER Private	Modulating Commercial Gas Clothes Dryer - Multi	4.8.4	Unit	\$700	\$100	\$0	\$0	\$0	86%	14.0	17,951	239,260	0	4	141,021	1.7	4.4
70	BEER	BEER Private	Modulating Commercial Gas Clothes Dryer - On Pr	4.8.4	Unit	\$700	\$100	\$0	\$0	\$0	86%	14.0	2,718	38,052	0	5	12.5	25.1	
71	BEER	BEER Private	DCV - Default	4.4.19	Unit	\$16,950	\$4,800	\$0	\$0	\$0	86%	10.0	93,881	938,809	0	10	6.3	6.4	
72	BEER	BEER Private	Pipe Insulation, Indoor HW Space Heat	4.4.14	LN FT	\$14	\$4	\$0	\$0										

Measure #	Program	Program Component	Measures	Measure Inputs								Measure Savings (2022-2025)				Measure Cost Effectiveness (2022-2025)			
				TRM Volume	Units	Incremental Cost	Incentive	Direct Install Labor	Direct Install Materials	Other Rebate	Net to Gross Ratio	Measure Life	First Year Therms	Lifecycle Therms	Annual kWh	Annual gallons water	PAC	TRC	PAC
84	BEER	BEER Private	Small Pipe Insulation, 3/4", Indoor DHW	4.4.24	LN FT	\$4	\$2	\$0	\$0	\$0	86%	15.0	77	1,156	0	0	319	0.91	0.6
85	BEER	BEER Private	Pipe Insulation, Outdoor HW Space Heat	4.4.14	LN FT	\$21	\$8	\$0	\$0	\$0	86%	15.0	4,911	73,667	0	0	241	16.2	12.5
86	BEER	BEER Private	Pipe Insulation, Outdoor LPS Space Heat	4.4.14	LN FT	\$21	\$6	\$0	\$0	\$0	86%	15.0	7,991	119,860	0	0	224	28.3	29.2
87	BEER	BEER Private	Pipe Insulation, Outdoor MPS Space Heat	4.4.14	LN FT	\$21	\$8	\$0	\$0	\$0	86%	15.0	33,075	496,125	0	0	728	36.1	27.9
88	BEER	BEER Private	Pipe Insulation, Outdoor HPS Space Heat	4.4.14	LN FT	\$21	\$8	\$0	\$0	\$0	86%	15.0	13,304	199,558	0	0	241	43.8	33.9
89	BEER	BEER Private	Pipe Insulation, Outdoor LPS Process Heat	4.4.14	LN FT	\$21	\$6	\$0	\$0	\$0	86%	15.0	26,583	398,747	0	0	475	44.5	45.9
90	BEER	BEER Private	Pipe Insulation, Outdoor MPS Process Heat	4.4.14	LN FT	\$21	\$8	\$0	\$0	\$0	86%	15.0	15,105	226,576	0	0	212	56.6	43.8
91	BEER	BEER Private	Pipe Insulation, Outdoor HPS Process Heat	4.4.14	LN FT	\$21	\$8	\$0	\$0	\$0	86%	15.0	75,087	1,126,311	0	0	866	68.8	53.3
92	BEER	BEER Private	Steam Trap, Commercial	4.4.16	Unit	\$77	\$50	\$0	\$0	\$0	86%	6.0	84,874	509,245	1,934	752,267	966	7.9	3.3
93	BEER	BEER Private	Steam Trap, Indust MP 15-30 psig	4.4.16	Unit	\$300	\$300	\$0	\$0	\$0	86%	6.0	263,485	1,580,900	5,736	2,231,079	402	15.1	4.1
94	BEER	BEER Private	Steam Trap, Indust MP 30-75 psig	4.4.16	Unit	\$300	\$300	\$0	\$0	\$0	86%	6.0	191,610	1,149,661	4,133	1,607,521	80	54.8	15.0
95	BEER	BEER Private	Steam Trap, Indust HP 75-125 psig	4.4.16	Unit	\$300	\$300	\$0	\$0	\$0	86%	6.0	1,463,301	8,779,805	31,800	12,127,570	324	103.7	28.5
96	BEER	BEER Private	Steam Trap, Indust HP 125-175 psig	4.4.16	Unit	\$322	\$300	\$0	\$0	\$0	86%	6.0	828,575	4,971,452	17,593	6,843,016	131	134.7	39.7
97	BEER	BEER Private	Steam Trap, Indust HP 175-250 psig	4.4.16	Unit	\$370	\$300	\$0	\$0	\$0	86%	6.0	82,918	497,507	1,758	683,712	10	158.3	53.3
98	BEER	BEER Private	Steam Trap, Indust HP 250 psig	4.4.16	Unit	\$418	\$300	\$0	\$0	\$0	86%	6.0	265,556	1,593,334	5,629	2,189,474	24	179.6	68.7
99	BEER	BEER Private	Steam Trap, Dry Cleaner	4.4.16	Unit	\$300	\$200	\$0	\$0	\$0	86%	6.0	649,713	3,898,280	14,315	5,567,804	1,166	12.8	5.3
100	BEER	BEER Private	Pre-Rinse Spray Valves	4.2.11	Unit	\$125	\$75	\$0	\$0	\$0	86%	5.0	505	2,526	0	69,316	2	17.5	12.4
101	BEER	BEER Private	Mid Business - Drop In	Custom	Unit	\$335	\$335	\$0	\$0	\$0	86%	0.0	0	0	0	0	44	0.0	0.0
102	BEER	BEER Private	Mid Business Assessment	Custom	Unit	\$2,700	\$1,350	\$0	\$0	\$0	86%	0.0	0	0	0	49	0.0	0.0	
103	BEER	BEER Private	Mid Business Assessment	Custom	Unit	\$2,700	\$400	\$0	\$0	\$0	86%	0.0	0	0	0	44	0.0	0.0	
104	BEER	BEER Private	Spray Valve (Small Restaurants)-DI	4.2.11	Unit	\$75	\$75	\$0	\$0	\$0	86%	5.0	331	1,656	0	45,453	2	19.2	2.7
105	BEER	BEER Private	Spray Valve (Med Sized Restaurants)-DI	4.2.11	Unit	\$75	\$75	\$0	\$0	\$0	86%	5.0	994	4,969	0	136,360	5	28.7	4.1
106	BEER	BEER Private	Pre-Rinse Spray Valves	4.2.11	Unit	\$125	\$75	\$0	\$0	\$0	86%	5.0	505	2,526	0	69,316	2	17.5	4.1
107	BEER	BEER Private	Faucet Aerators - Kitchen - DI	4.3.2	Project	\$12	\$0	\$11	\$1	\$0	86%	10.0	109	1,089	0	22,494	19	12.7	1.5
108	BEER	BEER Private	Faucet Aerators - Bath - DI	4.3.2	Project	\$12	\$0	\$11	\$1	\$0	86%	10.0	2,980	29,804	0	750,729	650	11.8	1.2
109	BEER	BEER Private	Laminar Flow	4.3.2	Project	\$14	\$0	\$11	\$3	\$0	86%	10.0	39,650	396,501	0	8,140,504	1,862	40.5	4.8
110	BEER	BEER Private	Low Flow Shower Heads - DI	4.3.3	Project	\$35	\$50	\$32	\$3	\$0	86%	10.0	17,260	172,602	0	2,975,895	1,008	12.0	1.5
111	BEER	BEER Private	Commercial Weather Stripping 3ft DI	4.8.16	LN FT	\$60	\$60	\$0	\$0	\$0	86%	10.0	864	8,641	19,743	0	97	3.4	0.5
112	BEER	BEER Private	Air Deflectors	4.4.47	Unit	\$330	\$0	\$80	\$250	\$0	86%	20.0	17,269	345,370	0	0	365	3.3	1.0
113	BEER	BEER Private	Air Deflectors	4.4.47	Unit	\$250	\$200	\$0	\$0	\$0	86%	20.0	5,756	115,123	0	0	122	4.4	1.7
114	BEER	BEER Private	Garage Door Hinge	4.8.12	Unit	\$269	\$0	\$80	\$189	\$0	86%	20.0	10,158	203,162	0	0	243	3.6	1.1
115	BEER	BEER Private	Garage Door Hinge	4.8.12	Unit	\$189	\$100	\$0	\$0	\$0	86%	20.0	5,079	101,581	0	0	122	5.1	2.9
116	BEER	BEER Private	Hydronic Heating Radiator Replacement	4.4.52	Project	\$61	\$60	\$0	\$0	\$0	86%	25.0	2,587	64,663	0	107	31.5	3.6	
117	BEER	BEER Private	Boiler Chemical Descaling	4.4.49	Project	\$473	\$450	\$0	\$0	\$0	86%	2.0	6,032	12,064	0	0	24	1.1	0.3
118	BEER	BEER Private	Venturi Steam Trap, Commercial	4.4.16	Unit	\$193	\$150	\$0	\$0	\$0	86%	20.0	3,848	76,964	88	34,108	44	11.2	4.1
119	BEER	BEER Private	Venturi Steam Trap, Indust MP 15-30 psig	4.4.16	Unit	\$750	\$600	\$0	\$0	\$0	86%	20.0	39,922	798,439	869	338,024	61	21.5	7.6
120	BEER	BEER Private	Venturi Steam Trap, Indust MP 30-75 psig	4.4.16	Unit	\$750	\$600	\$0	\$0	\$0	86%	20.0	81,289	1,625,783	1,753	681,979	34	78.1	27.8
121	BEER	BEER Private	Venturi Steam Trap, Indust HP 75-125 psig	4.4.16	Unit	\$750	\$600	\$0	\$0	\$0	86%	20.0	165,034	3,300,679	3,517	1,367,771	37	148.0	52.7
122	BEER	BEER Private	Venturi Steam Trap, Indust HP 125-175 psig	4.4.16	Unit	\$805	\$600	\$0	\$0	\$0	86%	20.0	168,784	3,375,678	3,584	1,293,948	27	218.5	73.4
123	BEER	BEER Private	Venturi Steam Trap, Indust HP 175-250 psig	4.4.16	Unit	\$925	\$600	\$0	\$0	\$0	86%	20.0	414,589	8,291,785	8,789	3,418,561	49	226.0	99.3
124	BEER	BEER Private	Venturi Steam Trap, Indust HP 250 psig	4.4.16	Unit	\$1,045	\$600	\$0	\$0	\$0	86%	20.0	265,556	5,311,115	5,629	2,189,474	24	256.3	127.2
125	BEER	BEER Private	Venturi Steam Trap, Dry Cleaner	4.4.16	Unit	\$750	\$600	\$0	\$0	\$0	86%	20.0	20,346	406,919	448	174,357	37	18.3	6.5
126	BEER	BEER Private	Storage Water Heater, >0.67 EF	4.3.1	Unit	\$440	\$350	\$0	\$0	\$0	86%	15.0	1,893	29,388	0	0	46	1.6	0.6
127	BEER	BEER Private	Storage Water Heater, >88% TE	4.3.1	Unit	\$979	\$650	\$0	\$0	\$0	86%	15.0	13,194	197,316	0	0	46	5.5	2.2
128	BEER	BEER Public	Bonus Incentives - BEER	Custom	Unit	\$1,060	\$1,060	\$0	\$0	\$0	86%	1.0	0	0	0	161	0.0	0.0	
129	BEER	BEER Public	Boiler Reset Controls, 300 MBH	4.4.4	Project	\$504	\$500	\$0	\$0	\$0	86%	16.0	1,686	26,977	0	0	5	11.3	3.4
130	BEER	BEER Public	Boiler Tune Up, 400 MBH	4.4.2	Project	\$332	\$150	\$0	\$0	\$0	86%	3.0	11,988	35,964	0	0	86	1.3	0.9
131	BEER	BEER Public	Boiler Tune Up, Process	4.4.3	Project	\$664	\$400	\$0	\$0	\$0	86%	3.0	1,891	5,674	0	0	3	3.4	1.6
132	BEER	BEER Public	Condensing Boilers, >90%, <300 MBH	4.4.10	Unit	\$3,365	\$500	\$0	\$0	\$0	86%	25.0	1,256	31,393	0	0	7	1.6	3.3
133	BEER	BEER Public	Condensing Boilers, 290% 300-499 MBH	4.4.10	Unit	\$4,190	\$1,500	\$0	\$0	\$0	86%	25.0	471	11,766	0	0	1	2.4	2.0
134	BEER	BEER Public	Condensing Boilers, 290% 500-999 MBH	4.4.10	Unit	\$6,155	\$2,500	\$0	\$0	\$0	86%	25.0	2,349	58,724	0	0	4	2.8	2.1
135	BEER	BEER Public	Condensing Boilers, >90% 1000-1700 MBH	4.4.10	Unit	\$9,415	\$5,000	\$0	\$0	\$0	86%	25.0	1,482	37,039	0	0	1	3.4	1.9
136	BEER	BEER Public	Condensing Boilers, >90% 1701-2500 MBH	4.4.10	Unit	\$12,165	\$7,500	\$0	\$0	\$0	86%	25.0	4,653	116,317	0	0	3	4.1	2.0
137	BEER	BEER Public	Hydronic Boilers, >85% <300 MBH	4.4.10	Unit	\$1,470	\$400	\$0	\$0	\$0	86%	25.0	34	852	0	0	1	0.50	0.5
138	BEER	BEER Public	Hydronic Boilers, >85% 500-999 MBH	4.4.10	Unit	\$1,970	\$1,250	\$0	\$0	\$0	86%	25.0	141	3,528	0	0	1	1.6	0.7
139	BEER	BEER Public	Hydronic Boilers, >85% 1701-2500 MBH	4.4.10	Unit	\$3,070	\$2,500	\$0	\$0	\$0	86%	25.0	377	9,428	0	0	1	2.7	1.0
140	BEER	BEER Public	Furnace, >95% AFUE	4.4.11	Unit	\$1,511	\$800	\$0	\$0	\$0	86%	16.5	3,580	59,074	8,206	0	13	3.7	1.9
141	BEER	BEER Public	Infrared Heaters	4.4.12	Unit	\$1,716	\$700	\$0	\$0	\$0	86%	12.0	521	6,255	0	0	1	3.0	2.1
142	BEER	BEER Public	DCV - Default	4.4.19	Unit	\$16,950	\$4,800	\$0	\$0	\$0	86%	10.0	12,960	129,603	0	0	1	6.3	6.2
143	BEER	BEER Public	Pipe Insulation, Indoor HW Space Heat	4.4.14	LN FT	\$14	\$4	\$0	\$0	\$0	86%	15.0	532	7,974	0	0	367	1.7	1.8
144	BEER	BEER Public	Pipe Insulation, Indoor LPS Space Heat	4.4.14	LN FT	\$14	\$4	\$0	\$0	\$0	86%	15.0	2,156	32,338	0	0	577	4.5	4.6
145	BEER	BEER Public	Pipe Insulation, Indoor MPS Space Heat	4.4.14	LN FT	\$14	\$6	\$0	\$0	\$0	86%	15.0	5,377	5,655	0	0	70	6.5	4.4
146	BEER	BEER Public	Pipe Insulation, Indoor HPS Space Heat	4.4.14	LN FT	\$14	\$8	\$0	\$0	\$0	86%	15.0	14,144	387,001	0	0	3,660	8.5	4.3
147	BEER	BEER Public	Pipe Insulation, Indoor MPS Process Heat	4.4.14	LN FT	\$14	\$6	\$0	\$0	\$0	86%	15.0	2,740	41,104	0	0	296	11.2	7.6
148	BEER	BEER Public	Pipe Insulation, Indoor HPS Process Heat	4.4.14	LN FT	\$14	\$8	\$0	\$0	\$0	86%	15.0	33	488	0	0	3	14.6	7.3
149	BEER	BEER Public	Pipe Insulation, Outdoor LPS Process Heat	4.4.14	LN FT	\$21	\$6	\$0	\$0	\$0	86%	15.0	75	1,129	0	0	1	44.3	44.5
150	BEER	BEER Public	Steam Trap, Commercial	4.4.16	Unit	\$77	\$50	\$0	\$0	\$0	86%	6.0	35,062	210,372	799	310,767	399	7.9	3.3
151	BEER	BEER Public	Steam Trap, Indust MP 15-30 psig	4.4.16	Unit	\$300	\$300	\$0	\$0	\$0	86%	6.0	6,173	37,035	134	52,267	9	15.1	4.1
152	BEER	BEER Public	Steam Trap, Indust MP 30-75 psig	4.4.16	Unit	\$300	\$300	\$0	\$0	\$0	86%	6.0	12,825	76,951	277	107,597	5	54.7	14.9
153	BEER	BEER Public	Steam Trap, Indust HP 75-125 psig	4.4.16	Unit	\$300	\$300	\$0	\$0	\$0	86%	6.0	12,151	72,905	259	100,704	3	103.5	27.9
154	BEER	BEER Public	Steam Trap, Indust HP 12																

Measure #	Program	Program Component	Measures	Measure Inputs										Measure Savings (2022-2025)				Measure Cost Effectiveness (2022-2025)		
				TRM Volume	Units	Incremental Cost	Incentive	Direct Install Labor	Direct Install Materials	Other Rebate	Net to Gross Ratio	Measure Life	First Year Therms	Lifecycle Therms	Annual kWh	Annual gallons water	Participation	TRC	PAC	
167	BEER	BEER Public	Air Deflectors	4.4.47	Unit	\$250	\$200	\$0	\$0	\$0	\$0	86%	20.0	2,384	47,678	0	0	50	4.4	1.7
168	BEER	BEER Public	Garage Door Hinge	4.8.12	Unit	\$269	\$0	\$80	\$189	\$0	\$0	86%	20.0	463	9,255	0	0	11	3.6	1.1
169	BEER	BEER Public	Garage Door Hinge	4.8.12	Unit	\$189	\$100	\$0	\$0	\$0	\$0	86%	20.0	98	1,963	0	0	2	5.1	2.8
170	BEER	BEER Public	Hydronic Heating Radiator Replacement	4.4.52	Project	\$61	\$60	\$0	\$0	\$0	\$0	86%	25.0	1,558	38,953	0	0	65	11.5	3.6
171	BEER	BEER Public	Boiler Chemical Descaling	4.4.49	Project	\$473	\$450	\$0	\$0	\$0	\$0	86%	2.0	7,834	15,669	0	0	32	1.1	0.3
172	BEER	BEER Public	Venturi Steam Trap, Commercial	4.4.16	Unit	\$193	\$150	\$0	\$0	\$0	\$0	86%	20.0	236	4,722	5	2,093	3	11.2	4.0
173	BEER	BEER Public	Venturi Steam Trap, Indust MP 15-30 psig	4.4.16	Unit	\$750	\$600	\$0	\$0	\$0	\$0	86%	20.0	2,645	52,908	58	22,400	4	21.5	7.6
174	BEER	BEER Public	Venturi Steam Trap, Indust MP 30-75 psig	4.4.16	Unit	\$750	\$600	\$0	\$0	\$0	\$0	86%	20.0	6,413	128,251	138	53,798	3	78.0	27.3
175	BEER	BEER Public	Venturi Steam Trap, Indust HP 75-125 psig	4.4.16	Unit	\$750	\$600	\$0	\$0	\$0	\$0	86%	20.0	12,151	243,018	259	100,704	3	147.7	51.8
176	BEER	BEER Public	Venturi Steam Trap, Indust HP 125-175 psig	4.4.16	Unit	\$805	\$600	\$0	\$0	\$0	\$0	86%	20.0	8,473	169,459	180	69,976	1	191.8	71.3
177	BEER	BEER Public	Venturi Steam Trap, Indust HP 175-250 psig	4.4.16	Unit	\$925	\$600	\$0	\$0	\$0	\$0	86%	20.0	34,340	686,809	728	283,159	4	225.8	98.3
178	BEER	BEER Public	Venturi Steam Trap, Indust HP 250 psig	4.4.16	Unit	\$1,045	\$600	\$0	\$0	\$0	\$0	86%	20.0	14,664	293,280	311	120,903	1	255.7	123.4
179	BEER	BEER Public	Venturi Steam Trap, Dry Cleaner	4.4.16	Unit	\$750	\$600	\$0	\$0	\$0	\$0	86%	20.0	1,498	29,960	33	12,837	3	18.2	6.4
180	BNC	BNC Private	Bonus Incentives - BNC	Custom	Unit	\$1,188	\$400	\$0	\$0	\$0	\$0	54%	1.0	0	0	0	0	10	0.0	0.0
181	BNC	BNC Private	Large Commercial New Construction	Custom	SO FT	\$0	\$0	\$0	\$0	\$0	\$0	54%	20.6	329,480	6,787,284	0	0	5,344,400	3.8	8.6
182	BNC	BNC Public	Bonus Incentives - BNC	Custom	Unit	\$1,188	\$1,064	\$0	\$0	\$0	\$0	54%	1.0	0	0	0	0	10	0.0	0.0
183	BNC	BNC Public	Large Commercial New Construction	Custom	SO FT	\$0	\$0	\$0	\$0	\$0	\$0	54%	20.6	135,981	2,801,201	0	0	2,284,120	3.8	8.6
184	Custom	Custom Private	Custom >15,000 therms	Custom	Project	\$393,932	\$58,338	\$0	\$0	\$0	\$0	79%	16.9	3,947,181	66,820,127	0	0	69	2.8	5.5
185	Custom	Custom Private	Opportunity Assessments-Custom	Custom	Unit	\$3,500	\$3,500	\$0	\$0	\$0	\$0	79%	1.0	0	0	0	0	62	0.0	0.0
186	Custom	Custom Private	Facility Assessments-Custom	Custom	Unit	\$18,000	\$18,000	\$0	\$0	\$0	\$0	79%	1.0	0	0	0	0	45	0.0	0.0
187	Custom	Custom Private	Custom Bonus Incentives	Custom	Unit	\$8,832	\$8,832	\$0	\$0	\$0	\$0	79%	1.0	0	0	0	0	12	12.0	4.0
188	Custom	Custom Private	RCX Project - Therm bury	Custom	Project	\$38,400	\$38,400	\$0	\$0	\$0	\$0	94%	7.5	227,923	1,709,424	0	0	8	6.2	1.7
189	Custom	Custom Private	RCX Project	Custom	Project	\$14,017	\$7,500	\$0	\$0	\$0	\$0	94%	7.5	195,061	1,462,957	0	0	9	12.7	6.8
190	Custom	Custom Private	RCX Study - Concurrent	Custom	Unit	\$8,400	\$8,400	\$0	\$0	\$0	\$0	79%	0.0	12	0	0	0	15	0.0	0.0
191	Custom	Custom Private	RCX Study - Stand Alone	Custom	Unit	\$14,400	\$14,400	\$0	\$0	\$0	\$0	79%	0.0	7	0	0	0	9	0.0	0.0
192	Custom	Custom Private	CHP Incentive FS	Custom	Unit	\$6,344	\$5,000	\$0	\$0	\$0	\$0	79%	1.0	0	0	0	0	15	0.0	0.0
193	Custom	Custom Private	CHP Project	Custom	Project	\$212,742	\$52,790	\$0	\$0	\$0	\$0	79%	25.0	166,815	4,170,383	4	4	5.6	6.8	
194	Custom	Custom Private	Custom Project - GHP	Custom	Project	\$45,816	\$18,326	\$0	\$0	\$0	\$0	79%	20.0	96,519	1,930,382	0	0	16	3.0	2.2
195	Custom	Custom Public	Public Sector Custom > 15,000 Therm Savings	Custom	Project	\$483,872	\$48,716	\$0	\$0	\$0	\$0	79%	18.3	1,103,187	20,225,100	0	0	23	2.1	6.0
196	Custom	Custom Public	Public Sector Custom < 15,000 Therm Savings	Custom	Project	\$77,804	\$5,875	\$0	\$0	\$0	\$0	79%	16.5	76,022	1,254,369	0	0	10	1.9	7.2
197	Custom	Custom Public	RCX Project	Custom	Project	\$14,017	\$10,700	\$0	\$0	\$0	\$0	94%	7.5	107,657	807,430	0	0	5	12.7	4.7
198	Custom	Custom Public	RCX Project - Therm bury	Custom	Project	\$38,400	\$38,400	\$0	\$0	\$0	\$0	94%	7.5	190,747	1,430,605	0	0	7	6.2	1.7
199	Custom	Custom Public	Opportunity Assessments-Custom Public	Custom	Unit	\$3,500	\$3,500	\$0	\$0	\$0	\$0	79%	1.0	0	0	0	0	20	0.0	0.0
200	Custom	Custom Public	Facility Assessments-Custom	Custom	Unit	\$18,000	\$18,000	\$0	\$0	\$0	\$0	79%	1.0	0	0	0	0	18	0.0	0.0
201	Custom	Custom Public	Public Sector Assessment	Custom	Unit	\$10,500	\$10,500	\$0	\$0	\$0	\$0	79%	1.0	0	0	0	0	36	0.0	0.0
202	Custom	Custom Public	RCX Study - Concurrent	Custom	Unit	\$8,400	\$8,400	\$0	\$0	\$0	\$0	79%	0.0	6	0	0	0	8	0.0	0.0
203	Custom	Custom Public	RCX Study - Stand Alone	Custom	Unit	\$14,400	\$14,400	\$0	\$0	\$0	\$0	79%	0.0	4	0	0	0	5	0.0	0.0
204	Custom	Custom Public	CHP Incentive FS	Custom	Unit	\$6,344	\$5,000	\$0	\$0	\$0	\$0	79%	1.0	0	0	0	0	3	0.0	0.0
205	Custom	Custom Public	Public Sector CHP Project	Custom	Project	\$235,421	\$58,417	\$0	\$0	\$0	\$0	79%	25.0	96,914	2,422,846	0	0	7	2.9	4.3
206	Custom	Custom Public	Custom Bonus Incentives	Custom	Unit	\$8,832	\$8,832	\$0	\$0	\$0	\$0	79%	1.0	0	0	0	0	8	0.0	0.0
207	Custom	Custom Public	Custom Project - GHP	Custom	Project	\$87,750	\$87,750	\$0	\$0	\$0	\$0	79%	20.0	25,336	506,725	0	0	4	1.6	0.5
208	HEER	HEER Fstats	Advanced Thermostat (TOS) - Blended Nicor	5.3.16	Unit	\$82	\$25	\$0	\$0	\$0	\$0	90%	11.0	6,751,907	74,270,973	484,957	0	88,082	11.4	10.9
209	HEER	HEER	Furnace, >95% AFUE	5.3.7	Unit	\$1,240	\$150	\$0	\$0	\$0	\$0	84%	20.0	4,991,061	99,821,228	0	0	32,014	2.9	7.3
210	HEER	HEER	Furnace, >97% AFUE	5.3.7	Unit	\$1,434	\$225	\$0	\$0	\$0	\$0	84%	20.0	516,663	10,333,266	0	0	2,769	3.0	5.8
211	HEER	HEER	Boilers, >95% AFUE +300 MBH - SF	5.3.16	Unit	\$1,785	\$350	\$0	\$0	\$0	\$0	84%	25.0	69,098	1,727,440	0	0	409	2.8	4.3
212	HEER	HEER	Bonus Incentives - HEER	Custom	Unit	\$100	\$100	\$0	\$0	\$0	\$0	84%	1.0	0	0	0	0	2,284	0.0	0.0
213	HEER	HEER	Furnace, >95% AFUE	5.3.7	Unit	\$1,240	\$200	\$0	\$0	\$0	\$0	84%	20.0	296,781	5,935,616	0	0	1,904	2.9	5.5
214	HEER	HEER	Furnace, >97% AFUE	5.3.7	Unit	\$1,434	\$225	\$0	\$0	\$0	\$0	84%	20.0	71,035	1,420,706	0	0	381	3.0	5.8
215	HEER	HEER	WH - SF Tankless 40 gal	5.4.2	Unit	\$605	\$150	\$0	\$0	\$0	\$0	84%	13.0	19,092	248,196	0	0	406	1.1	1.3
216	HEER	HEER	GHPWH 31.20% UEF MT	Custom	Project	\$922	\$500	\$0	\$0	\$0	\$0	84%	15.0	10,136	152,044	0	0	131	1.4	0.8
217	HEER	HEER	GHP Comb 31.20% AFUE MT	Custom	Project	\$6,271	\$1,000	\$0	\$0	\$0	\$0	84%	20.0	19,742	394,840	0	0	57	1.3	2.4
218	HES	HES ASI	Number of Homes	Custom	Unit	\$0	\$0	\$0	\$0	\$0	\$0	98%	1.0	0	0	0	0	5,600	0.0	0.0
219	HES	HES ASI	Air Sealing	5.6.1	Project	\$530	\$439	\$0	\$0	\$0	\$0	100%	19.4	369,156	7,165,974	31,672	0	4,456	3.5	1.3
220	HES	HES ASI	Attic Insulation (R5 to R49) SF	5.6.5	Project	\$1,076	\$340	\$0	\$0	\$0	\$0	100%	19.4	112,692	2,187,552	3,421	0	566	4.2	4.0
221	HES	HES ASI	Attic Insulation (R14 to R49) SF	5.6.5	Project	\$1,272	\$382	\$0	\$0	\$0	\$0	100%	19.4	126,077	2,447,382	3,827	0	1,862	1.2	1.2
222	HES	HES ASI	Attic Insulation (R19 to R49) SF	5.6.5	Project	\$1,452	\$389	\$0	\$0	\$0	\$0	100%	19.4	72,437	1,406,133	2,199	0	1,635	0.69	0.6
223	HES	HES ASI	Attic Insulation (R19 to R49) SF	5.6.5	Project	\$1,475	\$391	\$0	\$0	\$0	\$0	100%	19.4	13,501	262,070	410	0	392	0.52	0.0
224	HES	HES ASI	Air Sealing Without Insulation	5.6.1	Project	\$521	\$432	\$0	\$0	\$0	\$0	100%	19.4	131,681	2,556,169	9,152	0	1,144	5.0	1.8
225	HES	HES ASI	Duct Sealing	5.3.4	Project	\$381	\$286	\$0	\$0	\$0	\$0	93%	18.5	236,017	4,369,347	3,489	0	2,003	6.6	2.6
226	HES	HES ASI	Basement/Sidewall Insulation SF	5.6.2	Project	\$642	\$390	\$0	\$0	\$0	\$0	100%	19.4	8,269	160,512	2,282	0	195	1.5	0.7
227	HES	HES ASI	Wall Insulation SF	5.6.4	Project	\$1,010	\$384	\$0	\$0	\$0	\$0	100%	19.4	18,147	352,256	661	0	366	1.1	0.9
228	HES	HES ASI	Residential Deep Assessment	Custom	Unit	\$1,060	\$350	\$0	\$0	\$0	\$0	98%	1.0	0	0	0	0	697	0.0	0.0
229	HES	HES ASI	Low-E Storm Window - SF	5.6.7	Unit	\$94	\$90	\$0	\$0	\$0	\$0	80%	20.0	3,068	61,367	1,943	0	420	1.9	0.6
230	HES	HES ASI	Thin Triple Window	Custom	Unit	\$100	\$100	\$0	\$0	\$0	\$0	80%	30.0	1,134	34,008	13,392	0	800	1.00	0.1
231	HES	HES HEA	Number of Homes	Custom	Unit	\$0	\$0	\$0	\$0	\$0	\$0	98%	1.0	0	0	0	0	14,482	0.0	0.0
232	HES	HES HEA	Assessment (HES) - joint	Custom	Project	\$23	\$23	\$0	\$0	\$0	\$0	98%	1.0	0	0	0	0	12,309	0.0	0.0
233	HES	HES HEA	Assessment (HES)	Custom	Unit	\$106	\$106	\$0	\$0	\$0	\$0	98%	1.0	0	0	0	0	434	0.0	0.0
234	HES	HES HEA	Showerhead (DI) SF Joint	5.4.5	Project	\$15	\$0	\$12	\$3	\$0	\$0	107%	10.0	75,765	757,651	2,273	15,122,984	8,054	16.9	2.0
235	HES	HES HEA	Handheld Showerhead (DI) SF Joint	5.4.5	Project	\$23	\$0	\$12	\$11	\$0	\$0	107%	10.0	39,685	396,847	1,191	7,921,108	4,219	11.0	1.3
236	HES	HES HEA	Bathroom Aerator SF (DI) Joint	5.4.4	Project	\$4	\$0	\$3	\$1	\$0	\$0	107%	10.0	9,581	95,806	422	2,809,552	10,355	8.0	0.7
237	HES	HES HEA	Kitchen Aerator SF (DI) Joint	5.4.4	Project	\$5														

Measure #	Program	Program Component	Measures	Measure Inputs										Measure Savings (2022-2025)				Measure Cost Effectiveness (2022-2025)		
				TRM Volume	Units	Incremental Cost	Incentive	Direct Install Labor	Direct Install Materials	Other Rebate	Net to Gross Ratio	Measure Life	First Year Therms	Lifecycle Therms	Annual kWh	Annual gallons water	Participation	TRC	PAC	
250	IQ Wx	IQ CC MF	Low Flow Aerator - Bath (DI) MF-IU Joint	5.4.4	Project	\$7	\$0	\$1	\$1	\$2	\$0	100%	10.0	12,003	120,031	454	3,023,441	7,704	7.3	1.4
251	IQ Wx	IQ CC MF	Low Flow Aerator - Kitchen (DI) MF-IU Joint	5.4.4	Project	\$7	\$0	\$1	\$1	\$2	\$0	100%	10.0	16,489	164,888	512	3,406,779	6,456	10.7	2.6
252	IQ Wx	IQ CC MF	Showerhead (DI) MF-IU Joint	5.4.5	Project	\$12	\$0	\$4	\$7	\$0	\$0	100%	10.0	67,478	674,780	1,740	11,574,275	5,962	22.1	3.2
253	IQ Wx	IQ CC MF	Air Sealing - Sealing Tape - DI	5.6.1	LN FT	\$2	\$2	\$0	\$0	\$0	\$0	100%	20.0	412,818	8,256,351	777,210	0	793,880	8.7	2.4
254	IQ Wx	IQ CC MF	Air Sealing MF	5.6.1	Project	\$3,335	\$3,335	\$0	\$0	\$0	\$0	100%	19.4	22,958	445,652	1,297	0	138	1.1	0.3
255	IQ Wx	IQ CC MF	Attic Insulation IQ MF CC	5.6.5	Project	\$7,155	\$7,155	\$0	\$0	\$0	\$0	100%	19.4	74,649	1,449,065	1,888	0	138	1.7	0.5
256	IQ Wx	IQ CC MF	Furnace Tune Up	5.3.13	Project	\$197	\$197	\$0	\$0	\$0	\$0	100%	3.0	94,592	283,776	2,611	0	6,230	0.25	0.1
257	IQ Wx	IQ CC MF	Health & Safety Services	Custom	Unit	\$454	\$454	\$0	\$0	\$0	\$0	100%	1.0	0	0	0	0	5,571	0.0	0.0
258	IQ Wx	IQ CC MF	Programmable Thermostat (DI) MF-IU Joint	5.3.11	Project	\$60	\$0	\$40	\$20	\$0	\$0	100%	16.0	28,563	456,987	788	0	705	12.3	3.7
259	IQ Wx	IQ CC MF	Advanced Thermostat (DI) - Blended MF Joint	5.3.16	Unit	\$210	\$0	\$42	\$85	\$0	\$0	100%	11.0	7,822	86,044	686	0	139	3.3	1.6
260	IQ Wx	IQ CC MF	Assessment (HES)	Custom	Unit	\$350	\$350	\$0	\$0	\$0	\$0	100%	1.0	0	0	0	0	1,305	0.0	0.0
261	IQ Wx	IQ CC MF	Project Management Fee - CPOP	Custom	Unit	\$635	\$635	\$0	\$0	\$0	\$0	100%	0.0	0	0	0	0	283	0.0	0.0
262	IQ Wx	IQ CC MF	Steam Traps - Test/Audit - CPOP	Custom	Unit	\$3,000	\$3,000	\$0	\$0	\$0	\$0	100%	0.0	0	0	0	0	42	0.0	0.0
263	IQ Wx	IQ CC MF	Steam Trap MF CPOP	4.4.16	Unit	\$335	\$149	\$0	\$0	\$0	\$0	100%	6.0	106,690	640,141	2,431	945,630	1,045	2.1	1.3
264	IQ Wx	IQ CC MF	Boiler Reset Controls, 300 MBH	4.4.4	Project	\$750	\$750	\$0	\$0	\$0	\$0	100%	16.0	8,465	135,444	0	23	8.9	2.6	
265	IQ Wx	IQ CC MF	Boiler Tune Up, 800 MBH	4.4.2	Project	\$664	\$350	\$0	\$0	\$0	\$0	100%	3.0	62,695	188,085	0	0	183	1.6	0.9
266	IQ Wx	IQ CC MF	Pipe Insulation, Steam Small 1" to 2" - CPOP	4.4.14	LN FT	\$14	\$14	\$0	\$0	\$0	\$0	100%	15.0	31,007	465,107	0	0	7,816	4.8	1.4
267	IQ Wx	IQ CC MF	Pipe Insulation, HW Small - CPOP	4.4.14	LN FT	\$14	\$14	\$0	\$0	\$0	\$0	100%	15.0	10,604	159,061	0	0	3,381	3.8	1.1
268	IQ Wx	IQ CC MF	Pipe Insulation, DHW Medium 1.26-2" - CPOP	4.4.14	LN FT	\$14	\$14	\$0	\$0	\$0	\$0	100%	15.0	24,375	365,625	0	0	5,733	5.1	1.5
269	IQ Wx	IQ CC MF	DHW Storage Tank Insulation - CPOP	Customized TRM 4.3.12	SQ FT	\$8	\$8	\$0	\$0	\$0	\$0	100%	15.0	26,463	396,940	0	0	4,942	11.3	3.4
270	IQ Wx	IQ CC MF	Condensate Tank Insulation - CPOP	Customized TRM 4.3.12	SQ FT	\$11	\$11	\$0	\$0	\$0	\$0	100%	15.0	5,571	83,565	0	0	723	12.4	3.7
271	IQ Wx	IQ CC MF	On-Demand DHW Controller - CPOP	Customized TRM 4.3.8	Unit	\$90	\$90	\$0	\$0	\$0	\$0	100%	15.0	630,591	9,458,870	0	0	10,059	11.8	3.5
272	IQ Wx	IQ CC MF	Steam Boiler Averaging Controls - CPOP	Customized TRM 4.3.36	Unit	\$229	\$229	\$0	\$0	\$0	\$0	100%	15.0	56,175	842,627	0	0	1,114	3.7	1.1
273	IQ Wx	IQ CC MF	Drain Water Heat Recovery - MF	5.4.11	Unit	\$742	\$742	\$0	\$0	\$0	\$0	100%	30.0	1,741	52,242	0	0	19	4.4	1.3
274	IQ Wx	IQ CC MF	Boiler Chemical Descaling	4.4.49	Project	\$473	\$450	\$0	\$0	\$0	\$0	100%	2.0	2,676	5,352	0	0	9	1.3	0.4
275	IQ Wx	IQ CC MF	Thermostatic Radiator Valves	5.3.19	Unit	\$250	\$250	\$0	\$0	\$0	\$0	100%	15.0	1,007	15,098	0	0	46	1.5	0.4
276	IQ Wx	IQ CC MF	Low-E Storm Window - MF Joint	5.6.7	Unit	\$94	\$86	\$0	\$0	\$0	\$0	100%	20.0	1,357	27,133	0	0	149	2.2	0.7
277	IQ Wx	IQ CC SF	Number of Homes	Custom	Unit	\$0	\$0	\$0	\$0	\$0	\$0	100%	1.0	0	0	0	0	883	0.0	0.0
278	IQ Wx	IQ CC SF	Assessment (HES)	Custom	Unit	\$350	\$350	\$0	\$0	\$0	\$0	100%	1.0	0	0	0	0	883	0.0	0.0
279	IQ Wx	IQ CC SF	Advanced Thermostat (DI) - Manual SF Joint	5.3.16	Unit	\$210	\$0	\$58	\$86	\$0	\$0	100%	11.0	971	10,680	62	0	9	6.1	2.6
280	IQ Wx	IQ CC SF	Advanced Thermostat (DI) - Programmable SF Joint	5.3.16	Unit	\$210	\$0	\$62	\$93	\$0	\$0	100%	11.0	19,082	209,903	1,507	0	260	4.3	1.7
281	IQ Wx	IQ CC SF	Advanced Thermostat (DI) - Blended SF Joint	5.3.16	Unit	\$210	\$0	\$53	\$79	\$0	\$0	100%	11.0	23,283	256,115	1,658	0	269	5.0	2.3
282	IQ Wx	IQ CC SF	Air Sealing IQ CC SF	5.6.1	Project	\$84	\$495	\$0	\$0	\$0	\$0	100%	19.4	36,013	699,074	3,816	585	1.6	0.8	
283	IQ Wx	IQ CC SF	Attic Insulation IQ SF CC	5.6.5	Project	\$1,863	\$1,806	\$0	\$0	\$0	\$0	100%	19.4	49,005	951,265	1,488	0	530	1.1	0.3
284	IQ Wx	IQ CC SF	Bathroom Aerator SF (DI) Joint	5.4.4	Project	\$7	\$0	\$3	\$4	\$0	\$0	100%	10.0	916	9,159	40	268,600	1,059	4.2	0.4
285	IQ Wx	IQ CC SF	Boilers, >95% AFUE <300 MBH - SF	5.3.6	Unit	\$5,500	\$5,500	\$0	\$0	\$0	\$0	100%	25.0	3,733	93,327	0	0	19	1.1	0.3
286	IQ Wx	IQ CC SF	Duct Sealing	5.3.4	Project	\$381	\$210	\$0	\$0	\$0	\$0	100%	18.0	52,980	980,812	783	0	418	7.1	3.9
287	IQ Wx	IQ CC SF	Furnace Tune Up	5.3.13	Project	\$399	\$0	\$119	\$179	\$0	\$0	100%	3.0	1,693	20,079	47	0	112	0.16	0.0
288	IQ Wx	IQ CC SF	Furnace, >95% AFUE	5.3.7	Unit	\$4,759	\$4,759	\$0	\$0	\$0	\$0	100%	30.0	12,007	240,937	0	0	65	5.5	0.3
289	IQ Wx	IQ CC SF	Handheld Showerhead (DI) SF Joint	5.4.5	Project	\$25	\$0	\$10	\$15	\$0	\$0	100%	10.0	1,552	15,521	47	309,806	177	3.9	1.1
290	IQ Wx	IQ CC SF	Health & Safety Services	Custom	Unit	\$1,000	\$1,000	\$0	\$0	\$0	\$0	100%	1.0	0	0	0	0	558	0.0	0.0
291	IQ Wx	IQ CC SF	HW Pipe Insulation (1 Ft.) (DI)	5.4.1	Unit	\$36	\$0	\$14	\$22	\$0	\$0	100%	15.0	4,762	71,437	0	0	5,408	0.41	0.1
292	IQ Wx	IQ CC SF	Kitchen Aerator SF (DI) Joint	5.4.4	Project	\$5	\$0	\$2	\$2	\$0	\$0	100%	10.0	1,114	11,135	40	268,320	400	16.7	2.1
293	IQ Wx	IQ CC SF	Programmable Thermostat (DI) Joint	5.3.11	Project	\$125	\$0	\$50	\$75	\$0	\$0	100%	16.0	3,474	55,583	96	0	56	9.1	2.7
294	IQ Wx	IQ CC SF	Rim/Jamb Joint Insulation (RS to R13) IQ SF CC	5.6.6	Project	\$71	\$53	\$0	\$0	\$0	\$0	100%	54.0	544	10,556	36	204	0.85	0.3	
295	IQ Wx	IQ CC SF	Showerhead (DI) SF - IQ Joint	5.4.5	Project	\$19	\$0	\$8	\$11	\$0	\$0	100%	10.0	1,775	17,751	53	354,315	623	4.0	0.5
296	IQ Wx	IQ CC SF	Storage Water Heater, >0.67 EF	4.3.1	Unit	\$2,080	\$2,080	\$0	\$0	\$0	\$0	100%	15.0	896	13,442	0	0	19	0.39	0.1
297	IQ Wx	IQ CC SF	Wall Insulation SF CC	5.6.4	Project	\$1,876	\$1,876	\$0	\$0	\$0	\$0	100%	19.4	767	14,893	25	0	9	1.0	0.3
298	IQ Wx	IQ CC SF	Low-E Storm Window - SF Joint	5.6.7	Unit	\$94	\$90	\$0	\$0	\$0	\$0	100%	20.0	2,715	54,307	0	0	297	2.2	0.7
299	IQ Wx	IQ CC SF	GHPWH 31.20% UEF IQ MT	Custom	Project	\$3,460	\$3,460	\$0	\$0	\$0	\$0	100%	15.0	10,435	156,530	0	0	114	0.45	0.1
300	IQ Wx	IQ CC SF	Rim Triple Window	Custom	Unit	\$194	\$194	\$0	\$0	\$0	\$0	100%	30.0	617	18,516	7,291	0	348	0.49	0.1
301	IQ Wx	IQ CC SF	GHP Cambi >130% AFUE MT	Custom	Project	\$6,500	\$6,500	\$0	\$0	\$0	\$0	100%	20.0	12,402	248,041	0	0	30	1.5	0.4
302	IQ ESK	IQ ESK	Kit 2	5.4.4, 5.4.5, 5.4.9	Unit	\$20	\$20	\$0	\$0	\$0	\$0	100%	8.8	160,444	1,407,092	0	34,199,119	6,667	28.5	3.2
303	IQ ESK	IQ ESK	Kit 2 MF	5.4.4, 5.4.5, 5.4.9	Unit	\$20	\$20	\$0	\$0	\$0	\$0	100%	9.0	104,078	938,787	0	19,090,749	3,590	32.4	4.0
304	IQ ESK	IQ ESK	Kit 4	5.6.1	Unit	\$16	\$16	\$0	\$0	\$0	\$0	100%	20.0	629,703	12,594,059	0	0	17,744	50.1	15.2
305	IQ ESK	IQ ESK	Kit 5	5.4.3, 5.4.4	Unit	\$10	\$10	\$0	\$0	\$0	\$0	100%	10.0	1,226,357	12,263,568	0	270,650,120	29,0	32.0	3.2
306	IQ Wx	IQ HH MF	Unit Assessment MF	Custom	Unit	\$300	\$300	\$0	\$0	\$0	\$0	100%	0.0	0	0	0	0	450	0.0	0.0
307	IQ Wx	IQ HH MF	Health & Safety Services	Custom	Unit	\$800	\$800	\$0	\$0	\$0	\$0	100%	1.0	0	0	0	0	450	0.0	0.0
308	IQ Wx	IQ HH MF	Advanced Thermostat (DI) - Blended MF Joint	5.3.16	Unit	\$210	\$0	\$66	\$100	\$0	\$0	100%	11.0	22,560	248,159	1,980	0	402	3.3	1.2
309	IQ Wx	IQ HH MF	Programmable Thermostat (DI) MF-IU Joint	5.3.11	Project	\$75	\$0	\$30	\$45	\$0	\$0	100%	16.0	1,743	27,890	48	0	43	9.9	2.9
310	IQ Wx	IQ HH MF	Combination Boilers, >95% AFUE <300 MBH - SF	5.3.17	Unit	\$3,522	\$2,500	\$0	\$0	\$0	\$0	100%	21.5	1,173	25,230	0	0	5	1.7	0.7
311	IQ Wx	IQ HH MF	Furnace, >95% AFUE	5.3.7	Unit	\$4,000	\$4,000	\$0	\$0	\$0	\$0	100%	20.0	2,657	53,141	0	0	14	0.1	0.3
312	IQ Wx	IQ HH MF	Handheld Showerhead (DI) MF Joint	5.4.5	Project	\$20	\$0	\$8	\$12	\$0	\$0	100%	10.0	1,245	12,447	32	213,503	110	13.7	1.8
313	IQ Wx	IQ HH MF	Low Flow Aerator - Kitchen (DI) MF-IU Joint	5.4.4	Project	\$7	\$0	\$1	\$2	\$0	\$0	100%	10.0	1,148	11,480	36	237,198	450	10.7	2.2
314	IQ Wx	IQ HH MF	Low Flow Aerator - Bath (DI) MF-IU Joint	5.4.4	Project	\$7	\$0	\$1	\$2	\$0	\$0	100%	10.0	1,207	12,069	46	304,013	775	7.3	1.6
315	IQ Wx	IQ HH MF	Showerhead (DI) MF-IU Joint	5.4.5	Project	\$15	\$0	\$6	\$9	\$0	\$0	100%	10.0	5,087	50,871	131	872,579	450	18.2	2.3
316	IQ Wx	IQ HH MF	WH - MF Storage 40 gal	5.4.2	Unit	\$1,140	\$1,140	\$0	\$0	\$0	\$0	100%	13.0	61	798	0	0	5	0.16	0.0
317	IQ Wx	IQ HH MF	Duct Sealing	5.3.4	Project	\$384	\$369	\$0	\$0	\$0	\$0	100%	18.5	45,442	841,269	672	0	359	7.1	2.2

Measure #	Program	Program Component	Measures	Measure Inputs										Measure Savings (2022-2025)				Measure Cost Effectiveness (2022-2025)			
				TRM Volume	Units	Incremental Cost	Incentive	Direct Install Labor	Direct Install Materials	Other Rebate	Net to Gross Ratio	Measure Life	First Year Therms	Lifecycle Therms	Annual kWh	Annual gallons water	Participation	TRC	PAC		
333	IQ Wx	IQ HH SF	WH - SF Condensing 40 gal	5.4.2	Unit	\$1,140	\$1,140	\$0	\$0	\$0	\$0	100%	13.0	453	5,884	0	0	10	0.56	0.2	
334	IQ Wx	IQ HH SF	Duct Sealing	5.3.4	Project	\$381	\$380	\$0	\$0	\$0	\$0	100%	18.5	96,601	1,788,355	1,428	0	772	7.1	2.1	
335	IQ Wx	IQ HH SF	Air Sealing	5.6.1	Project	\$530	\$385	\$0	\$0	\$0	\$0	100%	19.4	64,009	1,242,528	5,492	0	773	3.3	1.5	
336	IQ Wx	IQ HH SF	Attic Insulation (R16 to R49) SF HH	5.6.5	Project	\$2,229	\$2,229	\$0	\$0	\$0	\$0	100%	19.4	43,099	836,624	1,308	0	762	0.56	0.2	
337	IQ Wx	IQ HH SF	Floor Insulation Above Crawlspace	5.6.3	Project	\$2,470	\$2,470	\$0	\$0	\$0	\$0	100%	19.4	6,981	135,519	132	0	102	0.62	0.2	
338	IQ Wx	IQ HH SF	HW Pipe Insulation (1 Ft.) (DI)	5.4.1	Unit	\$4	\$0	\$1	\$2	\$0	\$0	100%	15.0	7,938	119,076	0	0	9,014	4.2	1.2	
339	IQ Wx	IQ HH SF	Rim/Band Joist Insulation (R5 to R19) IQ SF HH	5.6.6	Project	\$346	\$283	\$0	\$0	\$0	\$0	100%	19.4	1,700	33,001	112	0	113	1.0	0.4	
340	IQ Wx	IQ HH SF	Wall Insulation SF Healthy Homes	5.6.4	Project	\$2,115	\$2,115	\$0	\$0	\$0	\$0	100%	19.4	2,095	40,658	76	0	48	0.47	0.1	
341	IQ Wx	IQ HH SF	GHPWH 2120W UEF IQ MT	Custom	Project	\$3,460	\$3,460	\$0	\$0	\$0	\$0	100%	15.0	3,184	47,762	0	0	35	0.45	0.1	
342	IQ Wx	IQ HH SF	Thin Triple Window	Custom	Unit	\$262	\$262	\$0	\$0	\$0	\$0	100%	30.0	643	19,292	7,597	0	363	0.36	0.1	
343	IQ Wx	IQ HH SF	Low-E Storm Window - SF Joint	5.6.7	Unit	\$94	\$90	\$0	\$0	\$0	\$0	100%	20.0	990	19,804	0	0	108	2.2	0.7	
344	IQ Wx	IQ HH SF	GHP Combi >130% AFUE MT	Custom	Project	\$6,500	\$6,500	\$0	\$0	\$0	\$0	100%	20.0	2,087	41,747	0	0	5	1.5	0.4	
345	IQ Wx	IQ HWAP MF	Units Served	Custom	Unit	\$0	\$0	\$0	\$0	\$0	\$0	100%	0.0	0	0	0	0	446	0.0	0.0	
346	IQ Wx	IQ HWAP MF	Advanced Thermostat (DI) - Blended MF All Joint	5.3.16	Unit	\$211	\$0	\$44	\$167	\$0	\$0	100%	11.0	21,230	233,534	0	0	378	3.2	0.9	
347	IQ Wx	IQ HWAP MF	Air Sealing IQ MF	5.6.1	Project	\$785	\$270	\$0	\$0	\$0	\$0	100%	19.4	8,847	171,744	0	0	242	1.0	0.9	
348	IQ Wx	IQ HWAP MF	Attic Insulation IQ MF CAA	5.6.5	Project	\$4,460	\$297	\$0	\$0	\$0	\$0	100%	19.4	20,844	404,616	0	0	242	0.43	2.0	
349	IQ Wx	IQ HWAP MF	Basement/Sidewall Insulation SF CAA	5.6.2	Project	\$801	\$345	\$0	\$0	\$0	\$0	100%	19.4	15,862	307,902	0	0	488	0.91	0.6	
350	IQ Wx	IQ HWAP MF	Low Flow Aerator - Bath (DI) MF-IU All Joint	5.4.4	Project	\$8	\$0	\$3	\$5	\$0	\$0	100%	10.0	854	8,536	0	0	215,019	548	5.8	0.6
351	IQ Wx	IQ HWAP MF	Boilers, >95% AFUE <300 MBH - MF	5.3.6	Unit	\$1,924	\$1,924	\$0	\$0	\$0	\$0	100%	25.0	853	21,330	0	0	4	3.0	0.9	
352	IQ Wx	IQ HWAP MF	Air Sealing - Sealing Tape - DI Joint	5.6.1	Project	\$13	\$13	\$0	\$0	\$0	\$0	100%	19.4	126	2,444	0	0	242	0.91	0.3	
353	IQ Wx	IQ HWAP MF	Furnace, >95% AFUE - MF IU	5.3.7	Unit	\$4,082	\$4,082	\$0	\$0	\$0	\$0	100%	20.0	10,961	219,229	0	0	102	2.0	0.7	
354	IQ Wx	IQ HWAP MF	Handheld Showerhead (DI) MF All Joint	5.4.5	Project	\$18	\$0	\$13	\$6	\$0	\$0	100%	10.0	2,067	20,669	0	0	354,532	183	15.2	2.0
355	IQ Wx	IQ HWAP MF	Health & Safety Services	Custom	Unit	\$1,900	\$1,900	\$0	\$0	\$0	\$0	100%	1.0	0	0	0	0	446	0.0	0.0	
356	IQ Wx	IQ HWAP MF	HW Pipe Insulation (1 Ft.) DI IU MF	5.4.1	Unit	\$3	\$0	\$0	\$2	\$0	\$0	100%	15.0	648	9,718	0	0	841	4.3	2.2	
357	IQ Wx	IQ HWAP MF	Low Flow Aerator - Kitchen (DI) MF-IU All Joint	5.4.4	Project	\$8	\$0	\$4	\$4	\$0	\$0	100%	10.0	618	6,183	0	0	127,752	242	8.7	1.0
358	IQ Wx	IQ HWAP MF	Programmable Thermostat (DI) MF-IU All Joint	5.3.11	Project	\$60	\$0	\$40	\$20	\$0	\$0	100%	16.0	3,785	60,553	0	0	93	12.3	3.7	
359	IQ Wx	IQ HWAP MF	Handheld Showerhead (DI) SF - IQ All Joint	5.4.5	Project	\$13	\$0	\$9	\$4	\$0	\$0	100%	10.0	581	5,813	0	0	116,029	204	5.7	0.7
360	IQ Wx	IQ HWAP MF	Storage Water Heater, >0.67 EF	4.3.1	Unit	\$1,309	\$1,309	\$0	\$0	\$0	\$0	100%	15.0	10,855	162,826	0	0	225	0.62	0.2	
361	IQ Wx	IQ HWAP MF	MF Custom 2,500-7,500 therms	Custom	Project	\$29,087	\$5,505	\$0	\$0	\$0	\$0	100%	15.0	10,360	155,402	0	0	4	1.4	2.2	
362	IQ Wx	IQ HWAP MF	Units Served	Custom	Unit	\$0	\$0	\$0	\$0	\$0	\$0	100%	0.0	0	0	0	0	34	0.0	0.0	
363	IQ Wx	IQ HWAP MF	Advanced Thermostat (DI) - Blended - MF	5.3.16	Unit	\$247	\$0	\$80	\$167	\$0	\$0	100%	11.0	1,193	13,120	3,489	0	21	3.5	0.8	
364	IQ Wx	IQ HWAP MF	Air Sealing MF	5.6.1	Project	\$3,150	\$491	\$0	\$0	\$0	\$0	100%	19.4	2,127	41,294	120	0	13	1.2	2.3	
365	IQ Wx	IQ HWAP MF	Attic Insulation IQ MF CC	5.6.5	Project	\$5,160	\$542	\$0	\$0	\$0	\$0	100%	19.4	6,917	134,270	275	0	13	2.4	6.7	
366	IQ Wx	IQ HWAP MF	Basement/Sidewall Insulation SF CC	5.6.2	Project	\$1,222	\$628	\$0	\$0	\$0	\$0	100%	19.4	1,149	22,306	1,057	0	30	0.79	0.4	
367	IQ Wx	IQ HWAP MF	Low Flow Aerator - Bath (DI) MF-IU	5.4.4	Project	\$8	\$0	\$3	\$5	\$0	\$0	100%	10.0	53	529	67	0	13,334	34	6.1	0.6
368	IQ Wx	IQ HWAP MF	Boilers, >95% AFUE <300 MBH - MF	5.3.6	Unit	\$3,504	\$3,504	\$0	\$0	\$0	\$0	100%	25.0	427	10,665	0	0	2	1.7	0.5	
369	IQ Wx	IQ HWAP MF	Air Sealing - Sealing Tape - DI	5.6.1	Project	\$23	\$23	\$0	\$0	\$0	\$0	100%	19.4	7	129	0	0	13	0.50	0.2	
370	IQ Wx	IQ HWAP MF	Furnace, >95% AFUE - MF IU	5.3.7	Unit	\$4,082	\$4,082	\$0	\$0	\$0	\$0	100%	20.0	457	9,135	0	0	4	0.61	0.2	
371	IQ Wx	IQ HWAP MF	Handheld Showerhead (DI) MF	5.4.5	Project	\$18	\$0	\$13	\$5	\$0	\$0	100%	10.0	144	1,442	124	0	24,735	13	15.8	1.9
372	IQ Wx	IQ HWAP MF	Health & Safety Services	Custom	Unit	\$3,800	\$3,800	\$0	\$0	\$0	\$0	100%	1.0	0	0	0	0	25	0.0	0.0	
373	IQ Wx	IQ HWAP MF	HW Pipe Insulation (1 Ft.) DI IU MF	5.4.1	Unit	\$3	\$0	\$0	\$2	\$0	\$0	100%	15.0	39	589	0	0	51	4.3	2.2	
374	IQ Wx	IQ HWAP MF	Low Flow Aerator - Kitchen (DI) MF-IU	5.4.4	Project	\$8	\$0	\$4	\$4	\$0	\$0	100%	10.0	33	325	34	0	6,724	13	9.1	1.0
375	IQ Wx	IQ HWAP MF	Programmable Thermostat (DI) MF-IU	5.3.11	Unit	\$60	\$0	\$40	\$20	\$0	\$0	100%	16.0	144	2,752	158	0	4	13.2	3.6	
376	IQ Wx	IQ HWAP MF	Showerhead (DI) MF-IU	5.4.5	Project	\$13	\$0	\$9	\$4	\$0	\$0	100%	10.0	172	1,742	124	0	24,735	13	21.8	2.7
377	IQ Wx	IQ HWAP MF	Storage Water Heater, >0.67 EF	4.3.1	Unit	\$2,385	\$2,385	\$0	\$0	\$0	\$0	100%	15.0	614	9,217	0	0	13	0.34	0.3	
378	IQ Wx	IQ HWAP MF	MF Custom 2,500-7,500 therms	Custom	Project	\$29,087	\$5,505	\$0	\$0	\$0	\$0	100%	15.0	7,770	116,552	0	0	3	1.4	2.1	
379	IQ Wx	IQ HWAP SF	Number of Homes	Custom	Unit	\$0	\$0	\$0	\$0	\$0	\$0	100%	1.0	0	0	0	0	1,318	0.0	0.0	
380	IQ Wx	IQ HWAP SF	Advanced Thermostat (DI) - Blended SF All Joint	5.3.16	Unit	\$250	\$0	\$83	\$167	\$0	\$0	100%	11.0	48,582	534,403	0	0	562	4.2	1.2	
381	IQ Wx	IQ HWAP SF	Air Sealing IQ SF Blended	5.6.1	Project	\$1,787	\$1,050	\$0	\$0	\$0	\$0	100%	19.4	108,389	2,104,026	0	0	1,318	1.0	0.5	
382	IQ Wx	IQ HWAP SF	Attic Insulation IQ SF CAA	5.6.5	Project	\$1,680	\$1,016	\$0	\$0	\$0	\$0	100%	19.4	65,231	1,266,257	0	0	1,208	0.72	0.4	
383	IQ Wx	IQ HWAP SF	Basement/Sidewall Insulation SF CAA	5.6.2	Project	\$801	\$373	\$0	\$0	\$0	\$0	100%	19.4	16,119	312,900	0	0	496	0.91	0.3	
384	IQ Wx	IQ HWAP SF	Bathroom Aerator SF (DI) All Joint	5.4.4	Project	\$8	\$0	\$4	\$4	\$0	\$0	100%	10.0	934	9,344	0	0	274,006	1,081	3.5	0.3
385	IQ Wx	IQ HWAP SF	Boilers, >95% AFUE <300 MBH - SF	5.3.6	Unit	\$4,498	\$4,498	\$0	\$0	\$0	\$0	100%	25.0	11,471	286,776	0	0	57	1.3	0.4	
386	IQ Wx	IQ HWAP SF	Duct Sealing SF Unconditioned Joint	5.3.4	Project	\$400	\$95	\$0	\$0	\$0	\$0	100%	18.5	2,385	44,159	0	0	13	9.6	12.1	
387	IQ Wx	IQ HWAP SF	Floor Insulation Above Crawlspace	5.6.3	Project	\$2,500	\$815	\$0	\$0	\$0	\$0	100%	19.4	7,844	152,256	0	0	114	0.62	0.6	
388	IQ Wx	IQ HWAP SF	Furnace, >95% AFUE	5.3.7	Unit	\$1,862	\$1,862	\$0	\$0	\$0	\$0	100%	20.0	190,376	3,807,530	0	0	1,028	2.3	0.7	
389	IQ Wx	IQ HWAP SF	Handheld Showerhead (DI) SF - IQ All Joint	5.4.5	Project	\$17	\$0	\$11	\$6	\$0	\$0	100%	10.0	839	8,392	0	0	167,499	294	4.6	0.5
390	IQ Wx	IQ HWAP SF	Health & Safety Services	Custom	Unit	\$600	\$600	\$0	\$0	\$0	\$0	100%	1.0	0	0	0	0	1,291	0.0	0.0	
391	IQ Wx	IQ HWAP SF	HW Pipe Insulation (1 Ft.) (DI)	5.4.1	Unit	\$2	\$0	\$1	\$1	\$0	\$0	100%	15.0	4,104	61,566	0	0	4,661	6.1	1.8	
392	IQ Wx	IQ HWAP SF	Kitchen Aerator SF (DI) All Joint	5.4.4	Project	\$13	\$0	\$9	\$4	\$0	\$0	100%	10.0	881	8,814	0	0	212,393	316	6.3	

Measure #	Program	Program Component	Measures	Measure Inputs								Measure Savings (2022-2025)				Measure Cost Effectiveness (2022-2025)				
				TRM Volume	Units	Incremental Cost	Incentive	Direct Install Labor	Direct Install Materials	Other Rebate	Net to Gross Ratio	Measure Life	First Year Therms	Lifecycle Therms	Annual kWh	Annual gallons water	Participation	TRC	PAC	
416	IQ Wx	IQ HWAP SF	Storage Water Heater, >0.67 EF	4.3.1	Unit	\$2,007	\$2,007	\$0	\$0	\$0	\$0	100%	15.0	212	3,177	0	0	4	0.40	0.1
417	IQ Wx	IQ HWAP SF	Wall Insulation SF CC	5.6.4	Project	\$2,076	\$2,076	\$0	\$0	\$0	\$0	100%	19.4	363	7,041	12	0	4	0.89	0.3
418	IQ Wx	IQ HWAP SF	GHPWH 2.120k UEF IQ MT		Project	\$3,460	\$3,460	\$0	\$0	\$0	\$0	100%	15.0	3,020	45,305	0	0	33	0.45	0.1
419	IQ Wx	IQ HWAP SF	Thin Triple Window		Custom	\$280	\$280	\$0	\$0	\$0	\$0	100%	30.0	834	25,009	9,848	0	471	0.34	0.1
420	IQ Wx	IQ HWAP SF	Low-E Storm Window - SF	5.6.7	Unit	\$94	\$94	\$0	\$0	\$0	\$0	100%	20.0	1,284	25,673	813	0	141	2.4	0.7
421	IQ PHA	IQ PHA	Number of Homes		Custom	\$0	\$0	\$0	\$0	\$0	\$0	100%	1.0	0	0	0	0	857	0.0	0.0
422	IQ PHA	IQ PHA	Inspections (Nicor+ComEd)		Custom	\$500	\$500	\$0	\$0	\$0	\$0	100%	1.0	0	0	0	0	34	0.0	0.0
423	IQ PHA	IQ PHA	Inspections (Nicor only)		Custom	\$1,900	\$1,900	\$0	\$0	\$0	\$0	100%	1.0	0	0	0	0	5	0.0	0.0
424	IQ PHA	IQ PHA	Assessments (IQ) - Joint		Custom	\$750	\$750	\$0	\$0	\$0	\$0	100%	1.0	0	0	0	0	34	0.0	0.0
425	IQ PHA	IQ PHA	Assessments (IQ)		Custom	\$1,500	\$1,500	\$0	\$0	\$0	\$0	100%	1.0	0	0	0	0	5	0.0	0.0
426	IQ PHA	IQ PHA	Building site visit (DI) Nicor+ComEd, Elevate		Custom	\$21	\$21	\$0	\$0	\$0	\$0	100%	1.0	0	0	0	0	5	0.0	0.0
427	IQ PHA	IQ PHA	Building site visit (DI) Nicor only, Elevate		Custom	\$45	\$45	\$0	\$0	\$0	\$0	100%	1.0	0	0	0	0	10	0.0	0.0
428	IQ PHA	IQ PHA	Unit site visit (DI) Nicor+ComEd, Elevate		Custom	\$7	\$7	\$0	\$0	\$0	\$0	100%	1.0	0	0	0	0	857	0.0	0.0
429	IQ PHA	IQ PHA	Unit site visit (DI) Nicor only, Elevate		Custom	\$15	\$15	\$0	\$0	\$0	\$0	100%	1.0	0	0	0	0	5	0.0	0.0
430	IQ PHA	IQ PHA	Low Flow Aerator - Bath (DI) MF-IU Joint	5.4.4	Project	\$7	\$0	\$3	\$1	\$0	\$0	100%	10.0	198	1,893	8	49,955	127	7.4	1.3
431	IQ PHA	IQ PHA	Low Flow Aerator - Kitchen (DI) MF-IU Joint	5.4.4	Project	\$7	\$0	\$3	\$2	\$0	\$0	100%	10.0	531	5,314	17	109,800	208	10.7	1.6
432	IQ PHA	IQ PHA	Showerhead (DI) MF-IU Joint	5.4.5	Project	\$16	\$0	\$13	\$3	\$0	\$0	100%	10.0	1,662	16,623	43	285,122	147	16.9	2.2
433	IQ PHA	IQ PHA	Handheld Showerhead (DI) MF Joint	5.4.5	Project	\$25	\$0	\$20	\$5	\$0	\$0	100%	10.0	332	3,325	9	57,024	29	11.0	1.4
434	IQ PHA	IQ PHA	Programmable Thermostat (DI) MF-IU Joint	5.3.11	Project	\$95	\$0	\$64	\$31	\$0	\$0	100%	16.0	8,031	128,495	222	0	198	7.8	2.3
435	IQ PHA	IQ PHA	Re-Program Thermostat (DI) MF-IU Joint	5.3.11	Project	\$32	\$0	\$32	\$0	\$0	\$0	100%	2.0	1,586	3,173	44	0	39	2.7	0.8
436	IQ PHA	IQ PHA	Pipe Insulation, Indoor DHW	4.4.14	LN FT	\$14	\$0	\$11	\$0	\$0	\$0	100%	15.0	194	372	5,579	0	181	2.5	6.7
437	IQ PHA	IQ PHA	Covers and Gap Sealers for Room Air Conditioners	4.4.38	Project	\$2,780	\$58	\$0	\$0	\$0	\$0	100%	5.0	16,584	82,922	4,486	0	56	0.58	8.0
438	IQ PHA	IQ PHA	Furnace, >95% AFUE - MF IU	5.3.7	Unit	\$1,536	\$1,536	\$0	\$0	\$0	\$0	100%	20.0	25,271	505,418	0	0	235	1.6	0.5
439	IQ PHA	IQ PHA	Advanced Thermostat (DI) - Blended MF Joint	5.3.16	Unit	\$211	\$0	\$141	\$70	\$0	\$0	100%	11.0	5,912	65,031	519	0	105	3.3	0.9
440	IQ PHA	IQ PHA	Basement/Sidewall Insulation SF Joint	5.6.2	Project	\$3,382	\$3,382	\$0	\$0	\$0	\$0	100%	19.4	1,560	30,289	431	0	37	0.29	0.1
441	IQ PHA	IQ PHA	Attic Insulation IQ MF PHA	5.6.5	Project	\$6,646	\$6,646	\$0	\$0	\$0	\$0	100%	19.4	14,234	276,308	0	0	113	0.43	0.1
442	IQ PHA	IQ PHA	Air Sealing - Sealing Tape - DI Joint	5.6.1	Project	\$2	\$0	\$0	\$0	\$0	\$0	100%	19.4	58,127	1,128,351	0	0	111,783	7.8	10.4
443	IQ PHA	IQ PHA	Pipe Insulation, Indoor DHW	4.4.14	LN FT	\$14	\$8	\$0	\$0	\$0	\$0	100%	15.0	90	1,357	0	0	44	2.5	1.2
444	IQ PHA	IQ PHA	Pipe Insulation, Indoor MPS Space Heat	4.4.14	LN FT	\$14	\$8	\$0	\$0	\$0	\$0	100%	15.0	276	4,146	0	0	44	7.6	3.8
445	IQ PHA	IQ PHA	Boiler Tune Up, 400 MBH	4.4.2	Project	\$332	\$173	\$0	\$0	\$0	\$0	100%	3.0	2,380	7,141	0	0	15	1.6	0.9
446	IQ PHA	IQ PHA	Steam Trap, Commercial	4.4.16	Unit	\$192	\$192	\$0	\$0	\$0	\$0	100%	6.0	1,250	7,501	28	11,081	12	3.7	1.0
447	IQ PHA	IQ PHA	Steam Trap, Commercial	4.4.16	Unit	\$77	\$65	\$0	\$0	\$0	\$0	100%	6.0	2,250	13,502	51	19,945	22	9.2	3.0
448	IQ PHA	IQ PHA	Hydronic Boilers, >85% 300-499 MBH	4.4.10	Project	\$15,624	\$15,624	\$0	\$0	\$0	\$0	100%	25.0	1,335	33,387	0	0	20	0.13	0.0
449	IQ PHA	IQ PHA	Commercial Weather Stripping DI	Customized TRM 4.8.16	LN FT	\$50	\$50	\$0	\$0	\$0	\$0	100%	10.0	1,162	11,621	26,553	0	113	4.7	0.7
450	IQ PHA	IQ PHA	Storage Water Heater, >0.67 EF	4.3.1	Unit	\$1,460	\$1,460	\$0	\$0	\$0	\$0	100%	15.0	3,423	51,350	0	0	71	0.56	0.2
451	IQ PHA	IQ PHA	Drain Water Heat Recovery - MF	5.4.11	Unit	\$742	\$742	\$0	\$0	\$0	\$0	100%	30.0	918	27,447	0	0	10	4.4	1.3
452	IQ PHA	IQ PHA	Boiler Chemical Descaling	4.4.49	Project	\$473	\$450	\$0	\$0	\$0	\$0	100%	2.0	1,411	2,822	0	0	5	1.3	0.4
453	IQ PHA	IQ PHA	Thermostatic Radiator Valves	5.3.19	Unit	\$250	\$0	\$50	\$200	\$0	\$0	100%	15.0	531	7,961	0	0	24	2.4	0.4
454	IQ PHA	IQ PHA	Low-E Storm Window - MF	5.6.7	Unit	\$94	\$94	\$0	\$0	\$0	\$0	100%	20.0	715	14,307	0	0	78	7.4	0.7
455	MF	MF Comp	Boiler Reset Controls, 300 MBH	4.4.4	Project	\$600	\$600	\$0	\$0	\$0	\$0	93%	16.0	18,785	300,550	0	0	55	10.3	3.1
456	MF	MF Comp	Pipe Insulation, Indoor HW Space Heat	4.4.14	LN FT	\$14	\$2	\$0	\$0	\$0	\$0	96%	15.0	2,553	38,294	0	0	1,579	1.9	4.0
457	MF	MF Comp	Pipe Insulation, Indoor LPS Space Heat	4.4.14	LN FT	\$14	\$5	\$0	\$0	\$0	\$0	96%	15.0	103,547	1,553,210	0	0	24,808	5.0	4.1
458	MF	MF Comp	Pipe Insulation, Indoor HPS Space Heat	4.4.14	LN FT	\$14	\$5	\$0	\$0	\$0	\$0	96%	15.0	857	12,862	0	0	109	9.5	7.7
459	MF	MF Comp	Pipe Insulation, Indoor DHW	4.4.14	LN FT	\$14	\$2	\$0	\$0	\$0	\$0	96%	15.0	9,171	137,566	0	0	4,653	2.4	4.8
460	MF	MF Comp	Small Pipe Insulation, 3/4" Indoor Space Heat	4.4.24	LN FT	\$4	\$1	\$0	\$0	\$0	\$0	96%	15.0	12	12	0	0	6	0.53	1.0
461	MF	MF Comp	Small Pipe Insulation, 3/4" Indoor DHW	4.4.24	LN FT	\$4	\$1	\$0	\$0	\$0	\$0	96%	15.0	81	1,211	0	0	299	1.0	2.0
462	MF	MF Comp	MF Custom 2,500-7,500 therms		Project	\$29,087	\$3,600	\$0	\$0	\$0	\$0	93%	15.0	62,823	942,339	0	0	28	1.3	3.1
463	MF	MF Comp	MF Custom >7500 therms		Custom	\$257,865	\$36,000	\$0	\$0	\$0	\$0	93%	18.9	138,286	2,609,021	0	0	6	2.1	4.4
464	MF	MF Comp	Drain Water Heat Recovery - MF	5.4.11	Unit	\$742	\$450	\$0	\$0	\$0	\$0	96%	30.0	997	29,917	0	0	11	4.2	2.1
465	MF	MF Comp	Air Sealing MF	5.6.1	Project	\$3,150	\$2,424	\$0	\$0	\$0	\$0	96%	19.4	25,744	499,727	1,454	0	161	1.1	0.4
466	MF	MF Comp	Attic Insulation MF	5.6.5	Project	\$4,574	\$2,808	\$0	\$0	\$0	\$0	96%	19.4	49,001	958,954	817	0	151	1.5	0.7
467	MF	MF CPOP	Project Management Fee - CPOP		Custom	\$635	\$635	\$0	\$0	\$0	\$0	93%	0.0	0	0	0	0	869	0.0	0.0
468	MF	MF CPOP	Steam Traps - Test/Audit - CPOP		Custom	\$3,000	\$3,000	\$0	\$0	\$0	\$0	93%	0.0	0	0	0	0	32	0.0	0.0
469	MF	MF CPOP	Steam Trap, MF CPOP	4.4.16	Unit	\$335	\$150	\$0	\$0	\$0	\$0	93%	6.0	76,711	460,265	1,748	679,913	808	2.0	1.2
470	MF	MF CPOP	Boiler Reset Controls, 300 MBH	4.4.4	Project	\$750	\$750	\$0	\$0	\$0	\$0	93%	16.0	5,477	87,637	0	0	16	8.2	2.5
471	MF	MF CPOP	Boiler Tune Up, 800 MBH	4.4.2	Project	\$664	\$350	\$0	\$0	\$0	\$0	93%	3.0	66,982	200,947	0	0	210	1.5	0.8
472	MF	MF CPOP	Pipe Insulation, Steam Small 1" to 2" - CPOP	4.4.14	LN FT	\$14	\$3	\$0	\$0	\$0	\$0	93%	15.0	97,597	1,463,951	0	0	26,454	4.4	5.9
473	MF	MF CPOP	Pipe Insulation, HW Small - CPOP	4.4.14	LN FT	\$14	\$5	\$0	\$0	\$0	\$0	93%	15.0	21,628	324,211	0	0	7,416	3.5	3.0
474	MF	MF CPOP	Pipe Insulation, DHW Medium 1.26-2" - CPOP	4.4.14	LN FT	\$14	\$9	\$0	\$0	\$0	\$0	93%	15.0	26,284	394,262	0	0	6,647	4.8	2.1
475	MF	MF CPOP	DHW Storage Tank Insulation - CPOP	Customized TRM 4.3.12	SQ FT	\$8	\$8	\$0	\$0	\$0	\$0	93%	15.0	18,023	270,351	0	0	3,619	10.5	3.1
476	MF	MF CPOP	Condensate Tank Insulation - CPOP	Customized TRM 4.3.12	SQ FT	\$11	\$11	\$0	\$0	\$0	\$0	93%	15.0	3,605	54,070	0	0	503	11.5	3.4
477	MF	MF CPOP	On-Demand DHW Controller - CPOP	Customized TRM 4.3.8	Unit	\$90	\$90	\$0	\$0	\$0	\$0	93%	15.0	437,158						

Measure #	Program	Program Component	Measures	Measure Inputs										Measure Savings (2022-2025)				Measure Cost Effectiveness (2022-2025)		
				TRM Volume	Units	Incremental Cost	Incentive	Direct Install Labor	Direct Install Materials	Other Rebate	Net to Gross Ratio	Measure Life	First Year Therms	Lifecycle Therms	Annual kWh	Annual gallons water	Participation	TRC	PAC	
499	MF	MF EOP	Condensing Boilers, ≥90%, <300 MBH	4.4.10	Unit	\$3,365	\$500	\$0	\$0	\$0	\$0	93%	25.0	3,395	84,870	0	0	17	1.8	3.6
500	MF	MF EOP	Condensing Boilers, ≥90% 300-499 MBH	4.4.10	Unit	\$4,190	\$1,500	\$0	\$0	\$0	\$0	93%	25.0	2,726	68,161	0	0	7	2.6	2.2
501	MF	MF EOP	Condensing Boilers, ≥90% 500-999 MBH	4.4.10	Unit	\$6,115	\$2,500	\$0	\$0	\$0	\$0	93%	25.0	6,048	151,199	0	0	10	3.0	2.2
502	MF	MF EOP	Condensing Boilers, ≥90% 1000-1700 MBH	4.4.10	Unit	\$9,415	\$5,000	\$0	\$0	\$0	\$0	93%	25.0	14,305	357,622	0	0	12	3.7	2.1
503	MF	MF EOP	Hydronic Boilers, ≥85% 300-499 MBH	4.4.10	Unit	\$1,620	\$1,000	\$0	\$0	\$0	\$0	93%	25.0	304	7,610	0	0	5	1.1	0.6
504	MF	MF EOP	Hydronic Boilers, ≥85% 500-999 MBH	4.4.10	Unit	\$1,970	\$1,250	\$0	\$0	\$0	\$0	93%	25.0	272	6,812	0	0	2	1.7	0.8
505	MF	MF EOP	Furnace, ≥95% AFUE - MF IU	5.3.7	Unit	\$1,240	\$400	\$0	\$0	\$0	\$0	93%	20.0	6,240	124,800	0	0	62	1.9	1.7
506	MF	MF EOP	Small Commercial Thermostats	4.8.8	Unit	\$1,75	\$25	\$0	\$0	\$0	\$0	93%	11.0	7,402	81,421	0	0	34	15.4	31.3
507	MF	MF EOP	Storage Water Heater, >67 EF	4.3.1	Unit	\$400	\$50	\$0	\$0	\$0	\$0	93%	15.0	108	1,614	0	0	2	1.7	4.3
508	MF	MF EOP	Outdoor Pool Covers	4.3.4	Unit	\$2,040	\$750	\$0	\$0	\$0	\$0	93%	6.0	6,763	40,578	0	59,862	7	3.2	2.3
509	MF	MF EOP	Ozone Laundry	4.3.6	Unit	\$11,976	\$3,500	\$0	\$0	\$0	\$0	93%	10.0	10,278	102,784	7	611,995	2	5.6	3.7
510	MF	MF EOP	Steam Trap, Commercial	4.4.16	Unit	\$77	\$45	\$0	\$0	\$0	\$0	93%	6.0	5,243	31,460	119	46,473	55	8.5	4.0
511	MF	MF EOP	Modulating Commercial Gas Clothes Dryer - Coin	4.8.4	Unit	\$700	\$100	\$0	\$0	\$0	\$0	93%	14.0	3,575	50,048	0	0	14	5.5	11.3
512	MF	MF EOP	Thermostatic Radiator Valves	5.3.19	Unit	\$250	\$50	\$0	\$0	\$0	\$0	93%	15.0	290	4,355	0	0	14	1.4	2.0
513	Outreach	Outreach EEE	EEE Kit	5.4.4, 5.4.5, 5.4.6, 5.4.9	Unit	\$18	\$18	\$0	\$0	\$0	\$0	100%	8.3	785,851	6,506,845	0	200,447,245	68,512	16.7	1.7
514	Outreach	Outreach EEE	EEE Kit - Gas Only	5.4.4, 5.4.5, 5.4.6, 5.4.9	Unit	\$33	\$33	\$0	\$0	\$0	\$0	100%	8.3	46,885	388,206	0	11,958,924	4,088	8.9	0.9
515	Outreach	Outreach ESK	Kit 1	5.4.4, 5.4.5, 5.4.9	Unit	\$19	\$11	\$0	\$0	\$0	\$0	100%	8.2	8,298	68,129	0	1,819,671	501	19.6	4.0
516	Outreach	Outreach ESK	Kit 1 MF	5.4.4, 5.4.5, 5.4.9	Unit	\$19	\$11	\$0	\$0	\$0	\$0	100%	8.5	1,448	12,336	0	274,459	76	21.6	4.8
517	Outreach	Outreach ESK	Kit 2	5.4.4, 5.4.5, 5.4.9	Unit	\$19	\$15	\$0	\$0	\$0	\$0	100%	8.8	427,861	3,752,339	0	91,199,929	17,778	30.0	4.3
518	Outreach	Outreach ESK	Kit 2 MF	5.4.4, 5.4.5, 5.4.9	Unit	\$19	\$15	\$0	\$0	\$0	\$0	100%	9.0	79,307	715,345	0	14,546,934	2,735	34.1	5.3
519	Outreach	Outreach ESK	Kit 2	5.4.4, 5.4.5, 5.4.9	Unit	\$19	\$12	\$0	\$0	\$0	\$0	100%	8.1	3,580	29,138	0	775,389	224	18.6	3.4
520	Outreach	Outreach ESK	Kit 3 MF	5.4.4, 5.4.5, 5.4.9	Unit	\$19	\$12	\$0	\$0	\$0	\$0	100%	8.4	739	6,229	0	137,383	41	19.9	4.0
521	Outreach	Outreach ESK	Kit 4	5.6.1	Unit	\$16	\$16	\$0	\$0	\$0	\$0	84%	20.0	976,529	19,530,576	0	0	32,758	43.7	13.2
522	Outreach	Outreach HER	Home Reports	Custom	Unit	\$6	\$6	\$0	\$0	\$0	\$0	100%	2.8	2,463,905	6,921,080	0	0	233,347	4.9	1.5
523	RNC	RNC	RNC - Base Measure Package	5.3.4, 5.6.1, 5.4.2	Bundle	\$1,340	\$300	\$0	\$0	\$0	\$0	80%	19.5	346,742	6,757,894	0	0	1,870	3.1	4.2
524	RNC	RNC	RNC - HE Measure Package	5.3.4, 5.6.1, 5.4.2, 5.3.7	Bundle	\$2,778	\$450	\$0	\$0	\$0	\$0	80%	19.7	354,666	6,980,724	0	0	1,190	2.4	4.6
525	RNC	RNC	RNC - Prescriptive Measure Package	5.3.16, 5.4.2, 5.3.7	Bundle	\$1,963	\$300	\$0	\$0	\$0	\$0	80%	16.6	125,881	2,090,085	0	0	680	1.8	2.5
526	RNC	RNC	Advanced Thermostat (TOS) - Programmable SF	5.3.16	Unit	\$82	\$75	\$0	\$0	\$0	\$0	80%	11.0	24,937	274,303	1,969	0	425	8.7	2.8
527	RNC	RNC	RNC Verifier Fee	Custom	Project	\$100	\$100	\$0	\$0	\$0	\$0	80%	0.0	0	0	0	0	3,740	0.0	0.0
528	RNC	RNC	Thin Triple Window	Custom	Unit	\$100	\$100	\$0	\$0	\$0	\$0	80%	30.0	1,984	59,514	23,436	0	1,400	1.00	0.1
529	SB	SB Private	Bonus Incentives - SB	Custom	Unit	\$576	\$575	\$0	\$0	\$0	\$0	83%	1.0	0	0	0	0	130	0.0	0.0
530	SB	SB Private	Boiler Reset Controls, 300 MBH	4.4.4	Project	\$504	\$400	\$0	\$0	\$0	\$0	83%	16.0	2,105	33,678	0	0	7	10.9	4.1
531	SB	SB Private	Boiler Tune Up, 400 MBH	4.4.2	Project	\$323	\$150	\$0	\$0	\$0	\$0	83%	3.0	7,243	23,852	0	0	59	1.3	0.8
532	SB	SB Private	Boiler Tune Up, Process	4.4.3	Project	\$664	\$400	\$0	\$0	\$0	\$0	83%	3.0	56,669	170,008	0	0	83	3.3	1.6
533	SB	SB Private	Condensing Boilers, ≥90%, <300 MBH	4.4.10	Unit	\$3,365	\$500	\$0	\$0	\$0	\$0	83%	25.0	3,135	78,382	0	0	17	1.6	3.2
534	SB	SB Private	Condensing Boilers, ≥90% 300-499 MBH	4.4.10	Unit	\$4,190	\$1,500	\$0	\$0	\$0	\$0	83%	25.0	2,350	58,754	0	0	7	2.4	2.0
535	SB	SB Private	Condensing Boilers, ≥90% 500-999 MBH	4.4.10	Unit	\$6,115	\$2,500	\$0	\$0	\$0	\$0	83%	25.0	1,955	48,874	0	0	3	2.7	2.0
536	SB	SB Private	Condensing Boilers, ≥90% 1000-1700 MBH	4.4.10	Unit	\$9,415	\$5,000	\$0	\$0	\$0	\$0	83%	25.0	11,097	277,436	0	0	10	3.3	1.9
537	SB	SB Private	Condensing Boilers, ≥90% 1701-2500 MBH	4.4.10	Unit	\$12,165	\$7,500	\$0	\$0	\$0	\$0	83%	25.0	3,808	145,211	0	0	3	4.9	1.5
538	SB	SB Private	Hydronic Boilers, ≥85% <300 MBH	4.4.10	Unit	\$1,470	\$400	\$0	\$0	\$0	\$0	83%	25.0	85	2,127	0	0	3	0.3	0.5
539	SB	SB Private	Hydronic Boilers, ≥85% 300-499 MBH	4.4.10	Unit	\$1,620	\$1,000	\$0	\$0	\$0	\$0	83%	25.0	197	4,920	0	0	3	1.0	0.5
540	SB	SB Private	Hydronic Boilers, ≥85% 500-999 MBH	4.4.10	Unit	\$1,970	\$1,250	\$0	\$0	\$0	\$0	83%	25.0	352	8,808	0	0	3	1.5	0.7
541	SB	SB Private	Hydronic Boilers, ≥85% 1000-1700 MBH	4.4.10	Unit	\$2,570	\$1,750	\$0	\$0	\$0	\$0	83%	25.0	665	16,613	0	0	3	2.2	1.0
542	SB	SB Private	Hydronic Boilers, ≥85% 1701-2500 MBH	4.4.10	Unit	\$3,070	\$2,500	\$0	\$0	\$0	\$0	83%	25.0	942	23,540	0	0	3	2.6	0.9
543	SB	SB Private	Furnace, ≥92% AFUE	4.4.11	Unit	\$802	\$300	\$0	\$0	\$0	\$0	83%	16.5	2,844	46,932	8,196	0	14	5.4	3.8
544	SB	SB Private	Furnace, ≥95% AFUE	5.3.7	Unit	\$1,240	\$400	\$0	\$0	\$0	\$0	83%	20.0	45,967	919,342	0	0	299	2.9	2.7
545	SB	SB Private	Infrared Heaters	4.4.12	Unit	\$1,716	\$700	\$0	\$0	\$0	\$0	83%	12.0	27,332	327,989	0	0	73	2.9	2.1
546	SB	SB Private	Storage Water Heater, >88% TE	4.3.1	Unit	\$879	\$100	\$0	\$0	\$0	\$0	83%	15.0	970	14,553	0	0	3	5.3	13.4
547	SB	SB Private	Programmable Thermostat - Commercial	Customized TRM 4.4.48	Unit	\$75	\$25	\$0	\$0	\$0	\$0	83%	11.0	26,892	295,817	0	0	143	30.7	26.8
548	SB	SB Private	Outdoor Pool Covers	4.3.4	Unit	\$2,040	\$750	\$0	\$0	\$0	\$0	83%	6.0	2,915	17,489	0	25,800	3	2.8	2.0
549	SB	SB Private	Ozone Laundry	4.3.6	Unit	\$11,976	\$5,250	\$0	\$0	\$0	\$0	83%	10.0	133,290	132,896	8	791,214	3	5.0	2.2
550	SB	SB Private	DCV - Default	4.4.19	Unit	\$16,950	\$4,800	\$0	\$0	\$0	\$0	83%	10.0	8,090	80,898	0	0	1	6.0	6.0
551	SB	SB Private	Pipe Insulation, Indoor HW Space Heat	4.4.14	LN FT	\$14	\$4	\$0	\$0	\$0	\$0	83%	15.0	6,150	92,250	0	0	4,398	1.7	1.7
552	SB	SB Private	Pipe Insulation, Indoor LPS Space Heat	4.4.14	LN FT	\$14	\$4	\$0	\$0	\$0	\$0	83%	15.0	118,146	1,772,185	0	0	32,739	4.3	4.4
553	SB	SB Private	Pipe Insulation, Indoor MPS Space Heat	4.4.14	LN FT	\$14	\$6	\$0	\$0	\$0	\$0	83%	15.0	4,019	60,280	0	0	772	6.3	4.3
554	SB	SB Private	Pipe Insulation, Indoor DHW	4.4.14	LN FT	\$14	\$4	\$0	\$0	\$0	\$0	83%	15.0	7,140	107,106	0	0	4,190	2.1	2.1
555	SB	SB Private	Pipe Insulation, Indoor LPS Process Heat	4.4.14	LN FT	\$14	\$4	\$0	\$0	\$0	\$0	83%	15.0	1,758	26,515	0	0	285	7.5	7.6
556	SB	SB Private	Pipe Insulation - Dry Cleaner	Customized TRM 4.4.14	LN FT	\$14	\$4	\$0	\$0	\$0	\$0	83%	15.0	68,182	1,022,727	0	0	5,862	14.0	14.3
557	SB	SB Private	Small Pipe Insulation, 1/2", Indoor DHW	4.4.24	LN FT	\$4	\$2	\$0	\$0	\$0	\$0	83%	15.0	27	401	0	0	139	0.78	0.5
558	SB	SB Private	Steam Trap, Commercial	4.4.16	Unit	\$77	\$50	\$0	\$0	\$0	\$0	83%	6.0	60,425	362,553	1,377	535,571	713	7.6	3.2
559	SB	SB Private	Steam Trap, Indust MP 15-30 psig	4.4.16	Unit	\$300	\$300	\$0	\$0	\$0	\$0	83%	6.0	2,202	13,210	48	18,643	3	14.5	3.9
560	SB	SB Private	Steam Trap, Indust HP 75-125 psig	4.4.16	Unit	\$300	\$300	\$0	\$0	\$0	\$0	83%	6.0	45,508	273,046	0	0	10	100.0	27.2
561	SB	SB Private	Steam Trap, Dry Cleaner	4.4.16	Unit	\$300	\$300	\$0	\$0	\$0	\$0	83%	6.0	3,547,605	21,285,628	976	30,401,463	6,596	12.4	4.1
562	SB	SB Private	Hydronic Heating Radiator Replacement	4.4.52	Project	\$61	\$60	\$0	\$0	\$0	\$0	83%	25.0	810	20,262	0	0	35	11.1	3.5
563	SB	SB Private	Boiler Chemical Descaling	4.4.49	Project	\$473	\$450	\$0	\$0	\$0	\$0	83%	2.0	1,663	3,327	0	0	7	1.1	0.3
564	SB	SB Private	Venturi Steam Trap, Commercial	4.4.16	Unit	\$193	\$150	\$0	\$0	\$0	\$0	83%	20.0	2,948	58,952	67	26,125	35	10.9	4.0
565	SB	SB Private	Venturi Steam Trap, Dry Cleaner	4.4.16	Unit	\$750	\$600	\$0	\$0	\$0	\$0	83%	20.0	74,805	1,496,091	1,648	641,047	139	17.6	6.3
566	SB	SB Private	Mid Business - Drop In	Custom	Unit	\$335	\$145	\$0	\$0	\$0	\$0	83%	0.0	0	0	0	0	104		

Measure #	Program	Program Component	Measures	Measure Inputs							Measure Savings (2022-2025)				Measure Cost Effectiveness (2022-2025)					
				TRM Volume	Units	Incremental Cost	Incentive	Direct Install Labor	Direct Install Materials	Other Rebate	Net to Gross Ratio	Measure Life	First Year Therms	Lifecycle Therms	Annual kWh	Annual gallons water	Participation	TRC	PAC	
582	SB	SB Public	Hydronic Boilers, ≥85% <300 MBH	4.4.10	Unit	\$1,470	\$400	\$0	\$0	\$0	\$0	83%	25.0	18	450	0	0	1	0.48	0.5
583	SB	SB Public	Hydronic Boilers, ≥85% 300-499 MBH	4.4.10	Unit	\$1,620	\$1,000	\$0	\$0	\$0	\$0	83%	25.0	42	1,040	0	0	1	1.0	0.5
584	SB	SB Public	Hydronic Boilers, ≥85% 500-999 MBH	4.4.10	Unit	\$1,970	\$1,250	\$0	\$0	\$0	\$0	83%	25.0	37	931	0	0	0	1.5	0.7
585	SB	SB Public	Hydronic Boilers, ≥85% 1000-1700 MBH	4.4.10	Unit	\$2,570	\$1,750	\$0	\$0	\$0	\$0	83%	25.0	70	1,756	0	0	0	2.2	0.9
586	SB	SB Public	Furnace, ≥92% AFUE	4.4.11	Unit	\$802	\$300	\$0	\$0	\$0	\$0	83%	16.5	601	9,921	1,733	0	3	5.5	3.8
587	SB	SB Public	Furnace, ≥95% AFUE	4.4.11	Unit	\$1,511	\$400	\$0	\$0	\$0	\$0	83%	16.5	3,779	62,358	8,663	0	15	3.5	3.6
588	SB	SB Public	Infrared Heaters	4.4.12	Unit	\$1,716	\$700	\$0	\$0	\$0	\$0	83%	12.0	550	6,609	0	0	1	2.9	2.0
589	SB	SB Public	Storage Water Heater, >88% TE	4.3.1	Unit	\$879	\$100	\$0	\$0	\$0	\$0	83%	15.0	410	6,153	0	0	1	5.3	13.3
590	SB	SB Public	Pipe Insulation, Indoor HW Space Heat	4.4.14	LN FT	\$14	\$4	\$0	\$0	\$0	\$0	83%	15.0	514	7,708	0	0	368	1.7	1.7
591	SB	SB Public	Pipe Insulation, Indoor LPS Space Heat	4.4.14	LN FT	\$14	\$4	\$0	\$0	\$0	\$0	83%	15.0	5,305	79,571	0	0	1,470	4.3	4.4
592	SB	SB Public	Pipe Insulation, Indoor DHW	4.4.14	LN FT	\$14	\$4	\$0	\$0	\$0	\$0	83%	15.0	626	9,395	0	0	368	2.1	2.1
593	SB	SB Public	Steam Trap, Commercial	4.4.16	Unit	\$77	\$50	\$0	\$0	\$0	\$0	83%	6.0	3,115	18,693	71	27,613	37	7.6	3.2
594	SB	SB Public	Mid Business - Drop In	Custom	Unit	\$335	\$145	\$0	\$0	\$0	\$0	83%	0.0	0	0	0	0	9	0.0	0.0
595	SB	SB Public	SB Assessment	Custom	Unit	\$600	\$600	\$0	\$0	\$0	\$0	83%	1.0	0	0	0	0	88	0.0	0.0
596	SB	SB Public	Spray Valve (Small Restaurants)-DI	4.2.11	Unit	\$75	\$0	\$35	\$40	\$0	\$0	92%	5.0	1,284	6,422	0	176,206	9	20.5	3.0
597	SB	SB Public	Spray Valve (Med Sized Restaurants)-DI	4.2.11	Unit	\$75	\$0	\$35	\$40	\$0	\$0	92%	5.0	321	1,605	0	44,051	1	30.8	4.3
598	SB	SB Public	Salon Sprayer	Customized TRM 4.2.11	Unit	\$75	\$0	\$35	\$40	\$0	\$0	92%	5.0	69	346	0	9,494	1	6.6	0.9
599	SB	SB Public	Faucet Aerators - Kitchen - DI	4.3.2	Project	\$12	\$0	\$11	\$1	\$0	\$0	92%	10.0	5,619	56,185	0	1,160,852	939	13.6	1.6
600	SB	SB Public	Faucet Aerators - Bath - DI	4.3.2	Project	\$12	\$0	\$11	\$1	\$0	\$0	92%	10.0	11,878	118,785	0	2,992,055	2,421	12.6	1.3
601	SB	SB Public	Laminar Flow	4.3.2	Project	\$14	\$0	\$11	\$3	\$0	\$0	92%	10.0	33	335	0	6,875	1	43.4	5.0
602	SB	SB Public	Low Flow Shower Heads - DI	4.3.3	Project	\$35	\$0	\$32	\$3	\$0	\$0	92%	10.0	3,286	32,863	0	566,606	179	12.9	1.6
603	SB	SB Public	DHW WH Pipe Wrap - 6" - DI	Customized TRM 5.4.1	LN FT	\$30	\$0	\$10	\$2	\$0	\$0	92%	15.0	50	755	0	0	9	3.2	2.3
604	SB	SB Public	Commercial Weather Stripping 3ft DI	4.8.16	LN FT	\$60	\$0	\$39	\$21	\$0	\$0	92%	10.0	28	279	638	0	3	3.6	0.5
605	SB	SB Public	Custom 2,500-7,500 therms	Custom	Project	\$7,866	\$4,182	\$0	\$0	\$0	\$0	93%	15.0	54,163	812,445	0	0	13	8.8	4.8
606	SEM	SEM Private	SEM Alumni	Custom	Participant	\$26,250	\$26,250	\$0	\$0	\$0	\$0	100%	5.0	1,408,130	7,040,649	0	0	30	9.4	2.7
607	SEM	SEM Private	SEM Industrial/Mfg	Custom	Participant	\$27,625	\$27,625	\$0	\$0	\$0	\$0	100%	5.0	456,823	2,284,115	0	0	15	5.8	1.7
608	SEM	SEM Private	SEM Commercial	Custom	Participant	\$26,375	\$26,375	\$0	\$0	\$0	\$0	100%	5.0	285,514	1,427,572	0	0	15	3.8	1.1
609	SEM	SEM Private	SEM Vertical Supply Chain	Custom	Participant	\$52,750	\$52,750	\$0	\$0	\$0	\$0	100%	5.0	285,514	1,427,572	0	0	8	3.8	1.1
610	SEM	SEM Public	SEM K-12	Custom	Participant	\$17,594	\$17,594	\$0	\$0	\$0	\$0	100%	5.0	228,000	1,140,000	0	0	12	5.7	1.6
611	SEM	SEM Public	SEM Public Organizations	Custom	Participant	\$25,375	\$25,375	\$0	\$0	\$0	\$0	100%	5.0	142,500	712,500	0	0	8	3.9	1.1
612	SEM	SEM Public	SEM Alumni	Custom	Participant	\$26,250	\$26,250	\$0	\$0	\$0	\$0	100%	5.0	351,398	1,756,991	0	0	8	9.4	2.7

Appendix B – Adjustable Goals Template

The adjustable goals template provides the measure and program savings summary in the SAG generated format. Appendix B will be submitted to the ICC in a supplemental filing before April 15, 2021.